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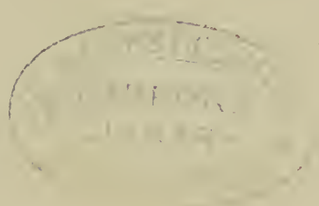

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THE HARVEIAN ORATION.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS, WEDNESDAY, JUNE 27.

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Veritatis invicta vis est. Adrasteæ legem nemo potest facile effugere, si credendum veteribus et Galeno nostro, qui ipse suo exemplo hoc demonstravit. Sicut vero in multis aliis hoc patuit, ita nescio an unquam clarius quam in novâ doctrinâ de motu sanguinis.—Pauli Marquarti Slegelii, "De Motu Sanguinis Commentatio." Hamburgi: 1650.

Mr. President and Fellows of the Royal College of Physicians.—Gentlemen,—The fog that prevailed in the realms of science before the publication of Harvey's great work, compared to the ever-brightening light that has been shed over them since he taught the doctrine that has been all but universally associated with his name since 1628, necessarily renders us, as it did his contemporaries of this ancient College, anxious to see that his fame suffers no diminution through our neglect.

It might seem impossible for anyone who has carefully studied the literature of the subject, to entertain a doubt as to Harvey's claim to be regarded as the regenerator of human and animal physiology. The feeble opposition of the ungenerous Riolan,(a) who taught a modified Galenic doctrine of the functions of the heart and vessels, was triumphantly met by the clear and practical exposition of Professor Schlegel, of Hamburg. Other men, no less distinguished in their age and country, appear to have established Harvey as the real founder of the doctrine of the circulation, to which we ascribe the origin of modern scientific medicine. Professor Walæus(b) in Leyden, in 1840, Joannes Trullius(c) in Rome, in 1651, supported the new doctrine. Plempius in Louvain, in 1652, voluntarily and publicly professed himself an adherent of Harvey. Previous to the appearance of Schlegel's admirable work in 1650, his friend and compatriot Werner Rolfink,(d) reputed one of the best German anatomists of the time, had, in 1630, given his adhesion to Harvey's views. Nor is it without significance that Descartes,(e) in his "Discours de la Méthode pour bien conduire sa Raison et chercher la Vérité dans les Sciences," in 1637, spoke of the English physician as the man to whom the world owed the knowledge of a continuous circulation of the blood. Although here and there writers, jealous of Harvey's fame, brought forward Servetus, Sarpa, Cæsalpinus, and others still less worthy of being named, as possessing prior claims to the position assigned to Harvey, the great body of scientific men of that and all future days have subscribed to the opinion that we owe the modern doctrine of the circulation of the blood and of the moving power of the heart to him.

After the many disquisitions on the priority of Harvey's claims that have been offered to the Fellows of this College, from the oration of Friend to that of the exhaustive address by the learned Linacre Professor Dr. Rolleston, four years ago, it would scarcely have been befitting in me to bring up this *crambe iterum repetita* on the present occasion, had not a recent event appeared to make it a matter of duty to inquire again into the claims of one of the three names just mentioned.

English physicians were startled last year(f) by the announcement that on October 30 a monument of Andrea Cesalpino was unveiled at Rome, on the ground of his being the first discoverer of the circulation of the blood. Dr. Giulio Ceradini, Professor of Physiology at Genoa, appears to have been the chief orator on the occasion, and to have asserted, after stating that Cesalpino produced experimental proof of the circulation in 1593, that Harvey could in 1628 adduce nothing more than a fresh proof of the circulation in the venous valves, discovered by Fabricius at Aquapendente as early as 1574, by demonstrating that the said valves must oppose the centrifugal movement of the blood in the veins. Ceradini maintained that Harvey's merit really consists in having sustained and won a battle against ignorance and prejudice by divulging the discovery of Cesalpino.

Although the claims of Andrea Cesalpino, of Arezzo, have been put forward and amply discussed—by none, perhaps, more fully and justly than by Dr. Willis in his admirable "Life of Harvey" (g)—it has appeared to be, under the circumstances, a duty of the Harveian Orator of the present year to search the original works of Cesalpino, and to ascertain whether contemporary and later history have erred in awarding to our countryman the palm which really belongs to a greater predecessor of his. One thing appears indisputable: that, whatever Cesalpino has written, his views on the circulation were not considered of much consequence, and certainly not subversive of the old Galenic doctrines, at the time that Harvey resided in Padua, and subsequently Schlegel in Venice and other parts of Italy. The former, whom his greatest detractors(h) have never accused of want of uprightness and honesty, does not allude to the discoveries of Cesalpino; and the latter(i) distinctly says that, having been in familiar intercourse with the most distinguished anatomists in Padua, Venice, and throughout Italy, for some years, he had found "the movement of the blood almost entirely unknown, or that it certainly was regarded as incredible."(k) Schlegel manifestly speaks of the movement of the blood as taught by Harvey, because earlier writers had discussed the question of the circulation, as Harvey himself admits,(l) but, "like persons purblind or groping about in the dark," had failed to recognise the intimate connexion and beautiful harmony of the different parts involved in the process.

The entire tenor of Harvey's life and work forbids the view that he was a plagiarist, and that, as Cesalpino's panegyrist has recently asserted, he arrogated to himself a discovery which belongs to the latter. Contemporary writers failed to recognise in Harvey's doctrine a reproduction of the teachings of Cesalpino; and, though his great adversary, Riolan, was satisfied that Harvey had been anticipated by Aristotle and Cesalpino, we can scarcely doubt that Schlegel correctly describes the state of medical science and the effect produced by the great work published in 1628. He says of Harvey's doctrine(m)—"*Inaudita, communibusque et per multa sæcula inveteratis opinionibus adversissima sententia, omnes commovit.*"

But let us do justice to Cesalpino; for, though it is clear to my mind that he failed to appreciate the truth as it was made plain by Harvey, he approached nearer to him than any of the physiologists of earlier days. Anyone who was satisfied with the evidence afforded by solitary passages in his writings might fairly assert that Cesalpino had taught the true doctrine of the circulation; but, when we search further, and find that he still regards the flow of the blood comparable to the flood and ebb tides of the Euripus; that the arteries, according to him, convey the spirit to which their pulse is due; and that he utterly failed to recognise in the heart the central moving power of the circulation,—we cannot but

(a) "Les mauvais raisonnements de Riolan."—Flourens, "Histoire de la Circulation," p. 37.

(b) Born in 1604 at Kondekerke, in Zeeland; died in 1649.

(c) See "Versuch einer pragmatischen Geschichte der Arneikunde," von Kurt Sprengel. Halle, 1800-3, five vols. 8vo, vol. iv., p. 43. This book may be generally consulted with advantage on all questions connected with the history of medicine from the earliest times to the end of the eighteenth century.

(d) Werner Rolfink was born at Hamburg in 1599, and, like Schlegel, filled the post of Professor of Medicine, Botany, Anatomy, and Chemistry at Jena. His chief work was entitled "Dissert. Anat.," lib. vi. (see lib. v., c. 12, p. 845, and lib. vi., c. 14, p. 1089). He died in 1677.

(e) "Discours de la Méthode par Descartes, avec une notice biographique," par Ad. Hatzfeldt. Paris, 1872, p. 71, *et seq.*

(f) *Lancet*, November 4, 1876.

(g) Prefixed to the Sydenham Society's edition of the "Works of William Harvey," 1847, p. 60.

(h) Among these we are pained to mention William Hunter, who, in his two introductory lectures to his last course of "Anatomical Lectures," 1734, p. 43 *et seq.*, speaks of Harvey in a manner that is a blot upon the lecturer's name, and shows that he had not investigated the question by a reference to the original works of the men whom he compares with Harvey.

(i) Pauli Marquarti Slegelii, M.D. Hamburg. "De Sanguinis Motu Commentatio," Hamburgi, 1650, p. 7. Schlegel (Latinised, Slegelius), the son of a merchant, was born at Hamburg in 1605, and studied medicine at Altorf, Wittenberg, and Jena. In 1631, in company with Rolfink, he undertook a long scientific tour. He visited Holland and England, then went to Paris, where he remained two years; subsequently spent several years in Italy; and, after taking a degree at Padua in 1636, returned to Germany in 1638. He was at once appointed Professor of Anatomy, Surgery, and Botany at Jena. In 1642 Schlegel was invited to accept the office of "sub-physicus," or assistant officer of health, in Hamburg, where he founded an anatomical theatre. He died in 1653. For further details see "Mittheilungen aus der alteren Medicinal Geschichte Hamburgs," von Physicus Dr. Gernet, Hamburg, 1869; and also "Lexicon der Hamburgischen Schriftsteller bis zur Gegenwart," von Dr. H. Schroeder, now publishing. In the last, a list of twenty-four works by Schlegel is given, which illustrates both the variety and the depth of his studies.

(k) The original Latin is—Quin imo doctrinam illo tempore de motu sanguinis apud omnes fere incompertam aut certe pro incredibile habitam fuisse, neque obtineri potuisse rationibus ab iis ut assentirentur.

(l) Sydenham Society's edition of "Harvey's Works," p. 33.

(m) "De Motu Sanguinis Commentatio," p. 1.

arrive at the conclusion that his doctrine, by itself, would never have formed the basis of modern physiology.

Cesalpino, whose work was published at Venice in 1593,(n) in the fifth book of his "Peripatetic Questions,"(o) describes the circulation in the following words:—"As rivulets draw water from a spring, the veins and arteries take their origin from the heart. It is further necessary that they should all be continuous with the heart, that the blood contained in them may be preserved by its heat, for it congeals under the influence of cold, as appears whenever it is removed from the veins. Dissection shows that all veins are continuous with the heart alone, for those which pass from the heart to the lungs are continuous with no other viscus; they terminate in the ventricles of the heart, and pass no further. The vena cava and the aorta, having reached the other viscera with the exception of the heart, pass beyond them; or, if they come to an end, they do not pour their blood into a general receptacle (*non in ventrum aliquem transfundunt sanguinem*), but are broken up into hair tubes (*capilla menta*), for nowhere excepting in the heart is the blood contained in a receptacle out of the veins."

Although in this passage Cesalpino speaks of a continuity of the bloodvessels, he still adheres, as shown in another passage,(p) to the view that the venous system depends less upon the heart than upon the liver, which organ possesses a special nutritive power (*vim altricem*), and is the real source of the veins: "non igitur cor sed hepar est principium venarum." Again, elsewhere(q) Cæsalpinus gives his adhesion to the ancient fallacy that the blood passes not only to the lungs from the right ventricle, but also through the septum into the left side of the heart: "partim per medium septum, partim per medios pulmones (sanguis) refrigirationis gratia ex dextro in sinistrum transmittitur."

Even Harvey himself, conclusive as are his proofs of a continuity of the current both in the lesser and greater circulation from the heart as a starting-point back again to the central organ, nowhere gets beyond the prevailing view of an anastomosis between the arteries and the veins. It would be as reasonable to infer that Cesalpino had, without a microscope, anticipated the great discovery of the capillaries by Malpighi, because he accidentally uses the term "capillamenta" to designate the minute divisions of the vena cava and the aorta, as it is to regard him as the true discoverer of the circulation of the blood. Everybody, as Cesalpino says, knew in his day that the arteries took their origin from the heart, in order that they might distribute the vital spirit throughout the body; and, again, he maintains that a continuous movement is propagated throughout the different parts of the body, because there is a continuous generation of spirit, which, by its increase (*amplificatione*), is fitted very rapidly to be diffused everywhere.

Cesalpino argues that the heart is manifestly the chief organ of sensation (*primum sensorium*), because it is associated with every sense of joy or sadness, which are first perceived to exist in the heart. The heart, therefore, is the origin of the nerves. And what, he asks, could such a struggle about the heart effect, unless there were a continuous passage from the heart to the instruments of movement, by which a large amount of spirit (*spiritus multus*) could be conveyed? There is not much in the forgoing passage that we can utilise; but in the following there is a mixture of truth and error which is more suggestive, although it will not bear comparison with the clear and practical deductions, based upon observation in the dead and living body, which Harvey has laid before us in language as free from hypothetical jargon as anything known in science. In discussing the question of suffocation, Cesalpino(r) says: "It appears worthy of inquiry why veins swell on the distal side of a ligature, and not on the opposite side, which those know from experience who open a vein, for they apply the ligature above the point of section, and not below, because the veins swell below, and not above the ligature. But the opposite result ought to happen if the movement of the blood and spirit passed from the bowels to the body at large; for, if the passage be intercepted, no further progress is possible: therefore the swelling of the veins ought to have been above the ligature."

After inquiring into Aristotle's view on the subject, Cesalpino goes on to say: "The passages of the heart have been so prepared by Nature that the vena cava opens into the right ventricle of the heart, from which a passage opens into the lung; from the lung there is another passage into the left ventricle of the heart; from which, finally, an outlet opens into the aorta, certain membranes being placed at the mouths of the vessels to prevent a return: for there is a certain continuous movement from the vena cava through the heart and lungs into the aorta. But as, during wakefulness, the movement of native heat takes place outwards, namely, to the sensorial parts; but during sleep inwards, namely, to the heart,—it appears that during wakefulness much spirit and blood are carried to the arteries, for there is a passage from them to the nerves. But in sleep the same heat returns through the veins to the heart, and not through the arteries; for the natural entrance is through the vena cava into the heart, and not through the arteries. The proof of this is to be found in the pulses, which are large, powerful, quick, and frequent in those waking up, occurring with a certain vibration; during sleep, they are small, languid, slow, and scanty. For during sleep the native heat tends less into the arteries, but rushes more violently into them as the individual wakes up. The veins behave in a different manner, for during sleep they tumefy, but shrink in the waking state, as anyone may see who looks at the veins of the hand. For during sleep the natural heat passes from the arteries to the veins by inosculations which are called anastomoses, and thence to the heart; but, as the tidal movement of the blood (*exundatio*) to the upper parts, and its ebb (*retrocessus*) to the lower parts, like Euripus, is manifest in sleeping and waking, so this kind of movement is not obscure wherever a ligature is applied to a part of the body, or the veins are closed in some other way."

I trust I shall be pardoned if I do not go more fully into this question of priority, but refer those in whose minds any doubt may remain to the original works of Cesalpino, where they will find much to interest them. Even the brief quotations that I have laid before you appear to justify to a certain extent the claims that have been raised for higher distinction among the physiologists of the past for Cesalpino than may have hitherto been awarded him, but at the same time I venture to think that they are conclusive as to the view that Cesalpino cannot be declared worthy to occupy the place so long and universally assigned to our illustrious countryman. Certainly Cesalpino himself was not conscious of having made an important, if any, discovery; for he introduces the subject of the circulation incidentally in a chapter headed "*Cor non solum arteriarum sed et venarum et nervorum principium*," and nowhere lays stress upon what is now claimed as his prerogative. Even among the list of subjects contained in his *Index eorum quæ notatu digna visa sunt* the circulation is not inserted. Lest, as Englishmen, we may be tempted to take a one-sided view of the question, permit me to adduce a few words from the work of one of the most eminent modern French physiologists, Flourens,(s) who, in his "Histoire de la Circulation du Sang," gives evidence of a minute study of the authors who preceded Harvey, says: "Lorsque Harvey parut, tout, relativement à la circulation, avait été indiqué ou soupçonné, rien n'était établi. Rien n'était établi, et cela est si vrai que Fabrice d'Acquapendente, qui vient après Césalpin et qui découvre les valvules des veines, ne connait pas la circulation." And it may be added that he quite misinterpreted the functions of the valves.

A careful study of the entire subject appears fully to justify the opinion expressed by Dr. Willis,(t) that "Cesalpino, tried by a moderately searching criticism, presents himself to us as but very little further advanced than the ancients in his ideas on the motion of the blood"; and, again, that "the world saw nothing of the circulation of the blood in Servetus, Columbus, Cæsalpinus, or Shakespeare, until after William Harvey had taught and written."

We all know that Harvey did not evolve his doctrine out of his inner consciousness, but that, by intense application and the study of vital phenomena, he arrived at the conclusions set forth in 1628, having undertaken a task which at the outset he regarded "as so full of difficulties that he was almost tempted to think with Frascatorius that the motion of the heart was only to be comprehended by God." It will be

(n) Andreæ Cesalpini, Aretini, "Quæstionum Peripateticarum," libri v.; "Dæmonum Investigatio Peripatetica"; "Quæstionum Medicarum," libri ii.; "De Medicaminum Facultatibus," libri ii. Venetiis, 1593.

(o) *Ibid.*, p. 116.

(p) "Quæstion. Peripatet.," lib. v., p. 117.

(q) *Loc. cit.*, p. 126.

(r) *Loc. cit.*, p. 234.

(s) "Histoire de la Circulation du Sang," par P. Flourens, Professeur au Muséum d'Histoire Naturelle de Paris, 1854, p. 28. An excellent summary of the history of the circulation is given in Mr. Lewes's "Physiology of Common Life" (vol. i., p. 259, 1859), in which the claims of Harvey and of his predecessors are fairly and succinctly set forth.

(t) "The Life of Harvey"; introduction to Sydenham Society's edition of Harvey's works, p. 63.

interesting to the Fellows of this College, no less than to the world of science at large, to know that we now have it in our power to estimate more accurately the gradual advances by which Harvey eventually arrived at his goal, inasmuch as the original notes of the first lectures which he delivered in this College in 1616 and in subsequent years, as Lumleian Lecturer on Anatomy and Physiology, have been recently rediscovered in the British Museum. Harvey tells us in the introductory letter to his "very dear friend Dr. Argent," the excellent and accomplished President of the College of Physicians, prefixed to his work "De Motu Sanguinis," published in 1628, that he had "for nine years and more confirmed his views by multiplied demonstrations." Hence the first date of the new doctrine is ordinarily fixed in 1619; but the manuscript lectures show that Harvey delivered his first lectures in 1616, and was then already on the threshold of the complete discovery. These lectures formed a part of the library of Sir Hans Sloane, which was purchased by Government in 1754, and, though entered in the Catalogue of the Museum, they have disappeared for above a hundred years. A few months ago, in going over the duplicate books which had been set aside, this manuscript was found, probably in all the better preservation from having been so long buried. Allusion is made to these lectures by several writers. Dr. Rolleston, in his Harveian Oration (page 70), gives all the details that he was able to collect regarding them, and recounts with what diligence they had been searched for. They were also evidently seen by the writer of Harvey's life prefixed to the edition of his works published by the College of Physicians in 1766, but have been mislaid since then. The notes are written in Latin, but the abbreviations and the handwriting are so quaint that no one but a gentleman in the habit of studying manuscripts of the period can decipher them.(u) Mr. Bond, the Chief of the Manuscript Department of the British Museum, has kindly produced a readable transcript of that portion of the lectures which commands our special attention. Possibly this College may consider it a duty that it owes to itself no less than to the memory of the illustrious author to publish these notes, entire or in part, so as to complete as far as possible the history of the subject to which our attention is specially directed. Coupled with Schlegel's admirable "Commentatio de Motu Sanguinis," which has received too little attention in this country, the two would form a not inappropriate memorial of the natal year of William Harvey, of which we celebrate the three hundredth anniversary in 1878.

Every detail concerning Harvey's early studies appears to command our interest; I, therefore, make no apology for presenting you with a few details concerning his first lectures. The volume, which is carefully bound in leather, with some pretensions to elegance, contains about ninety-nine pages of foolscap paper, reduced to a size of six inches by eight. The binding was evidently an after-thought, and the loose pages may have been used for one or more years before they were put into their present form, because they bear the marks of having been folded lengthways twice over, so as then to occupy a very small space of about eight inches by two. There is also evidence that Harvey used the book in its present form for his lectures; for he had attached, by sealing wax, threads of twine along the inner side of the cover, under which he could slip any further notes for future lectures. The writing throughout appears to have suffered little or nothing in distinctness, except that of the title-page; but in evidence of the style and the difficulty of putting it into a modern form, I venture to send round an autotype copy of one of the most legible passages, which happens to be the *résumé* of what Harvey taught in his early lectures regarding the heart and circulation.

The title-page, which is in red ink, is very nearly illegible. It is to the following effect: "Prælectiones anatomiæ universalis, per me Guglielmum Harveium Londinensem, anatom. et chirurg. Professorem. Anno Dom. 1616. Anno ætatis 37. Prælect. April 1st, 1617." Underneath are the numbers 16, 17, 18, which probably imply that these particular notes were used for the lectures of 1616, 1617, and 1618.

The manuscript evidently consists of mere memoranda; jottings of the subject, upon which the speaker could dilate as he chose. Each full page contains about thirty lines, and but few of the words are written out in full. The abbreviations, which sometimes assume an almost hieroglyphic form, are very numerous; and as the terminations of the words are commonly mere up and down strokes, a considerable latitude must necessarily be allowed to the transcriber. Under these circumstances, and from the impossibility of interpreting or verifying some of the allusions and references, the transcript and translation of the portion that particularly concerns us, relating to the heart and circulation, inevitably leaves much to be desired.(v) I may say that this section occupies a little more than fifteen pages of the volume, comprising altogether 441 lines.

The notes are put together in an aphoristic manner, and are occasionally interpolated with English words, for which the writer, at the moment of composition, was unable at once to supply the corresponding Latin term. There are frequent references to other authors—Hippocrates, Galen, Columbus, Vesallius (*sic*), Colsius, Aquapendens, and one, though this is doubtful, to Cæsalpinus. Every now and then we meet with initials W. H., appended, probably, for the purpose of distinguishing the passage as one that the speaker wished to mark as belonging especially to himself. The notes show that Harvey had, at that time, already studied the subject by vivisection, and that he had employed a variety of animals for his inquiry. But one feels throughout that he is still somewhat influenced by the prevailing views, and that he is only laboriously attaining that clear insight which his work, published in 1628, so plainly shows.

Harvey commences the section on the heart and circulation with an etymological assertion, for which, I fear, it would be difficult to find sufficient justification:—"*Cor a currendo, quia semper movetur.*" His first anatomical statement is to this effect(x):—"This (the heart) is the chiefest of all parts of the body, not by any inherent quality, for its flesh is more fibrous, and harder, and colder than the liver, but by the quantity of blood and spirits contained in the ventricles." You see he still clung to the view that the heart contained something besides blood. The heart, he says, cannot bear any serious lesion without death ensuing; still, he adds, showing that he had already devoted attention to pathological anatomy, "*vix ullis vitium cadaveribus vidi, nec consumitur ptysi (phthisi) secundum spem Galeni.*" An amusing instance of a jumble of Latin and English occurs in this section: "*Exempto corde frogg scipp, eel crawle, dogg ambulat*"; in which the English (not one word of which would pass muster at a spelling-bee) is as interesting a feature as the physiological fact embodied in the sentence.

The next section is devoted to an examination of the structure of the heart and its contents. Harvey's initials are attached to such sentences as—"*Hinc cur potius arteria oriri a corde quam vena, non video*"; as—"*Quære de principio venarum, puto a corde.*" He commences the consideration of the use of the heart with the statement—"*Hæ duo lacunæ (the two ventricles) cysternæ sanguinis et spiritus*"; the latter, he subsequently says—"*in totum corpus hinc distribuitur.*" Much comparative anatomy is introduced, and we meet—probably, for the first time in English medical literature, the designation of "bishop's miter" as applied to the left auriculo-ventricular valve. Harvey heads the next division of his subject "*Historia, Transitus Sanguinis et quomodo spiritus fiat.*" In this he discusses the question of the transmission of the blood through the foramen ovale, which he regards as a fœtal arrangement, describing at the same time the changes occurring in the ductus Botalli. The substance, colour, and temperature of the heart are considered; and here, as elsewhere, there are suggestions manifestly derived from clinical practice. Under the heading "*Motus*," Harvey dwells upon difficulties, which he subsequently surmounted, in understanding the movements of

(u) In his own day, Harvey's writing was evidently a puzzle to his readers, for Dr. Ent, in his epistle dedicatory to the work on "Generation," which he edited, says: "As our author writes a hand which no one without practice can easily read (a thing that is common among our men of letters), I have taken some pains to prevent the printer committing any very grave blunders through this." Many of my readers may already be familiar with Harvey's handwriting through the *fac-simile* of a letter of his, prefixed to Dr. Aveling's "Memorials of Harvey" (London, 1875), which fully confirms Dr. Ent's statement, as its authenticity is in its turn corroborated by MS. lectures.

(v) The attempt I have made in translating it has not yielded satisfactory results; and after submitting it to more competent Latin scholars than I profess to be, I fear others would not be much more successful. It would probably be wisest to publish the notes in autotype, with an accompanying transcript, and allow each reader to be his own interpreter.

(x) Principalissima omnium pars, non propria ratione, carne fibrosior enim et durior et frigi*dior* hepate, sed copiæ sanguinis et spirituum in ventri*culis*. Harvey enlarges upon this paragraph under three heads:—1. Unde fons totius caloris; 2. Unde auricula dextra pro aposte*mate* cernetur morte; 3. Unde piscis quasi lacuna san*guinis*, et eo major quo sanguis spirituosior, calidior; puto quo distenti*us* et non concre*tum* possibi*le* ad vitam, unde auriculæ pulsant post emo*tum* cor san*guinis* multitudi*ne*. (The italicised letters are the terminations suggested by Mr. Bond.)

the organ, and especially in determining which was systole and which diastole.(y) He evidently took his audience into his counsel and displayed before them the living heart, for he says:(z) "I have watched the process for entire hours, and was unable to determine the question for myself, either by sight or by touch; therefore, I shall ask you to look for yourselves, and give me your opinion." However, he arrives at this conclusion: that, whether the erection of the heart is to be regarded as the act of systole or diastole, the heart, by its erection, projects the blood and causes the pulse.(a)

One more extract, and I will detain you no longer with the notes, hoping, however, that I have not taken up your time unprofitably with a subject that appears to me to justify our liveliest interest, and to merit a more complete and permanent record than my present opportunity permits.

The passage that I am about to quote forms the peroration to the first Lumleian Lectures on the heart, and comprises a summary of the doctrines on the movement of the heart and the circulation as taught by Harvey at the beginning of his career. I shall give the passage *verbatim*, prefacing it only with the remark that it is initialed W. H.:—

"*Constat per fabricam cordis, sanguinem per pulmonis in aortam perpetuo transferri; as by 2 clacks of a water-bellow to rayse water.*

"*Constat per ligaturam transitus sanguinis ab arteriis ad venas.*

"*Unde* △ (*demonstratur*) *perpetuum sanguinis motum peri pulsu cordis.*

"*An* (*?*) *hoc gratiæ nutritionis, an magis conservationis sanguinis et membrorum per infusionem calidam, vicissimque sanguis calefaciens membra, frigifactus, a corde calefit.*"

Most of this is taught more explicitly in Harvey's work of 1628; but he then, as shown in his letter to Riolan, abandoned the theory that the heart was the source of heat.

I owe you, Sir, and Fellows of the College, an apology for having occupied so much of the brief time at my disposal by the inquiry into the merits of Cesalpino;(b) but it appears to me one of the duties of the Harveian Orator not to allow (as far as in him lies) an aspersion to rest on a name that has been justly called "immortal." Our departed friend Edmund Alexander Parkes, in fervent language, vindicated Harvey's claim to that title, in the posthumous Oration which Sir William Jenner read from this chair last year. He spoke of Harvey's discovery as one "that is not only one of those cardinal discoveries which lie at the very foundation of physiology and medicine, but is one that from its very nature forms one of those great landmarks which must remain in the sight of all." Upon that topic it is unnecessary for me to dilate before an audience in whose ears the words of Parkes still ring. But it may not be unfitting to inquire whether we, the spiritual descendants of Harvey, are carrying on the great tradition which we have received from him in a manner that he would approve of—by a steady pursuit of truth for its own sake, by that rigid sobriety of judgment which everywhere characterised his researches, by that "marvellous industry" and "insatiable curiosity" with which he prosecuted his researches to the day of his death.

Our Hunters, our Marshall Halls, our Bells, our Brodies, all trod in Harvey's paths, and have largely aided in the onward movement of medical science in this country; but I think I do not indulge in a vain "Eidolon" if I look upon the present period of British medicine as one to which pre-eminently the term of the Harveian age of medicine may be justly applied. The future only can determine the meed of praise to be awarded to an individual, and will not fail to correct any exaggerated estimate which a contemporary may form. But as it is one of the functions of the Harveian Orator to speak "in commemoration of those who have added aught to the sum of medical science in the course of the bygone year," I believe myself to be only fulfilling the trust confided in me if I dwell upon the earnest work which we see on all sides, and which, in spite of malevolence and misconstruction, is leading us on step by step to more perfect knowledge, and enabling us more and more to benefit our fellow-men.

Two of our distinguished contemporaries of this College I have already named—one, alas! no more—whose names will shed lustre upon the present time. But there are many both in and out of this College whom this country may be proud of, and whom we cannot but think that Harvey would gladly have extended the right hand of fellowship to, and have recognised as fellow-labourers. Scientific medicine of the present cannot fail to command the grateful acknowledgments of our descendants with such an array of names as Billing and Watson, Burrows, Williams, Carpenter, Sharpey, Beale, Paget, Bennett, Simon, Radcliffe, West, Sanderson, Johnson, Brown-Séquard, Lockhart Clarke, Murchison, Handfield Jones, Richardson, Garrod, Wilks, Pavy, Dickinson, Harley, Bastian, Hughlings-Jackson, Hutchinson, Ferrier, and many others, whose researches have already secured them a renown that nothing my feeble voice might urge can either abate or increase.

Would not Harvey have rejoiced to learn the revelations of the microscope and of the chemical laboratory, which belong especially to our day? Can we not picture to ourselves the flash of joy that would beam from his black eyes as he traced the intricacies of cardiac action and of respiration with the stethoscope, the sphygmograph, and the cardiograph? Would it not have gladdened his heart to see the admirable reports of the Medical Officer of the Privy Council, spreading light over recondite processes, and illuminating subjects not less interesting to the man of science than fraught with benefits to the human race? Would Harvey not have followed with profound intelligence and animation the discussions in our societies on the causes and pathology of cancer, on the communicability and production of tubercle, and the intricate question of syphilitic infection?

Who can study the researches of Dr. Sanderson into the pathology of infective processes without feeling that he is leading us to a profounder study of the most hidden phenomena of disease than was thought attainable a very short time ago? Mr. Simon,(c) alluding to his work and that of his colleagues, says well that their studies are extremely important, and that ordinary professional practice supplies neither opportunity nor immediate stimulus for them; studies of elaborate and purely scientific research in aid of the development of medical knowledge, studies never immediately convertible to pecuniary profit, but perhaps, on the contrary, involving heavy cost; studies, too, which, from their nature, cannot promise rapid results nor be conducted in fragments of leisure, but require systematic and continuous labour extending over long periods of time.

Dr. Sanderson's researches have especially served to open out a new vista with regard to many inflammatory and febrile

(y) Videtur quod arduum et difficile discernere aut visu aut tactu, dilatari et constringi, et qualis sit systole qualis diastole.

(z) Ego per integras horas animadvertendo non facile potui discernere neque visu neque tactu, quare vobis cernendum et indicandùm proponam.

(a) Erectione protendit sanguinem et facit pulsus, pro eresi (an heretical notion) et contra Galenum—"as in a glove," he adds in English; and concludes: Hinc pulsus arteriarum, non ex innata facultate sed protendente corde.

(b) Cesalpino's inquiries into demonology have no bearing upon the subject-matter of the Oration; but I venture to direct the reader's attention to them, as they are often extremely amusing, and may assist in forming some opinion of the writer's character and frame of mind. As a whet to their appetites, I extract the following illustration from the "Dæmonun Investigatio" (chap ix., page 154), of the views that prevailed even among the educated classes in the sixteenth century as to the influence exerted by evil spirits upon man. Cesalpino relates that "A ship having put into Salamis, in the island of Cyprus, for the purpose of purchasing provisions, a young man left the vessel and bought some eggs of a certain woman. He ate them on the shore, and, after the lapse of an hour, lost his voice and became half stupefied. When he essayed to go on board, he was driven back by his associates, who did not recognise him, but regarded him as an ass. As the wretched man was unable to express himself in words, the ship quitted the harbour without him; and he, anxious and having nobody to advise him, returned to the woman by whose influence he suspected that he was detained. He obtained no help from her; and, therefore, waiting his opportunity, remained three years in the country, occasionally carrying burdens according to the custom of asses. At night he stayed with the woman; but, continuing dumb, was unable to give evidence against the poisoner. However, having been accidentally led to the town, and passing a church, the ass was seen by certain Genoese merchants, at the elevation of the host, which happened at the moment to be raised, to bend his hind legs, and to raise his forepaws in adoration. The merchants, seeing this miracle, inferred that the woman who was leading the ass was a witch (for this species of transformation was common in Asia). They brought the affair to the notice of the mayor of the town, who ordered the woman to be seized. She confessed her crime, and, in the hope of pardon, restored the young man to his former condition, and he returned home. She, however, suffered condign punishment." Cesalpino adopts this tale as a fact, and infers that such occurrences prove that the accounts given by poets of the metamorphoses of the companions of Ulysses into animals by Circe were not mere fables. It is not difficult to conceive how the sober mind of Harvey would treat these lucubrations of Cesalpino if he were acquainted with them; but they scarcely impress us with the conviction that the latter was a man capable of effecting a great revolution in science. It may be interesting to modern demonologists to know that a picture by Gius. Sabatelli—painted in the present century—is to be found in a chapel of Santa Croce, in Florence, in which a mule is represented as kneeling before the host which is being conveyed to a sick person (see "Museo di Pittura e Scultura," Firenze, 1842; Tavola, 1182).

(c) "Report of Medical Officer of Privy Council, 1874."

processes; and, although they are not to be regarded as concluded, they have already shed much light, particularly on the origin and course of infective processes. We owe to his earlier experiments the discovery of the fact, "that when in the lower animals local inflammations are produced, either in the skin or peritoneum, by the introduction of irritant substances, two distinct sets of consequences manifest themselves —viz., a chronic disease exhibiting in all respects the anatomical characters of tuberculosis, and consisting essentially in the overgrowth of certain tissues, designated as lymphatic or adenoid, and shown to be in close relation with the lymphatic system; and (2) an acute disease presenting the leading features of pyæmia, attended with the formation of metastatic abscesses, and, as a rule, terminating fatally and very rapidly by the formation of infective abscesses and nodules, associated with inflammation, not only of the peritoneum, but of other serous cavities.

It is no small matter to have learnt from Dr. Sanderson's inquiries into the pathology of diphtheria, that microzymes and micrococci exist which possess the power of colonising in living tissues, and "thereby inducing a variety of inflammation which is distinguished from others by its tendency to result in disintegration, and that this faculty of disintegrative inflammation is possessed by them independently, and can be exercised without the concurrence of any previously existing morbid process." The micrococci found by Sanderson, by Keber, Cohn, and others, in small-pox, the rod-like bodies, distinct from bacteria, belonging to splenic fever, the wavy spirilla discovered by Obermeier in the blood of persons suffering from relapsing fever, and not seen in other acute and infective diseases,—all point to the necessity of remodelling many of our views regarding the essence of disease; while a more intimate knowledge of its pathology cannot fail to give greater precision to our methods of combating morbid processes.

We cannot hope to apply a more scientific treatment to disease than we do now, until we thoroughly understand the origin and course of the disease, and the changes that occur. Although it is manifest that morbid poisons do not all act equally upon man and animals, still, it is also clear that we must be content to study the synthesis of disease, with very rare exceptions, in the brute creation only. Would that it were possible to popularise such researches as those initiated by the Medical Officer of the Privy Council, in order to convince a sentimental public that they open a prospect of hopeful harvest in the field of preventive and curative medicine. Surely it is as much in accordance with the dictates of the most refined humanity to utilise animals for the extension of knowledge that shall afford relief or immunity from disease, as to employ them for the sustentation of life as food and raiment. As some of the agitators against scientific advancement are proof against facts and evidence brought forward in the vernacular tongue,(d) we may hope that they may more readily accept arguments when expressed in the language of Virgil. We would recommend them to read the "Carmen Elegiacum" of Dr. Bridges,(e) in which the poet offers an elegant protest against the imputation that heartlessness and cruelty direct experiments made upon animals. After referring to the good work done by our distinguished fellow Dr. Brunton, whom he describes as

> "Promptus aberrantes vivisecare canes,"

and after alluding to the popular errors prevailing on the subject, he exclaims—

> "Hoc crudele aliquid nobilitatis habet,
> Hic simul humanis prodesse inventa videntur;
> Quoque loco cecedit rana, resurgit homo."

Assuming that we have acquired a power to recognise the germs giving rise to febrile and infective processes, or of the *causa proxima* (to use an antiquated term) of other morbid conditions, we could not hope to determine satisfactorily by chemical reagents in the test-tube the antidote that would neutralise them. This would merely be an ancillary method, guiding to further researches; the real value of the antidote could not be established in any other way than by experiment upon a living body into which the germs had been introduced. Valuable as are the reports of Dr. Baxter,(f) as to the relative disinfecting power of chlorine, permanganate of potash, sulphurous acid, and heat, they deal only with contagia outside the body. We have probably all of us in practice hoped that, by introducing these and similar agents into the diseased body, we might influence beneficially the processes manifestly depending upon such contagia. I fear that as yet no results have been achieved that would in any way justify a belief that the antidote has been discovered, that will neutralise or arrest an infective process in the body, as we have succeeded in doing external to it. Our treatment in these cases, as yet, consists in dealing with the product of the morbific germ, and in assisting nature to bear its assaults with more or less impunity. The goal that we or our successors must aim at is to discover a germicide agent, whether to be introduced by the mouth or by injection directly into the blood; so that, to use Mr. Simon's words,(g) "the bedside practitioner shall be able to apply his counteragents with the precision of one who conducts a mere physical experiment."

But if we are still far from a perfect knowledge of the intimate cause of morbid processes, promising as the investigations are to which allusion has just been made, we have greater reason to congratulate ourselves on our recent advances in the determination of the various phases exhibited during the progress of disease. Few appliances, during the most recent period of medicine, have contributed more to this advance than the thermometer, the universal adoption of which might well be adduced in evidence of that Harveian spirit which I venture to claim as a characteristic and prevailing feature in the medical profession of the present day. Remembering the early days of the stethoscope, and the comparative slowness with which it forced itself into universal recognition, the manner in which the thermometric test of morbid processes has been received in all ranks of the profession, from the time its value was first shown by Wunderlich and Traube, seems to justify a high estimate of the advance made by the students of medicine during the present generation. The thermometer does not give us the reason of the change of temperature in the individual case; but it enables us to form a correct estimate of many processes, the nature of which previously could only be determined in the post-mortem room; and increased diligence in its employment is likely to render more clear the diagnosis of various obscure changes, as, for instance, Bastian(h) and others have already indicated in the department of cerebral pathology. The thermometer tells us a fact, which the most educated tactile sensibility is inadequate to determine with precision; and both in the outset, course, and convalescence of acute disease, it is an invaluable help to judge of the requirements of our patients. Whether more care in observation, or more refined instruments, will materially increase the value of thermometry, remains to be seen; but what we specially require is a means of determining the commencement of the incubative stage of febrile disease, so that we might be enabled to apply our remedies before the zymotic process has actually poisoned the entire system. The interval that elapses between the absorption of a germ and the actual manifestation of the complicated processes to which it gives rise, is the period during which an antidotal or germicide agent would be most certain to effect the desired end. It suggests itself whether we are not likely to find, in a combination of the galvanometer and thermometer, the means of a further advance in this direction; and it seems to me that we must look to the galvanic test also for a solution of the problem, which is so often presented to the practitioner: how pain, which at present is only a subjective sign, can be rendered more objective; how we may estimate and measure this important symptom; how we can secure an instrument which, by anticipation, may be termed on odynometer.

The "*tactus eruditus*," upon which our predecessors justly laid stress, and which cannot now be dispensed with, is rendered more intelligible and receives a scientific basis in the explanations of the varying conditions of arterial tension afforded by the sphygmograph. It is one of those inventions and applications of the modern physiologist which we conceive that Harvey would have especially delighted in, as giving confirmation to many views which he held, and explaining much that necessarily was beyond even his powers of solution. The sphygmograph affords us the *rationale* of those differences of the pulse which the practised physician has long recognised; and though not suited, at least in its present form, for ordinary bedside practice, has already, in the hands of experienced

(d) See especially the Report of the Royal Commission on the practice of subjecting animals to experiments for scientific purposes; 1876; Bluebook.

(e) "Carmen Elegiacum," Roberti Bridges, de Nosocomio St. Bartolomæi, Londinensi. Londini: 1877.

(f) "Report of Medical Officer of Privy Council, 1875," Appendix No. 6.

(g) "Report of Medical Officer of Privy Council, 1875," page 1.

(h) "Paralysis from Brain Disease in its Common Forms," by H. Charlton Bastian, M.D., F.R.S.; 1875.

observers, thrown much light on the changes which the heart and vessels are subjected to in the varying phases of disease. As it has already given precision to our physiological doctrines on the action of the heart, the condition of the arteries, and the balance of the circulation, we may hope that it will aid us still further in determining the action of many substances which affect the circulatory apparatus and the blood, concerning which the medical mind is still in a painful state of dubiety.

In connexion with this subject, I am confident that I re-echo the feelings of every member of this ancient corporation if I dwell upon the loss which the College has sustained, since the last Harveian Oration was delivered, by the decease of a man whom we may justly designate as a genuine follower of our great medical prototype, and who showed by his work that he also "avowed himself the partisan of truth alone," questioning Nature with all the perseverance of the earnest student, and not content with anything but the most rigid examination of the replies she vouchsafed to his inquiries. Among the numerous works of Harvey, tho loss of which we have to deplore,(i) "by certain rapacious bands, which, not only with the permission but by the command of Parliament, stripped his house of all its furniture, but abstracted the fruits of many years of toil," we have to reckon a "Medical Anatomy."(k) One of the various works by which our friend Dr. Sibson has established a name, which will endure while this College lasts, is a "Medical Anatomy," in which he gives evidence of many of the admirable qualities which characterised Harvey. Like Harvey, too, he did not hurry into a publication of his researches, but thoroughly matured his work before bringing his fruit into the great market of literature. To both we may suitably apply the praise bestowed upon Goldsmith, in a somewhat different sense, in the well-known words: "Nihil tetigit quod non ornavit."(l) Sibson's work in connexion with respiration, with the nomenclature of disease, with aneurism, and with sanitary science, deserves a grateful record on our part. There appears a special fitness in the fact, that the last time Sibson appeared before the medical public, he delivered two Harveian lectures "On Bright's Disease and its Treatment," in which we find all those qualities of the scientific physician which have left so deep an impression upon the generation in which he lived. They do not, of course, convey to the reader the many estimable qualities of head and heart, the warmth and heartiness of his friendship, the poetic love of nature and of art, which endeared him to all who had the privilege of intimate intercourse with him, and which we rarely see so harmoniously blended as they were in our departed friend. These, indeed, are enshrined in our affectionate memories; but his chief claim to be mentioned in this place, and on this occasion, lies in the fact that those who knew him best may claim for him, in an especial manner, that he was a representative of the Harveian spirit of honest and truthful research into the mysteries of God's work in nature.

In no department of medical science has careful study offered to the inquirer of late years more promise of reward than in the domain of the nervous system. We have, indeed, been told but recently, in this hall, by one of its most successful cultivators, how much of uncertainty yet surrounds our knowledge of disease of the brain; and yet, whether we dwell upon the physiology of the cerebro-spinal system, the chemical changes which it controls, the localisation of function, the relation of nutrition and nerve-force, or the minute pathology of the brain and spinal cord, it is impossible not to be struck by the progress made by labourers of the present and most recent periods. In this field alone, of all the wide regions of medical science, we find no evidence that our Harvey instituted any special inquiries and observations. In his manuscript lectures on anatomy, the brain and spinal cord are treated in the most summary manner; and although his works afford proofs of his pathological knowledge,(m) of his acquirements and practice in surgery,(n) and of his acquaintance with, and performance of, operations in obstetrics,(o) we search in vain for a sign that he even appreciated the importance of the nervous system. The significance of this part of our fabric has, indeed, been scarcely recognised until the present century; and even now, great as have been the achievements of illustrious students, many of whom we claim as associates of this College, we only appear to see the dawn of the full effulgence of knowledge. Truly, whether we look to the results already secured, or to the promise they offer of greater light, we cannot refuse the claim of tho labourers in this department of medical science to be considered as genuine fellow-labourers of Harvey; conscientiousness, perseverance, concentration and clearness of thought, are the characteristics of many of our contemporaries, whom, in an assembly like the present, it would be unnecessary to recall by name. But they, like the collaborators in other realms of medicine, have materially contributed towards rendering this present time deserving of the title of the Harveian era.

Few things are more encouraging to the medical man, who reads the works of Harvey with attention, than to find that his faith in the value of treatment was in nowise impaired by his studies;(p) on the contrary, he frequently illustrates the value of his physiological discoveries by showing the direct application to be made of them to the arrest and control of disease. The more we study the works that have survived him, the more intense becomes the admiration for the great mind that achieved them; and the greater our regret that barbarous hands destroyed other products of his labour, which we are justified in inferring to have been of the greatest value. As the reputation he enjoyed among his contemporaries has been confirmed by the continuous applause of his successors, we cannot doubt that his powers, brought to bear upon the investigation of disease and its treatment, the results of which were embodied in his (lost) "Medical Annotations," would also have largely advanced the healing art. With his help, it is not unlikely that our control of morbid processes might be greater than it is at present; and that we might already claim a greater precision in this department of our calling than our advances in diagnosis, in the chemistry of the body, and in the knowledge of drugs, can yet justify. Earnest as the work is that is being done in this field of science, it is scarcely commensurate with the results gained in other sections of the domain; though here, too, the Harveian spirit is abroad, and humanity is already reaping benefits which even Harvey could not have dreamt of.

But if we may not justly assert that we have as yet acquired the precision in our control over morbid processes that the general advance of medical knowledge would appear to demand, we may claim for our knowledge of what is summed up under the modern term of State medicine a high position among the sciences that are directly conducive to the welfare of mankind.

In the application of medicine and the allied sciences to the prevention of disease, the present century may claim precedence of rank before any earlier periods in human civilisation. During the last forty years each decennium has been characterised by an ever-growing appreciation of the great truths of sanitary science. From the days of the Health of Towns Reports by Edwin Chadwick to the later days of Parkes and Simon, medical men have continuously and unselfishly waged war against the vested interests of filth and zymosis. Nor have their efforts been futile, if increased salubrity and a higher average duration of life may be regarded as tests of success. Nowhere have these tests yielded more satisfactory results than in our naval and military forces; and seeing how much has been achieved, it does not appear out of place to express a hope that our Governments may always take the precautions that are necessary to insure to medical men, in their official capacities, such power and position that their representations may receive due support. I have already had occasion to dwell upon the Reports of the (late) Medical Officer of the Privy Council. The work of which he has been the ruling spirit constitutes a memorial, which will remain an honour to himself and his colleagues, as it is to the time and

(i) "The Works of Harvey," Sydenham Society's edition, p. 481.
(k) *Ibid*, p. 89.
(l) We hope to be pardoned for taking a slight liberty with Johnston's epitaph on Goldsmith, the commencement of which runs thus: "Olivarii Goldsmith, poetæ, physici, historici, qui nullum feri scribendi genus non tetigit, nullum quod tetigit non ornavit, sive risus essent movendi, sive lachrymæ, affectuum potius et lenis dominator et cet."
(m) "The Works of Harvey," Sydenham Society's edition, pp. 90-197, *et passim*.
(n) *Ibid.*, p. 254. Harvey here speaks of his surgical operations as a common thing; and it is particularly interesting to note that in an age when the "ferrum candens" was still in vogue for the arrest of hæmorrhage, he says:—"I have occasionally, and against all expectation, completely cured enormous sarcoceles by the simple means of dividing or tying the little artery that supplied them, and so preventing all access of nourishment to the part affected.
(o) Harvey's essay on "Parturition" affords satisfactory evidence that he was not a mere theorist, but that he personally engaged in the practice of midwifery. He appears to have paid attention to the process of parturition of animals as well as of the human female (Sydenham Society's edition, pp. 521, *et seq.*; see also p. 534).
(p) See especially Sydenham Society's edition, p. 129.

people for which he laboured. It was with grief that the medical profession heard of Mr. Simon's resignation, and the pain was intensified by the report that his office was to be abolished. In the "Supplementary Reports," which Mr. Simon has brought out since quitting his post, we are promised that some of the investigations, commenced under his supervision, shall be continued; may we hope with the same zeal, earnestness, and success as before. It would be difficult to express adequately the sense the profession entertain of the value and significance of all that has been achieved by the Medical Department of the Privy Council; but I am sure that we all endorse the sentiments that are so well conveyed in the following passage, which I take from Mr. Simon's last Report:(q) —"As for the general value and promise of that kind of work in its bearing on the progress of medicine, I entertain the strongest conviction that, in regard of all antagonism to disease, whether with preventive or curative measures, and whether by official or private hands, medicine's best prospects of increase and success are inseparable from such studies of exact science; and that, in proportion as the pathological insight becomes more clear, the growth of practical power will surely follow."

It would be tedious to dwell here upon details with which my audience is as well, or better, acquainted than I am; the more so, as the time is too short even remotely to do justice to the memory of past or to the labours of present workers. But it is well to bear in mind that, in this field also, we may quote Harvey as an authority for the due appreciation of those elements of health, which it is the object of State medicine to foster and to secure, and which he feelingly dwells upon in his account of Parr, whose body he examined after death by command of his Majesty. Here, as elsewhere in his writings, Harvey indicates much that he doubtless enlarged upon more fully in those works which, unfortunately for medical science, were destroyed in the revolutionary war.

No one can say how much more rapidly medicine would have advanced had not ruthless hands been laid upon those works of Harvey, of which only the titles have been brought down to us. But anyone who has learnt to revere Harvey in what we possess of him, and has become familiar with his marvellous industry, his logical mind, and his powers of observation, cannot but feel that everything that he committed to paper was worth preserving, and was certain to impart knowledge of great value to those not possessed of the same qualities.

In the brief remarks that I have ventured to offer to you, I have dwelt upon the modern manifestations of the Harveian spirit in scientific research. But Harvey has left us other features in his character worthy of imitation. Time does not serve to speak of more than the one that especially recommends itself to the Fellows and Members of this College, for it was the *liberality* of Harvey by which the resources of the College have so largely benefited. His munificence provided the former library and museum; he endowed the College with his patrimonial estate of Burmarsh; and left to it his "bookes, household stuffe, pictures, and apparell"; his "best Persia long carpet"; his "blue embroyedyed cushion, one pair of brass and irons, with fire-shovell and tongues of brasse, for the ornament of the meeting-room."(r) This example has not been left without imitators in the present Fellows of the College, who, in their self-denial and generosity, have of late years repeatedly shown themselves to be not unworthy recipients of Harvey's gifts. It affords me particular pleasure to announce publicly, for the first time, the special act of liberality of a recent distinguished Harveian Orator—Dr. Arthur Farre, who in his oration so eloquently and appropriately analysed Harvey's merits in connexion with the subject of Generation. Dr. Farre has within a few days presented to the College, with his portrait, a most valuable library of ancient and modern works, which you may observe, conspicuous by their elegant binding, on the shelves above. It is the most important donation of the kind that our Corporation has received since that of the Marquis of Dorchester, a former Fellow, in 1680; and one that doubtless affords peculiar gratification to our distinguished Harveian librarian, Dr. Monk, in whose name, as in that of the well-wishers of this ancient body, I am sure I may challenge all associates to give or bequeath to it similar "*pignora amoris*," that each donor may deserve, in the vernacular, the record bestowed upon Harvey in the minutes of the extraordinary comitia of July 28, 1666:—"*Fastis nostris honorifice semper commemorandus.*" The grateful thanks of the College are certainly due to Dr. Farre for his gift; and it affords me particular pleasure to take the opportunity of tendering him from this place our acknowledgments, and our heartfelt wishes for his health and happiness.

In bringing my address to a conclusion, I beg to offer to you, Mr. President, and the Assembly, many apologies for the very imperfect manner in which I have dealt with the topics which I have ventured to touch upon. No one can be more sensible of my inadequacy to fulfil the task which you, sir, with too indulgent trust, have imposed upon me. But though I crave your merciful consideration for my effort, I cannot but admit that I owe you, sir, a debt of gratitude for having imposed upon me what has indeed been a labour of love—that of poring over Harvey's works and studying those of his contemporaries. Every page that I have read has only served to convince me, more and more, of the magnitude of the obligations that this College and all generations of medical men who have lived, or will live, after Harvey, are under to him. Would that I could hope to have added the smallest tribute worthy of so great and good a man to the many offerings that his grateful successors have paid to his memory. But, while conscious of my own unworthiness to dilate on so great a theme, I have no fear that, for want of better advocacy, the power of the Harveian spirit will cease to prevail in English medicine, while so many illustrious workers as grace the present roll of the Royal College of Physicians are evidences of its continued influence.

Though I may not have proved what none but future physicians may fitly endorse, I cling to the belief that in no period of the past has this College been so fully imbued with a consciousness of its high calling, and a desire adequately to fulfil its important duties, as in the present; and that the many labourers in the fields that Harvey cultivated justify a humble admirer of the many distinguished contemporaries with which it is my honour to be acquainted, in designating the present age as especially deserving of the title of the Harveian era of medicine.

It is for the younger generation of the present, and for those who are to follow, to see that the Harveian spirit suffers no abatement. Let them walk in Harvey's footsteps, and they will certainly receive their reward in the acquisition of profounder knowledge; in the freer recognition of the value and aims of medical science by their fellow-men; and, above all, by the assurance of greater power and control over the dark influences that still chequer life and hamper man's onward march to a more elevated and spiritual existence.

(q) "Reports of the Medical Officer of the Privy Council," new series, No. VIII., page 7.

(r) Quoted from Harvey's Will; see Dr. Monk's "Roll of the Royal College of Physicians," vol. i., p. 132.

Applications in Syphilitic Ozæna.—Dr. Mauriac recommends the following:—Sugar or powdered talc, 10 parts; subnitrate of bismuth, 5 parts; and calomel, half a part; some of this to be sniffed up several times a day. Or the following powder may be employed:—Alum and tannin, of each 1 part; powdered talc, 10 parts; and subnitrate of bismuth, 5 parts. If there are fungosities or ulcerations, they may be touched with a pencil of nitrate of silver, or with a solution of the strength of a fifth or tenth. Or the following ointment may be applied:—Nitrate of silver, half or a whole part dissolved in a sufficient quantity of distilled water; and cold cream, 20 parts.—*Union Méd.*, June 28.

An Agricultural Colony.—Under this somewhat indefinite name the Council of the Department of the Seine has just opened an establishment for the instruction of idiotic and backward children in such agricultural pursuits as they may be found capable of. This agricultural colony of Vaucluse, as it is called, is situated, though unconnected with the asylum of that name, at Epinay-sur-Orge, in the Department of Seine-et-Oise. A farm with ten hectares of land has been annexed to the colony, whereat all children showing any disposition thereto will be taught various modes of culture. A devoted and intelligent teacher who has taught for thirty-five years at Bicêtre has also been appointed. A chaplain, a professor of gymnastics, and a music master have also been appointed; and any child showing aptitude will be taught a trade in the workshops. The medical management of the establishment is under the charge of a physician and his assistant, with an interne. The Council has established a regular tariff of charges to be made for the children sent by the department, as well as for those sent by their families.—*Union Méd.*, June 26.

ORIGINAL LECTURES.

THE HUNTERIAN LECTURES FOR 1877.

ON DEFECTS OF VISION WHICH ARE REMEDIABLE BY OPTICAL APPLIANCES.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

By ROBERT BRUDENELL CARTER, F.R.C.S.,
Professor of Surgery and Pathology to the College; and Ophthalmic Surgeon to St. George's Hospital.

Lecture I.

ON REFRACTION.

Mr. President,—The fact that certain defects of vision can be corrected by optical appliances is one which has been known to the human race from very remote antiquity. In England, spectacles did not come into common use until the reign of Richard II.; but in China, and probably in other Oriental countries, they have been employed from time immemorial. The limits within which these lectures are confined afford me no opportunity of entering into historical questions; but this is scarcely to be regretted, inasmuch as spectacles appear to have been used empirically, and with very little knowledge either of their precise mode of operation or of the conditions which called for them, until the invention of the ophthalmoscope furnished the starting-point for researches in physiological optics which have richly rewarded many of those who have taken part in them. Prior to the time mentioned there had, indeed, been illustrious Englishmen, notably Porterfield and Thomas Young, who had devoted much attention to similar problems. Unfortunately, however, even Young, who alone among these inquirers must be credited with the possession of the necessary combination of physical, physiological, and geometrical knowledge, scarcely appears to have occupied himself with the clinical requirements of mankind; or to have had any extensive or accurate acquaintance with the actual optical wants of the many sufferers from defective vision. Thus, when he had analysed his own astigmatism, and had discovered the form of the lens by which it could be corrected, it does not seem to have occurred to him that the defect was a common one, by which many persons were practically debarred from the full use of their eyes; and neither he, nor in more recent time Airy, made any attempt to arrive at formulæ for dealing with astigmatism which should be of easy and universal application. Many of those who concerned themselves with the phenomena of vision were content to assume the existence of conditions which were optically sufficient to explain the facts; and never troubled themselves to ascertain whether these assumed conditions had any real existence. Thus, in my own youth, there were elementary treatises on optics in the hands of boys; and these treatises, I believe without exception, set forth that short sight was due to unnatural convexity of the cornea, and that presbyopia was due to a progressive flattening of the cornea, which occurred during the decline of life. It is manifest that unnatural convexity of an otherwise symmetrical cornea might produce some of the symptoms of short sight, and also that progressive flattening of the cornea might to some extent imitate presbyopia; but, as a matter of fact, neither of these conditions is met with. The cornea of a myopic eye is, as a rule, somewhat less convex than the normal standard; and there is no flattening of the cornea as life advances. It is hardly necessary to say that, while questions of this kind were disposed of by ingenious guesses, and without appeal to facts, no scientific progress or precision of knowledge could even be expected. Of late years, however, since the investigation of all the optical causes of defective sight has been recognised as forming one of the most important branches of ophthalmic surgery, we have been arriving by degrees at more accurate information; and, although there is still much to be learned, the growth of knowledge within a comparatively short period of time has been sufficient to afford much ground for congratulation, and also sufficient to relieve a very large amount of discomfort or even suffering. It may now be laid down, as a general principle, that almost every eye which has good vision under any limitations of time or distance can be so assisted as to be made independent of these limitations, and able to accomplish its full share of work in the world; while some eyes, which when unaided have not good vision under any circumstances, may have their defects remedied by lenses of various kinds.

The vision of the natural eye ranges from infinity to a so-called near-point, which gradually becomes more remote from the cornea as life advances, but which should not be farther away than eight inches. Such an eye has clear vision of all objects over the specified range of distance, that is, from eight inches to the horizon or the fixed stars; and it can continue the act of seeing, at any point over the whole of this range, for any reasonable time without interruption. The vision of the short-sighted eye is conditioned by space, and so also is that of the presbyopic eye; the former not being able to see clearly any objects which lie beyond a definite distance, and the latter not being able to see clearly any objects which lie within a definite distance. The presbyopic eye has its near-point farther away than eight inches, or than is natural; and the myopic eye has its far-point nearer than infinite distance. In the asthenopic eye, there may be similar limitations of vision within given distances; but the limitation chiefly complained of is one of time. The patient can see, if not perfectly, yet sufficiently well for many purposes, for a given period only; and, when this period is overpast, the sight becomes blurred, or the eyes become painful, and further use of them, in either case, becomes difficult or impossible. In all the foregoing conditions, whenever there is useful sight within any range, however limited, or for any time, however short, we may be satisfied that we have to deal with a defect which can be remedied, always in some degree, and often completely, by optical means, or, in other words, that the fault is in the curvatures of the refracting surfaces of the eye, or in its shape, or in its muscular organs of adjustment or of direction, and neither in the transparency of its media nor in the nervous apparatus of vision, either central or peripheral. The distinction thus made, as we shall see hereafter, is often one of the greatest possible importance to the patient.

There are, indeed, a few cases, chiefly those of high degrees of astigmatism, in which the unaided vision, within all limits of space or time, is always very defective, and in which the defect is nevertheless entirely optical. To these it will be necessary to return hereafter; and they are only mentioned now because they furnish apparent exceptions to the general rule that it is only the eyes which possess good vision under some circumstances to which the surgeon may afford relief by optical means alone.

In order to make clear the nature of limited or conditioned vision, it is necessary to glance at the chief functions upon which vision depends; and in doing this I shall trust to be pardoned if I deal, for a short time, with very elementary matter. There are certain facts so universally known that it would not be proper to dwell upon them at any length; and yet so important, that it would not be proper to omit all mention of them.

The factors of normal vision, then, assuming that the media are transparent, and that the nervous structures are healthy and receptive, are three in number—namely, Refraction, Accommodation, and Convergence. By Refraction, is meant the optical state of the eye when at absolute rest; by Accommodation, the power of adjusting it to see with equal clearness at distances within its far-point; and by Convergence, the power of directing the visual axes of the two eyes to some point nearer than infinity.

Dismissing from consideration, for the sake of simplicity, the actual complexities of its structure, we may regard the eye merely as a *camera obscura*, designed to form inverted images of outward objects upon the percipient layer of the retina. In like manner, we may regard the several refracting surfaces as forming only a single lens of definite focal length; and it is obvious that this focal length may either be equal to, or somewhat different from, the length of the antero-posterior axis of the eyeball. If the length of the antero-posterior axis of the eyeball is precisely equal to the principal focal length of the refracting media, it follows that parallel rays of light, such as proceed from infinitely distant objects, will be united in a focus upon the retina, and the eye is then said to be *in measure*, or *Emmetropic*, as in Fig. 1. If, on the other hand, the eye is longer than the focal length of the media, the focus of parallel rays will be in front of the retina, as in Fig. 2; and, if the eye is shorter than the focal length of the media, the focus of parallel rays would be behind the retina if they could pass through it, as in Fig. 3. These two conditions, in which, taking the focal length of the media as a standard, the eye is

too long and too short respectively, are both expressed by the common term *Ametropia*, the eye being *out of measure;* but it is manifest that the conditions themselves have very little else in common, and that they must require to be separately discussed and differently treated. It is further manifest that a veritably emmetropic eye can only be formed by a correspondence of measurement so exact that it cannot often be expected to occur; and that a certain amount of ametropia, on one side or the other, must be the rule rather than the exception. Unless this ametropia attains a degree capable of easy recognition and measurement, it does not become disturbing to vision, and does not in any way declare its presence; and we therefore call many eyes emmetropic, which, if strictly examined, would be found not to fall within the terms of the definition.

Fig. 1.

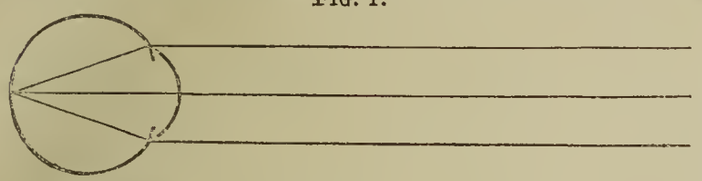


Fig. 2.

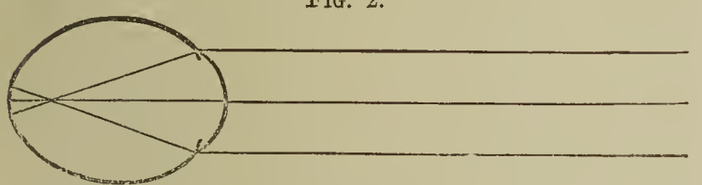
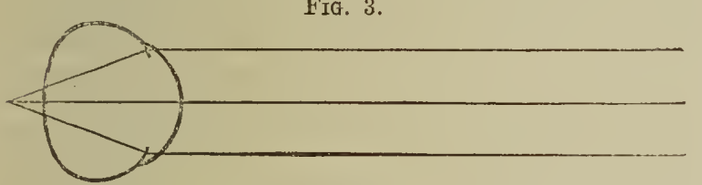


Fig. 3.

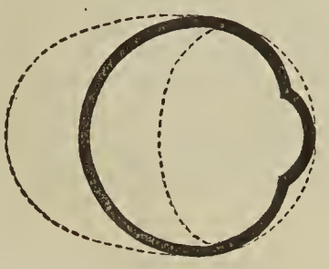


The form of ametropia in which the eyeball is shorter than the focal length of the media was called hypermetropia by Donders, who discovered and first described it; and this word is now universally accepted. It would seem to imply, etymologically, that the focal length is too great; but, as a matter of fact, the focal length is generally much the same as in a normal eye, and the fault is that the axis of the eyeball is too short. The eye is compressed, or flattened from before backwards, as has been shown by innumerable dissections; and as may often be seen in the living subject when the eye is adducted to the full extent. The ordinary length of the emmetropic axis is about 24·5 millimetres; while the shortest axis recorded from actual measurement, in a hypermetropic eye, was only 16 millimetres. In the high degrees of hypermetropia the eye is usually small in all its dimensions, and must then be looked upon as being in a state of imperfect or arrested development. In such cases, the acuteness of vision is often low, seemingly from structural imperfection of the retina; and the orbits sometimes share in the general undergrowth.

The opposite condition, in which the focal length of the media is less than the length of the axis of the eyeball, might properly be called brachymetropia, as suggested by Donders, or hypometropia, as suggested by Scheffler. But it produces short or near sight; and this has long been known as myopia, on account of the tendency of short-sighted persons to diminish the circles of light-diffusion from distant objects by partial closure or nipping together of the lids. This trivial designation has become so firmly rooted in medical literature, and is also so generally understood, that no systematic endeavour has been made to displace it by a more scientific term; and I therefore purpose to use the word myopia, and, so far, to remain in the ancient ways.

In myopia, as in hypermetropia, the departure from correct proportion is on the side of the eyeball itself, and not on that of the refracting media. Every myopic eye is elongated from front to back, so as to be somewhat elliptical in shape, with its major axis in the antero-posterior direction. The longest myopic axis which has been actually measured was no less than thirty-four millimetres; being more than double the length of the shortest hypermetropic axis, and nine and a half millimetres longer than the average of the normal eye. The annexed diagram (Fig. 4) represents the proportions of a normal eye, showing the relation of its anterior portion to a spherical outline; and the interrupted lines within and without the circle represent the proportion, to this normal eye, of the two extreme instances of ametropia which have been mentioned.

Fig. 4.

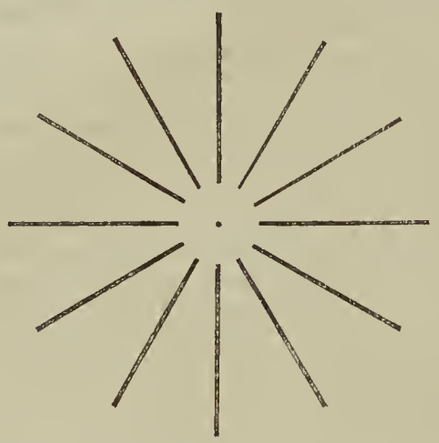


In the majority of instances, the two eyes of the same person will be alike in their refraction, or nearly so, the difference being too small to require to be taken into consideration in practice; but cases arise in which there is a difference of a decided kind. One eye may be emmetropic, and the other ametropic; or one myopic, and the other hypermetropic; or they may both present the same form of ametropia, but in different degrees. As eyes of like refraction might be called isometropic, it was an obvious suggestion that eyes of unlike refraction might be called anisometropic; and this word, and its substantive, anisometropia, were introduced in 1867, by Kaiser, and have ever since been commonly employed in ophthalmic literature. The fact is not important; but I mention it because a recent writer in the *British and Foreign Medico-Chirurgical Review*, in a composition which he would probably call a critical notice of a book of mine, said that the word anisometropia was of my invention, and condemned it in forcible language. It must always be interesting to an author to find that his professed critic is so ignorant of the subject on which he writes, so ignorant even of the headings of the chapters and of the pages of standard books, as to be capable of making such a blunder as this. The word in question is often convenient, as a means of avoiding circumlocution; but last year Dr. Noyes, of New York, proposed to limit its employment to cases in which the refraction of the two eyes is alike in kind, although different in degree, and to use the term *antimetropia* for those in which the refraction in the two eyes is of opposite or dissimilar qualities.

The differences between the two eyes, although often sources of difficulty in practice, are less important than those which may exist between different meridians of the same eye. Young, in 1793, discovered that his vision was not the same for vertical and for horizontal lines; and, having calculated the difference, he caused a glass to be ground for its correction. Professor Airy, the present Astronomer-Royal, repeated Young's discovery in 1827; and he not only calculated the curves of a glass to meet his requirements, but he also communicated his discovery to Whewell, who suggested that, as the eye had no single focus, the condition might be called astigmatism. After this, the matter slumbered until 1862, when Professor Donders, of Utrecht, to whom we are so greatly indebted for his labours in investigating all the anomalies of refraction and of accommodation, announced that astigmatism, so far from being an unusual condition, was almost the normal state of the human eye; and that in about 2 per cent. of all the cases of defective sight it was present in such a degree as to be disturbing to vision. The treatise which he soon after published on the subject left little to be done by subsequent inquirers, except to verify the conclusions at which he had arrived, and, in some small degree, to simplify and improve his first methods of investigation. In this introductory paragraph, it is sufficient to say that the surface of the human cornea, instead of being spherical in its outline, is somewhat differently curved in two opposite directions or meridians, which often correspond with the vertical and horizontal corneal diameters, and are called the two chief meridians, or the meridians of least and of greatest curvature. These chief meridians, even when they are not approximately vertical and horizontal, are always at right angles to each other; and when the difference between them exceeds a certain small degree, there is a conspicuous difference in the distinctness with which lines drawn in different directions are seen from the same point of view and with the same adjustment of the eye. The lines in this star-like figure (Fig. 5), or those in any analogous test-object, are as precisely alike as they can be made; but there are many people who would see them with very different degrees of distinctness; and there are some to whom one particular line would appear confused and blurred, although that at right-angles to the former might be perfectly well defined. I may mention, as a curious illustration of how easy it sometimes is to mistake a surmise for a fact, that a gentleman once consulted me on account of what

he called a "periodical obscuration of vision." I found that he sat in an office which commanded a view of a large clock-dial on the other side of a quadrangle. When the hands of the clock were approximately vertical, he could see them plainly; but when they were approximately horizontal, he could scarcely see them at all. This, which was the fact, he confounded with his own conjecture that he saw differently at different hours of the day; and hence he had been induced to read all he could find about "vital periodicity," and to regard himself as a curious physiological phenomenon. A pair of spectacles, selected in a manner which I must explain hereafter, restored his vision to normal regularity.

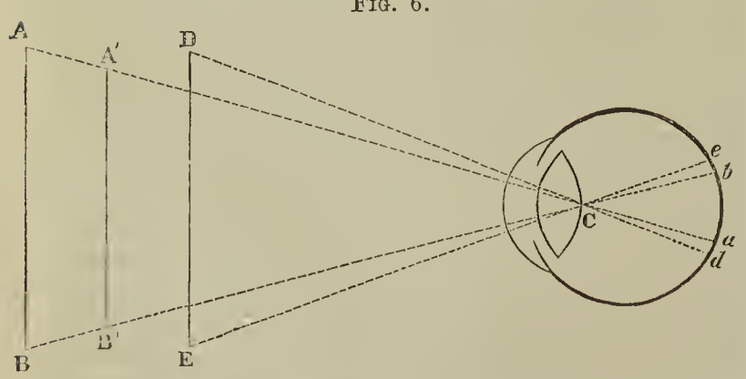
Fig. 5.



The differences between the two meridians in astigmatism may be of every possible kind. An eye may be emmetropic in one meridian and ametropic in the other; or it may be ametropic in both; and in the latter case we may find either different degrees of the same form in the two meridians, or one form in one meridian, and the other form in the other. All these are matters of detail which will have to be considered when the special characteristics of astigmatism are described; and at present it is sufficient to recapitulate that an eye is normal or emmetropic when the length of its axis is the same as its principal focal length; that it is ametropic when this correspondence does not exist; that ametropia occurs in two contrasted forms, according as the axis of the eyeball is too long or too short; that these two forms may be present in the two eyes of the same person, constituting anisometropia or antimetropia; and that they, or different degrees of one of them, may also be present in two meridians of the same eye, constituting astigmatism.

Disregarding, for the present, the effect of accommodation, and thinking of the eye as a passive organ, it may be said that ametropia, in all its forms, occasions a diminution of the natural acuteness of vision, a function which is measurable by means of the visual angle. The magnitude of the visual angle depends upon two factors—the size of the object seen, and its distance. The visual angle is that formed between two lines drawn from the extremities of an object to the nodal point of the eye, that is, to a point lying close behind the crystalline lens. In Fig. 6,

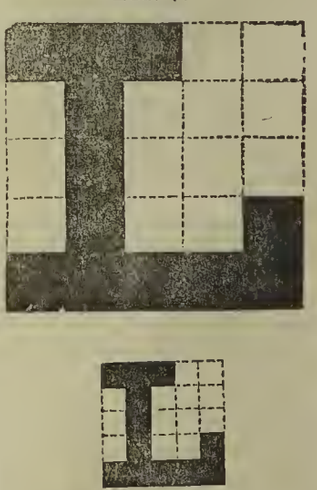
Fig. 6.



C being the nodal point of the eye, and A B an object, A C B is the visual angle of that object, and *a b* is the magnitude of its image on the retina. But the smaller object A′ B′, which is nearer to the eye, is seen under the same visual angle and forms an image of the same magnitude; while the objec D E, which is equal in size to A B, but nearer, is seen unde the larger visual angle D C E, and forms the larger retinal image *d e*. In order that the retinal image may excite visual perception, it must be of a certain size, and therefore the object forming it must be seen under a certain visual angle; and it has been experimentally determined that square letters, which have limbs and subdivisions equal in breadth to one-fifth of the height of the letters, and which are so placed that this height is seen under a visual angle of 5′, are distinctly legible to the normal eye. Dr. Snellen applied this principle to the construction of test-types which give a means of determining the acuteness of vision with exactness. His letters are drawn of the proportions mentioned, and of various magnitudes, each distinguished by a number which indicates the distance, in metres or parts of a metre, at which the height of the letter will be seen under a visual angle of 5′, the breadth of its limbs under an angle of 1′, and at which the letter as a whole should be legible. The acuteness of vision, usually written V in English, or sometimes S (the initial of the German *Sehschärfe*), is expressed by the distance of the test letters from the eye, divided by the number of the smallest letter, which can be recognised with certainty at that distance; the resulting fraction being reduced to its lowest terms. If the distance be six metres, the person who can read letters of the corresponding number at that distance has V equal to 6-6ths, or equal to 1; and this is taken as the normal standard. One who can only read No. 9 has V equal 6-9ths, or 2-3rds of the normal. One who can only read No. 60 has V equal 6-60ths, or 1-10th of the normal, and so on. In order to use this method in practice, a sheet of test-letters of various sizes should be hung up in a good light, care being taken that the number of the smallest size is a little less than the number of metres in the available distance. In my own consulting-room, for example, the letters hang at three metres from the patient's chair, and the sizes range from 2·5 to 60, so that I can recognise variations of acuteness ranging from 6-5ths, or more than the normal, to 3-60ths, or 1-20th of the normal, and the examination is completed in a moment. For my own use, I have a set of test-types which were designed by Dr. John Green, of St. Louis, and which are constructed on the same principle as those of Snellen, but are superior to them in certain points of detail. The letters are so selected as to be of more uniform legibility, and the number of gradations is greater. Green's types, however, are not easily procurable in this country; while those of Snellen, which fulfil every purpose, may be obtained from any bookseller.

Fig. 7 displays two examples of Snellen's letters, which should be legible at twenty-four and at nine metres respectively.

Fig. 7.



In every case of ametropia, of whatever kind, it is manifest that the retina must receive an irregular patch of light, technically called a diffusion circle, from objects which would be represented by a defined image upon the retina of an emmetropic eye. A glance at Figs. 2 and 3 will show that, in the case of myopia, the diffusion circle is formed by rays which have united within the eye and have overcrossed; while in the case of hypermetropia it is formed by rays which have not yet come together; but both these conditions are alike in impairing the distinctness of vision. Now, it is one of the properties of convex lenses that they render convergent the rays of light which pass through them; and it is one of the properties of concave lenses that they render rays of light divergent. It follows, therefore, that if we place a convex lens before a hypermetropic eye, the convergence caused by the lens will enable the eye to bring the rays of light to an earlier focus than by its unaided refraction; and if we put a concave lens before a myopic eye, the concave lens will bring the rays of light to a more distant focus, as shown by the dotted lines in Figs. 8 and 9. In every case of ametropia, therefore, there is a lens which will postpone or promote the union of the rays in the precise degree which is necessary in order to cause them to form their focus upon the retina, instead of either in front of it or behind it; and this lens not only

corrects the ametropia, and restores vision, if not otherwise impaired, to its natural standard, but it also measures the ametropia, which is most conveniently expressed in terms of the lens which will neutralise or rectify it. Hence it is

Fig. 8.

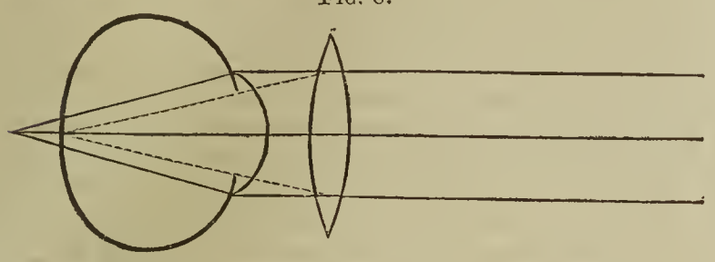
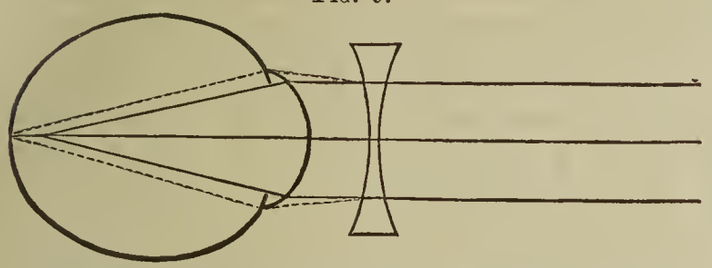


Fig. 9.



necessary, for the sake of definiteness and clearness of expression, to possess lenses of known and constant value; and this value is expressed by the distance from the optical centre of the lens to the point F, Fig. 10, at which, if convex, it will unite parallel rays in a focus, or, if concave, by the distance of the point F, Fig. 11, from which parallel rays appear to

Fig. 10.

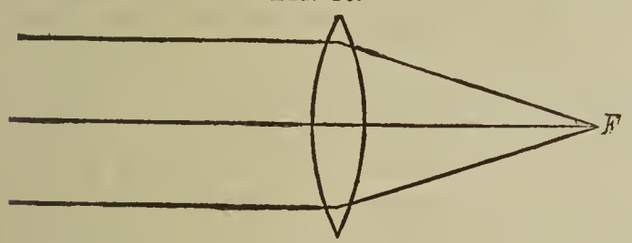
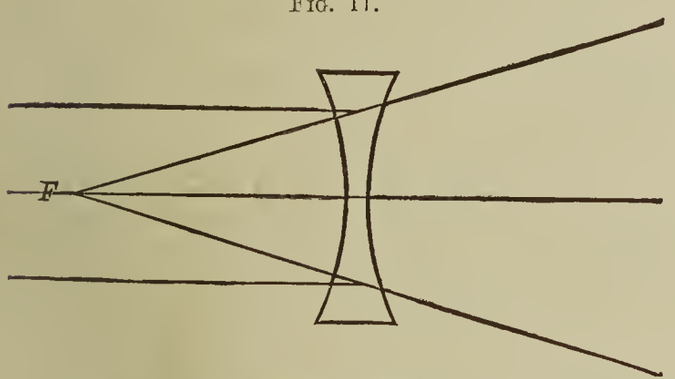


Fig. 11.



diverge after they have passed through it. This point is called the principal focus of the lens; and its distance is called the principal focal length, or, for the sake of brevity, the focal length only. The more powerful the lens, the greater its action upon the rays of light, the shorter will be its focal length.

(*To be continued.*)

The University of Upsal.—The Swedish University at Upsal is about to celebrate the 400th year of its foundation. One of the richest in Europe, it was first opened September 21, 1477. It consists of the four Faculties of Law, Medicine, Theology, and Philosophy, and has now about 1500 students. It is placed in an old park, and has its library and several remarkable museums.—*Union Méd.*, June 28.

Death from Chloroform.—M. Bachelet, a young student of medicine, a son of the Professor of History at Rouen, having suffered from an intolerable toothache, endeavoured to allay the pain by taking chloroform; but having swallowed too large a quantity, he almost immediately fell down as an inert mass. Notwithstanding every effort, he shortly after died.—*Ibid.*

ORIGINAL COMMUNICATIONS.

A CRITICAL REVIEW OF THE

PREVAILING THEORIES CONCERNING THE PHYSIOLOGY AND THE PATHOLOGY OF THE BRAIN:

LOCALISATION OF FUNCTIONS, AND MODE OF PRODUCTION OF SYMPTOMS.

By EUGÈNE DUPUY, M.D. Paris, of New York;
Corresponding Member of the Paris Société de Biologie; Member of the American Neurological Association, etc.

Part I.

Our knowledge of the functions of the brain, although extensive, is so inaccurate, the attempts made by different authors to elucidate some of the most important problems of cerebral physiology are so one-sided, and the writers for the most part appear to have been so much influenced one by another, on account of the numerous difficulties lying in the way of controlling by experiment the experimental data, added to the natural disinclination of most men to undertake the tedious labour of critical investigations, that both physicians and physiologists have come to accept most eagerly any work written by any author who ignores all doubt as to the absolute truth of his theories, as an inexhaustible mine of arguments and facts for the support of their own speculations, and in this manner they elevate such an author to the position of a universally accepted authority.

Such has already been the fortune of Dr. Ferrier, and it is for that reason that I undertake to write the present review of the whole question of localisation of functions in the brain.

We have in Dr. Ferrier's book(a) all the experimental data discovered both by Fritzsch and Hitzig,(b) and later by Dr. Ferrier. These data have led those physiologists to bring forward this doctrine, which is, however, nowhere expressed in their respective books: that the cortex cerebri is a region which can be excited into activity by electrical stimuli; that each and every convolution of the brain contains one and more *centres*, the anterior and antero-parietal convolutions contain centres which govern motion, and the posterior and postero-parietal convolutions contain centres for common and special sensations. The existence of all these centres can be made apparent by irritating the areas of the cortex with electricity. Dr. Ferrier has even gone further than Hitzig, for besides the sensory centres he describes also centres of inhibition, of visceral sensation, of the senses of thirst, hunger, etc. All those experimental facts, however, were known to the profession before their appearance in book form. Those of Dr. Ferrier have attracted so much attention from the very beginning, that we have since read every day of pathological cases and other facts which are said to find their true interpretation in the theories of that physiologist, at the same time that they are constantly being published with the view of strengthening the deductions arrived at by him.

Dr. Ferrier has made the doctrine of localisation of functions in the brain almost his own. He has so elaborately varied the former experiments of Fritzsch and Hitzig—the experimental starting-point of localisation of functions in the brain,—and so laboriously contrived to support by his discoveries the very original deductions of Dr. Hughlings-Jackson,—all with such partial success,—that I very sincerely believe his book to be a new departure in experimental cerebral physiology. It is therefore not without hesitation that I presume to offer some points of criticism on the deductions contained in Dr. Ferrier's work. I think that the facts which I am enabled to bring forward belong to the *other* side,—Dr. Ferrier having, notwithstanding his high merits, fallen into the common error of being *one*-sided. I desire only to present some facts which cannot be interpreted by the theories of Drs. Ferrier and Hitzig—some deductions which, if they are logically deducted from true premises, as I believe, cannot be explained by the theories of Hughlings-Jackson.

I shall take successively, and in the same order, as far as I can, as they are put forth by him, the points on which I differ from Dr. Ferrier. I have in the beginning to take issue with him on his exposition of the anatomy of the medulla oblongata. This point is not without great importance. The decussation of

(a) David Ferrier, "Functions of the Brain," 1876.
(b) Hitzig, "Untersuchungen ü. das Gehirn," 1874.

the conductors of motor impulses, in the anterior pyramids, goes strongly to support the principal deductions of Dr. Ferrier. But it so happens that in man, as in the other animals, the conductors of the orders of the will to the muscles do not decussate entirely in the anterior pyramids. Few of these conductors decussate there, and superficially too. Before the demonstration of that fact by Sappey and Duval,(c) the experiments of Schiff, Vulpian, and Philippeaux,(d) and a few cases of lesion of one pyramid without loss of motion in man, constituted strong evidence of the fallacy of the accepted teaching. The cases, therefore, which I shall adduce further—of lesions of different parts of one hemisphere causing paralysis of motion on the corresponding side of the body instead of the opposite—will not be disposed of (to suit his theory) by Dr. Ferrier, on the ground that they are exceptional, "just as there are exceptions to the rule that the heart is situated to the left and the liver to the right." And, even were it so, I have collected some cases which I shall also adduce further, and which militate against such an assumption.

The next subject refers to reflex actions. I take notice of the fact, accepted by Dr. Ferrier, that the reflex action which would otherwise result from a stimulus is altogether restrained or inhibited if a sensory nerve in some other part of the body is simultaneously irritated. Also that he attempts to weaken Pflüger's doctrine of psychical or intelligent action on the part of the spinal cord. His arguments are those of Goltz and others. Pflüger's doctrine is the same which was most forcibly advocated, chiefly by Dugès, of Montpellier, and latterly illustrated by some clever experiments of Vulpian. The weight of arguments and facts given by some authors goes to show that in man, if not as clearly substantiated as in other animals, the doctrine is virtually true. The deductions arrived at by Durand de Gros,(e) and latterly by Claude Bernard,(f) are proof of what I advance. The counter-experiments of Goltz are susceptible of another explanation than that given them by him. He did not eliminate this great source of error, which is disposed of by careful differentiation of phenomena due to irritation from those due to loss of function. The inhibitory action of the spinal cord upon itself is not considered; no more is the different influence of each and every part of the cerebrum upon the medulla oblongata, and also the result of ablation of that last organ, considered as a respiratory and circulatory centre, which has strong bearing on the point at issue. For the manifestations of their functions, parts are entirely dependent upon the properties of their tissues, and the properties of the tissues are a mere result of their nutrition. It is out of place to argue at any length on that subject just now; but not so, however, to remember the acceptance by Dr. Ferrier of the theory of "physiological association in the spinal cord between the centres of movements of the same kind in both limbs, due either to their commissural connexions or the organisation of past experience." There are certain experiments of Weir Mitchell,(g) which he quotes for another purpose, but which I think can receive explanation by that theory. Weir Mitchell has seen that on suddenly faradising the brachial plexus in a case of amputation of the shoulder-joint, in which all consciousness of the limb had long since vanished, the patient said at once, "My hand is there again; it is all bent up; it hurts me." Ferrier says that the explanation of these curious phenomena is correctly given by Weir Mitchell, who writes that the excitation of the sensory nerves calls up in idea the correlated movement—*i.e.*, the movement which in the actuality of past experience had coincided with the sensation now revived by the faradic stimulus. I believe that this important fact, together with the theory offered in explanation, comes within the theory of Dugès, of Pflüger, and others. I may be mistaken. I only put in apposition Dugès and Pflüger's experiments with that of Weir Mitchell. It is a landmark of which the utility will be seen when I come to examine Dr. Ferrier's views on the nature of conscious sensation. It seems to me even now, however, that if he considers that experiment of Weir Mitchell together with the explanation offered, he accepts implicitly the doctrine of psychical or intelligent action on the part of the spinal cord. In science we have to take the consequences of our logical deductions; and it is not contrary to sound logic to say that the phenomena of memory and "*partant*" of volition can be explained by the theory of the "*organisation of past experience.*" When an impression is transmitted towards the centre it reaches a group of nerve-cells. These cells only become affected by the impression through a nutritive process. Now, if an impression is frequently sent through one channel, to one centre, it happens that that centre becomes more and more apt to be affected by that impression. We know, on the other hand, that nerve-cells are not permanent structures any more than other structures,—they are potentially permanent. The process of nutrition, *i.e.*, assimilation and disassimilation, make all structures imperceptibly but constantly undergo a process of destruction and reconstruction, so that after the lapse of some period we happen to have a cell materially different from the first one (the materials of which it is made, however, being composed of the same elements), yet endowed with the same function, but better adapted. It is unnecessary for me to dilate on that subject. Let me give an illustration. The respiratory function is carried on through a reflex process. Our voluntary control over the respiratory movements is of a limited extent. If the inspiration is delayed beyond a certain period, the *besoin de respirer* becomes so urgent that voluntary control is no longer capable of restraining the reflex or automatic activity of the respiratory centres. Dr. Ferrier very nicely puts it—"Respiratory movements may continue after all afferent nerves connected with the centre have been divided. In this case there is a true automatic activity conditioned by the state of the blood itself. The diminution of oxygen and accumulation of oxidation products in the blood act as a stimulus to the inspiratory centre, and this again reflexly excites the expiratory movements. When the blood is artificially hyperoxygenated, the movements of respiration come to a complete standstill—a condition termed apnœa. Non-aëration of the blood, resulting from obstruction of the function of respiration, powerfully excites the movements both of inspiration and expiration; and ultimately, if the obstruction is not overcome, causes general convulsions of the whole body, as in asphyxia." Brown-Séquard has the merit of having been the first to establish that theory on experimental data more than twenty years ago. It is clear that the *besoin de respirer*, which is supposed to overcome the force used by the will in order to stop inspiration, is not a force. The will is not overcome by another force. The will, considered physiologically, must have its seat in anatomical structures; and anatomical structures cannot fulfil their functions when their nutrition becomes impaired. Therefore, the force of the will disappears as soon as the conditions of existence of the will are altered, and the automatic activity which governs the respiratory function comes into play. That *automatic activity is organised past experience.* But I do not intend to enlarge on that subject. I am only dealing with it in the physiological point of view; not the metaphysical.

After considering the nature of reflex action, I come to speak of equilibrium. As I differ from Dr. Ferrier on the preceding subject, I am driven to differ from him again when he states that, "without the labyrinthine impressions, optic and tactile impressions are of themselves unable to excite the harmonious activity of the sense of equilibrium." The sense of touch and the sense of sight are made subservient to a sense of equilibrium. Goltz has the credit for the discovery of that new sense. But, is there a *sense* of equilibrium? and is there a centre of equilibrium in the encephalon? It would have been good first to establish in the most irrefutable manner the existence of that sense; but this I consider that the experiments of Goltz and his followers fail to do. They can be interpreted in another and more rational manner: they must, in fact, be interpreted in that other manner. To say nothing of the experiments of Brown-Séquard(h) and the deductions which he has drawn from them, I will only say that Cyon(i) has *proved* beyond dispute that the labyrinth is not a centre of equilibrium. He has at the same time, therefore, given the true explanation of Goltz's experiments. Cyon shows that those disorders of the motor apparatus induced by operations on the semicircular canals do not occur in a uniform manner in different species of animals. In frogs these disorders are almost exclusively limited to the muscles of the trunk; in pigeons, the muscles of the head are those principally involved; in rabbits, those of the eyeballs. Each semicircular canal influences in a special manner the movements of the eyeballs. The excitation of one canal always produces ocular

(c) Sappey and Duval. (d) Vulpian and Philippeaux.
(e) Durand (de Gros), "Electro-Dynamisme vital," "Les Origines animale de l'Homme," "Du Polyzoïsme," etc.
(f) Claude Bernard, "Discours de Réception à l'Académie Française."
(g) Weir Mitchell, "Injuries of Nerves," etc., p. 359.

(h) Brown-Séquard, "Experimental Research applied to Pathology," 1853, page 189; and elsewhere.
(i) Cyon, *Gaz. Méd. de Paris*, 1876, page 201.

movements in the two eyes; but in the eyeball on the opposite side to the canal operated upon the movements take place in a contrary way to those on the same side. The pupil contracts on the side of the operation, and remains dilated on the opposite side. The oscillatory movements which follow tetanic contractions of the muscles of the eyeballs after irritation of the canals disappear when the acoustic nerve on the sound side is divided. When a rabbit, having had section of both acoustic nerves performed, is put on a rotating plane describing rotatory movements, the same phenomena are observed which have been described by Purkinje, and which lately have been made the object of interesting researches by Mach. This proves that those phenomena do not arise from the displacement of the endo-lymph of the semicircular canals, as that physicist laboured to show. The phenomena of Purkinje are due to cerebral disorders produced by grave alteration of the circulation which the animals undergo, in the experiment referred to, chiefly in the intracranial vessels farthest from the axis of rotation.(k)

SANTONIN.

By E. MARLETT BODDY, F.R.C.S., etc.

THERE is no doubt that santonin is, for many reasons, by far the most efficient anthelmintic which can possibly be administered to children, and its combination with calomel I have found to be most advantageous in every respect. Santonin, like every other therapeutic agent, requires care in its administration; and if it is allowed to remain in the system it acts deleteriously, like certain cumulative medicines. This pernicious after-action one of course seeks as much as possible to obviate, and the only way to do so as regards santonin is to combine it with some purgative, such as calomel, which carries it off.

According to Falck of Marburg, if santonin is allowed to remain in the system we get a substance called xanthopsin, into which santonin is supposed to be transformed under certain circumstances which at present are not well ascertained. This xanthopsin is excreted by the urine, giving it a remarkable yellow colour, causing a similitude to that secretion passed in jaundice, and its presence there is easily detected by caustic alkalies, which redden the urine. No doubt it is this xanthopsin which gives rise to those dangerous symptoms that have been so largely dilated on of late, and which many attribute to santonin only, forgetting or ignoring the presence of xanthopsin; and this mischievous action I have found from experience to be entirely counteracted, or rather prevented, by administering calomel at the same time.

I generally administer santonin combined, as I have just said, with calomel, or I give it preceded and then followed by that drug; but one plan is as good as the other. The results of so giving this anthelmintic in either of these two modes have been most happy, and I have very seldom found it necessary to repeat the dose, for such treatment is thorough, and consequently precludes the necessity of repetition.

I myself have never had a case where convulsions or retention of urine have originated from santonin; in fact, I have never seen any untoward symptom resulting from it in any way whatever, which I attribute to my combining it with calomel, or preceding and following it up by that purgative.

My experience has convinced me that nothing of a deleterious tendency can possibly accrue from santonin if it is combined with calomel, for by so doing we do not allow sufficient time to elapse for the xanthopsin to act on the system, for when the santonin has done its work the calomel removes it. The latter drug is a more searching purgative than castor oil; being likewise a cholagogue, it causes a greater secretion of bile, which, as my readers know, is the natural purgative. Giving the santonin in one of these two methods aforementioned will entirely prevent all dangerous symptoms arising; there will be no convulsions and no retention of urine, nor will that secretion appear like that found in jaundice, for this one simple reason: the santonin, when it has done its work, is eliminated from the system by the calomel, and consequently the poisonous xanthopsin has not sufficient time to form. Perhaps this substance is the cause of patients seeing objects either yellow or green in colour.

Camberwell-road.

(k) The hypotheses of Goltz, Mach, and Crum-Brown would have much more value than they have if they did not consist, as they do, in a begging of the question; for it is assumed that the liquor of Cotugno does not entirely fill the ampullæ. That *point is not granted*. Therefore, it is not possible to consider their hypotheses any longer; because, if the liquid fills the ampullæ entirely, there can be no notion of direction conveyed.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

ST. MARY'S HOSPITAL.

GLANDERS.

(Under the care of Mr. HAYNES WALTON.)

[Reported by Mr. G. B. COUMBE, House-Surgeon.]

J. E., aged forty-eight, a buyer and seller of horses, of a low class, of very dissolute habits, and a drunkard. Six days before applying to the hospital, and while he was feeling very feeble, bullæ appeared on his face, trunk, and limbs. His symptoms on admission were—bullæ of a size varying in diameter from a quarter to two inches and a half, filled with clear scrum; chemosis of both conjunctivæ; purulent discharge from both nostrils; cough, with thick, stringy expectoration; general prostration.

Mr. Haynes Walton saw the patient at once, and pronounced the case to be one of acute glanders. He said it was the fourth that had come under his care. He ordered iodide of iron, full diet with brandy, and chlorine lotion to be freely used to the mouth and nostrils, and frequent fomentation to the eyes. The bullæ enlarged, the fluid within them became turbid, and they burst at different periods and exposed superficial cutaneous ulceration, from which exuded foul secretion. There were profuse putrid sweats. The purulent ophthalmia increased; the nasal discharge became excessive, bloody, and very offensive. The cough was more severe, and the expectoration was now very fetid, and highly coloured with blood. Fresh but smaller bullæ formed, and followed the course of the larger ones. Prostration was excessive—pulse 136, temperature 103°,—yet the appetite was never lost. Auscultation of the chest gave the physical signs of bronchitis, with consolidation of the lower part of the left lung. The patient was sent to an isolation ward. He required increasing attention, in order to be kept clean. General improvement began with lowering of the temperature and reduction in the pulse, and one by one the symptoms declined. In three weeks from admission the patient returned to the general ward. In a fortnight after, he left the hospital well. The day-nurse who attended him in the isolation ward took the infection, but the symptoms did not go beyond fever and sloughing of tonsils.

In commenting on the case, Mr. Walton made the following clinical remarks:—The patient had, no doubt, been infected from the horse, although he could not remember any details connected with it. Glanders and farcy are identical in their origin, but have different symptoms—the latter showing its acutest local affections chiefly in the lymphatic system. In man, as in the horse, glanders may be acute or chronic. Here was the acute type. There were the bullæ, fever, marked debility, fetid discharge from the nares, with implication of the respiratory mucous membrane, but yet the attack was not of the most severe kind, for gangrene did not succeed to the bullæ; nor were there abscesses in the neighbourhood of the joints, nor ulceration in any of the diseased mucous tracts, nor nephritis, nor death, which is the rule. The treatment was adapted on the principle of supporting the depressed powers. There must necessarily be much depression when the skin and so much of the mucous tract are diverted from their natural functions and suffer such morbid changes. Many attempts have been made to discover a specific for human glanders, without, however, effect.

Note.—In this journal for October 5, 1872, there will be found an exhaustive account, by Dr. Sidney Coupland, of a fatal case of glanders in the human subject. To supplement Mr. Walton's *clinical* remarks, we will only briefly refer to the pathological observations made by Dr. Coupland in the above case. Scattered through the lungs, close under the pleura, were greyish nodules, which were found to consist of nuclear growth round the bloodvessels, and of catarrhal products in the alveoli. In the liver there were also some well-defined nodules, showing nuclear growth round the portal canals, and some increase in the interlobular tissue. In

the spinal cord there were changes very much allied to those which have been described at various times in cases of tetanus, hydrophobia, etc., and to which the provisional name of leucocytal infiltration has been applied. The central canal was blocked by cellular products, and the sheaths of many of the vessels in the grey matter were crowded with leucocytes.

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Medical Times and Gazette.

SATURDAY, JULY 7, 1877.

THE ARMY MEDICAL DEPARTMENT.

On the evening of Monday, the 2nd inst., Dr. Lush and Colonel North called the attention of the House of Commons to the state of the Army Medical Department. Dr. Lush stated that certain regulations connected with that branch of the Service prevent the best men in the medical profession from entering it, and he pointed out the well-known disabilities under which the surgeons labour as to leave of absence, as to the right of exchanging, as to allowances for forage, and as to compensation for any grievances of which they deemed themselves entitled to complain—disabilities unknown to other officers of similar rank and pay in the Service. And he declared that the number of medical officers in the army at home, which was 631 in 1869, had been lowered to 531 in 1877. The Department is, he declared, in a most discontented state. Colonel North also spoke strongly of the discontent prevailing in the Department. In his day, the medical officers were the private friends of many of the officers, and the friends of every man in the regiment, and were always treated with respect and attention; while now there "are no medical officers who do not find fault with the treatment of the present Department of the War Office." The Secretary of War, Mr. Hardy, has, as our readers know, the courage of his opinions; and certainly he never showed this more strongly than in his reply to Dr. Lush and Colonel North. He had the courage to declare that every one of the grievances put forward by the medical officers in 1874 had been met; and that the agitation now existing may be traced to one or two individuals, there being, he believed, "a surgeon-major or surgeon in London who had spent his whole time in dissuading young men from joining the Service." The profession must feel flattered by his declaration that they are so easily led. He allowed, indeed, that there had not been so large a number of applications to enter the Service as could have been desired; but he affirmed that there are not so many vacancies as might be supposed. In 1877-78 the Department nominally consisted of 885 medical officers; and its actual effective strength was 842, so that there were only forty-three vacancies. But there are, he said, seventeen candidates at Netley almost ready to join, and then the vacancies would be only twenty-six. There will be an examination in August for these vacancies, and there had been eighty applications for the schedule of instructions, and "these persons *might* enter for competition when the time came." The italics are ours, of course, and we use them to emphasise the character of Mr. Hardy's argument. But to all this very qualified statement it must be replied that at the first *competitive* examination for commissions in her Majesty's Medical Service since the last Army Medical Warrant, only thirty-four candidates competed for fifty vacancies, and at the second and latest only twenty-three presented themselves to compete for the same number of appointments. As to the grievances or disabilities that had been mentioned, Mr. Hardy in reality simply admitted that they exist. The statement that the reason why medical officers obtained no more honours was that they had absorbed them already, that they had obtained a larger proportion of them than they were strictly entitled to, is no answer. The grievance is that the "proportion" allowed is not larger. Similarly, with respect to leave, the grievance is not removed by the statement, "arrangements cannot be made for granting medical officers leave in the same way as other officers without an enormous addition to our expenditure"; nor the forage grievance, by the observation that "the War Office does not wish to encourage a system of perquisites," unless an increase of pay is given instead of the old system of a forage allowance. Nor is it enough to know only that the Secretary for War "has done his best to obtain new quarters for medical officers," or that "he does not see how it is possible to meet the demand for exchanges under the unification system." It is satisfactory to hear, no doubt, that the Director-General of the Army Medical Department has assured Mr. Hardy that "we have never gone to war with a medical system organised upon so good a footing as that which now exists," and that "it could be put into the field and brought into operation at a moment's notice"; for we cannot hesitate to believe that he has received such an assurance, and we do not for a moment doubt that the medical officers would do their duty to the uttermost were we to go to war; nor that, did a breakdown occur, the War Office would be ready to throw the whole blame on the Director-General. But, seeing how impossible it has been to get the vacancies in the Service filled up, that the reluctance shown by young surgeons to enter it has been steadily increasing, and that the discontent prevailing in it seems to be almost as universal as it is great it is simply impossible to consider that the state of the Army Medical Department is anything nearly so satisfactory, as Mr. Hardy apparently thinks it is.

VACCINATION BEFORE PARLIAMENT.

The House of Commons has during the past week been a centre of attraction to all who wish well to good government; but to many, perhaps, the debate on vaccination, introduced on the motion of Earl Percy, may have been comparatively uninteresting. This should not be so. It was Lord Percy's desire that a Committee should be appointed to inquire into the working of the Vaccination Laws. His speech was most studiously moderate, and though not exactly accurate with

regard to certain details, such as assigning a position to our contemporary the *Lancet* which we are sure its modesty cannot accept, it was upon the whole a fair representation of popular opinion on the subject of vaccination. Here it might be well to recapitulate our views on the matter.

Our views on the subject of vaccination are these :—We hold staunchly to the principle of saturating the system with cow-pox as a preventive or modifier of the too well known small-pox. But inasmuch as this cow-pox, as transmitted by vaccination from one human being to another, is liable also to be made a vehicle of at least one other poison—that of syphilis—it is better to give those who desire it the option of vaccination direct from the heifer. In the vast majority of cases the risk of such secondary affection is *nil ;* but the risk does exist. And when people by any measure (be it what it may) are rendered liable to fine and imprisonment, they are also entitled to be protected from any abuse caused by the improper working of the measure. The practice of animal vaccination has not succeeded in this country—wholly, we believe, through the difficulty of keeping up the supply of virus. No objection has been raised against it, save that general one which cuts at the root of all laws for sanitary purposes, and all medicine, sanitary or sanatory,—that the will of God is to be done. We do not advocate in any special sense the application of the principle of animal vaccination as opposed to human vaccination, except for the comfort of certain honest, but it may be troublesome, people, who object to the latter. At all events, they should have the option, which now they have not.

Some of the speeches made in Parliament were most mischievous. Nothing could be worse than for men in a responsible position to openly advocate the policy of allowing a certain number of people who have got earnest convictions to publicly break the law, merely because they were probably few in number. The law must be enforced equally all round, but no law should be made which admits of the possibility of infecting innocent people with a pest which taints generation after generation. It is vain for Government officials to repeat time after time the old story,—they learn their lessons from the same permanent officers ; but if well-known facts are opposed to the opinions of these worthy gentlemen, their advice becomes worth something less than nothing at all.

It was to be regretted that two distinct questions were mixed up together in the discussion—the one was a matter of principle ; the other, we make bold to say, one of detail only. To insist on universal vaccination, and to provide the means for insuring the attention of people to it, are mightily different matters. At all events, it would be far safer to provide against any reasonable objections, than to enforce, by whatever means, a measure which has been shown to be founded on imperfect information. We trust, however, these facts will have due weight with a Government pledged to take some steps to remove a spreading dissatisfaction as regards a matter so important as vaccination.

THE VICTORIA DWELLINGS ASSOCIATION.

The opening of the first buildings of the Metropolitan Artisans' and Labourers' Dwellings Association is a fact of too much importance to be allowed to pass without a few words of notice and congratulation from us. The object of the Association is to work in the same direction as the Peabody Trustees, Sir Sydney Waterlow's Association, and some other bodies—that is, to provide healthy and comfortable houses for artisans, but more especially for the class termed labourers, and persons earning small wages ; and on the 23rd ult. the first buildings erected by the Association were formally opened. They are built on a site belonging to the Association immediately adjoining Battersea-park. They are built in flats, as nearly fire-proof as may be, and the blocks are so arranged and isolated by open-air spaces as to reduce to a minimum the danger of the spread of any epidemic disease that may occur in them. The drains are so arranged as to prevent any escape of foul air from the sewers into the dwellings. Each tenement has a constant supply of fresh water, the use of a washhouse, a coal-bunker, and dust-shoot, and regard has been taken to supply all the best known sanitary appliances. The artisans' dwellings are self-contained—that is, within the outer door, which opens on to a general staircase, are all the conveniences required by a family, except the washhouses, which are detached from the building. These tenements contain, in most cases, three good rooms—viz., kitchen, bedroom, and sitting-room, which can be used as a bedroom. The labourers' blocks are so divided that the rooms can be let singly, or in twos, threes, and fours. Tenants will thus be enabled to occupy additional rooms, as their families increase or their circumstances improve. And the rentals for these rooms will be less than those now too often paid for habitations really quite unfit for occupation. The ceremony of opening the buildings was attended by a brilliant and very influential gathering ; and Mr. Walter, M.P., the Chairman of the Executive Committee of the Association, in an able introductory address, pointed out to his audience that though London is the most healthy capital in the world, its average death-rate not exceeding 23 or 24 per 1000 a year, yet the difference in the mortality of different districts is so great, that in some it is no less than from 40 to 60 per 1000 ; that mortality being distinctly attributable "to the filth and foul air which produce disease." He dwelt on a fact which very few, we suspect, ever try to realise—viz., that the metropolis is increasing at the rate of 40,000 a year ; and showed that all that has been done within the last twenty years by the various societies, including the Peabody Association, for providing improved dwellings for the poor, has not yet housed as many as 40,000, one year's increment of population ; while almost every year some encroachments are being made, and made with general sanitary benefit, on the available space for the London poor, by the formation of new streets, the laying down of fresh railways, the erection of new stations, and by other metropolitan improvements. It is a mistake, Mr. Walter observed, to suppose that London is densely populated ; it is the houses, so-called, that are in fault. In the densest part—and it is one of the most unhealthy parts—of the metropolis, in Westminster, there are under 300 persons per acre ; and by the plan of construction adopted by the Peabody, Waterlow, and other Associations, 1600 per acre can be infinitely better accommodated than 300 under the old system. Some poetical and theoretical philanthropists and reformers insist on remedying existing evils by making the working classes live in the suburbs ; but, as Mr. Walter well said, "in spite of all the poetry attaching to suburban homes, and in spite of cheap railway fares, it is an undeniable fact that the great mass of the metropolitan poor, artisans and labourers, must live near their work" ; and therefore, "instead of spreading London out, you must rear it upwards, you must raise it to the clouds."

The voice of the Earl of Beaconsfield has rarely been heard in public since he left the House of Commons for the comparative repose and dignified ease of the House of Lords ; but the Association was fortunate enough to get him to open the buildings, and his speech on the occasion showed all his wonted vigour and felicity of expression. He impressed on his hearers that "the home is the unit of civilisation. From it spring all those influences which give a character to society either for good or for evil—either for a beneficent or a disturbing character. A man who feels that his home is 'Home, sweet home,' is proud of the community in which he dwells : but the man who feels that his home is a den of misery and crime, immediately assails that society of which he believes he is the unjust victim." "The health of a people," he said,

" is really the foundation upon which all their happiness and all their power as a State depend." He did not warn us against over-population, of the danger of which we have heard so much lately, but said, " It is quite possible for a kingdom to be inhabited by an able and active population; you may have successful manufactures, and you may have a productive agriculture; the arts may flourish, architecture may cover your land with temples and palaces; you may have even material power to defend and support all these acquisitions; you may have arms of precision, and fleets of fish torpedoes; but if the population of the country is stationary, or yearly diminishes—if, while it diminishes in numbers, it diminishes also in stature and in strength, that country is doomed." Therefore he recommended that every assistance should be given to assist the movement to ameliorate the condition of the people by improving the dwellings in which they live; and he again declared, " The health of the people is, in my opinion, the first duty of a statesman." We rejoice to hear such statements from the lips of the Prime Minister of England; and we will not now too curiously and ungraciously inquire how Lord Beaconsfield and his Ministry have fulfilled this " first duty." We may not quite ignore the shortcomings of the Local Government Board, and the suppression of the post of Medical Officer to the Privy Council: we may lament the fact that houses are still being built everywhere in the kingdom, without any efficient supervision as to the simplest sanitary requirements, and that still so very much remains to be done for the health of the people; but we acknowledge gratefully the passing of the Artisans' Dwellings Act, the Food and Drugs Act, and the Public Health Act, 1875, and we will hope that Lord Beaconsfield will have the courage to introduce yet more sanitary measures, and to provide a more effective administration of them.

We will only further remark that, like the other associations of similar character, the Association, the first buildings of which were opened the other day, is partly philanthropic and partly commercial in character. It is, as Mr. Walter stated, philanthropic in so far that it intends exclusively to provide buildings for a certain class of the population, " and that the humble class, which have not the means of providing good homes for themselves "; and commercial in so far that it is intended that the undertaking shall yield a fair and proper return to the shareholders. It is hoped that the return will not be less, and it is not desired that it shall be more, than 5 per cent., while an ordinary building investment may be calculated to yield from 6 to 7 per cent. The difference goes to the advantage of those for whom the buildings are erected. Her Majesty the Queen, who takes a deep interest in the movement, commanded Lord Beaconsfield to express her wish that her name should be associated with the institution, and the buildings are in future to be called the " Victoria Dwellings for Artisans and Labourers."

THE WEEK.

TOPICS OF THE DAY.

In reference to the scheme for the drainage of the Lower Thames Valley, it is stated that the Duke of Richmond and Gordon will move to make certain additions to the Bill to be introduced on this subject, to the effect that all contributions which the Sanitary Authority of Surbiton shall be required to make towards the common fund shall be payable out of the improvement rates leviable in that district. Also that the Lower Thames Valley Drainage Board shall have the power of communicating with the sewers of any other main sewerage board in their district on certain terms to be agreed on; any dispute to be settled by the Local Government Board, subject to the proviso contained in the Public Health Act of 1875. Further, in the event of the sewers belonging to the Twickenham Sanitary Authority becoming wholly or in part useless in consequence of the works to be executed, such compensation may be awarded to them as may be deemed just; and the Local Government Board is to direct the mode in which, and the parties by whom, such compensation shall be paid.

Mr. Chance, the magistrate for Lambeth, took occasion last week to mention that he had paid a visit to the St. James's Home for Inebriates at Kennington, and he wished to state publicly the satisfaction he had experienced in inspecting the place. He found many of the offenders who had been brought before him installed there as inmates, and conducting themselves in a creditable manner. There was one woman in the Home who had been more than one hundred times charged at the Lambeth Police-court with drunkenness, and other persons were housed and fed who had been a number of times charged at his court. He considered the institution was performing a great public good, and deserved the support of the benevolent.

The forty-third anniversary meeting of the Statistical Society was held last week at the Society's rooms, the retiring President, Mr. James Heywood, in the chair. The report presented was highly satisfactory, and stated, amongst other items, that the Howard Medal of 1876, with £20 added, had been awarded to Dr. J. C. Steele, Medical Superintendent of Guy's Hospital, for his essay " On the Mortality of Hospitals, General and Special, in the United Kingdom in Times Past and Present." The Howard Medal for the present year will be awarded in November next, the subject being " On the Condition and Management, Past and Present, of the Workhouses and similar Pauper Institutions in England and Wales, and their Effect on the Health, Intelligence, and Morals of the Inmates." The subject of the essay for the Howard Medal of 1878 will be " The Effects of Health and Disease on Military and Naval Operations." It has been decided by the Council to grant a sum of £20 in each case to the writer who gains the medal. The new President is Mr. G. Shaw-Lefevre, M.P.

A very sad boat accident is reported from Portadown, county Armagh. Last week, Dr. Biggar, with his assistant Dr. Stevenson, and a servant-man named Collins, went out in a boat on the river Bann. The boat capsized, and the occupants were thrown into the water. Dr. Stevenson succeeded in swimming near the bank, and was rescued; Dr. Biggar and Collins were drowned. The bodies were recovered, and an inquest was held, but Dr. Stevenson could give no particulars of the accident. A verdict of " Death by drowning " was returned.

Acting on the sound common-sense principle which has begun to be developed in the metropolitan parochial authorities, another open space was last week given to the people. The old burial-grounds of the districts of St. Pancras and St. Giles, covering between eight and nine acres, and situated close to the Midland station, have been converted into a pretty garden, at an expense of £5000. Sir James Hogg, the Chairman of the Metropolitan Board of Works, performed the opening ceremony, and the Baroness Burdett-Coutts laid the foundation-stone of a memorial sun-dial. We hope that before long all the old intramural burial-grounds may be converted from their present state of uselessness into breathing-spaces for the overcrowded population of London.

The Society for Improving the Condition of the Labouring Classes may be congratulated upon having presented a most satisfactory report at their recent annual meeting, which was held at Willis's Rooms, the Earl of Shaftesbury presiding. As a proof that the work of the Society is much appreciated by a large section of the working population, whose sanitary and moral condition it strives to advance, it was stated that its lodging-houses are filled to repletion, whilst its assets amount to more than £12,000. It was observed in the course of the

proceedings that a distinctive feature of the Society's operations is the success with which it has renovated existing houses, thereby rendering unnecessary the purchase of expensive sites for new dwellings, or the removal of the poor to places distant from their employment. Another point deserving of attention is the comparatively low rate of mortality in the Society's dwellings, in none of which was there a single case of small-pox during the past year.

The case against Hezekiah Thornton, medical botanist, for illegally assuming the title of "doctor," was again before the Bradford magistrates last week. The defendant had been previously convicted; he had appealed to the Court of Queen's Bench, and the case had been sent back to be re-heard. The magistrates imposed a fine of £10 and 22s. costs, from which decision the defendant will again appeal.

The outbreak of small-pox at Orsett, Essex, still continues, several fresh cases having occurred, making about forty in all, but, fortunately, several have been of a mild type. One of the nurses at the union hospital has been attacked. Most of the patients, it is ascertained, had not been vaccinated.

A report has just been issued by the Educational Officer of the Society of Arts, which, amongst other matters, gives the result of the recently held examination in domestic economy. The subject was introduced for examination for the first time last year. The examiners appointed for this year were—for "Housekeeping and Thrift," Miss E. Shaw-Lefevre; for "Clothing and its Materials," Miss Mary Willis; for "Health," Dr. Ogle; and for "Cookery," the National Training School. Though the number of candidates was small, it was larger than last year. In "Cookery," all the candidates passed; in "Health," twenty-six failed; and only three passed in the first class. The questions set were of a most practical character, having reference in most cases to knowledge required for every-day use, or (as in "Health") such as may be at any moment needed. A hope is expressed that next year this examination will be more widely known, and that, consequently, there will be a larger number of candidates.

On Monday last a large number of ladies and gentlemen visited the new wing of the Hospital for Sick Children, in Great Ormond-street, on the invitation of the Chairman and the Committee of the Hospital. The new wing contains wards for sixteen children, a bath-room on each floor, a ward kitchen and linen-store on each floor, nurses' rooms, lifts, etc. There are two ventilating towers, and beneath the red tiles of the conical top of another tower a water-cistern is concealed. The wing is a separate building, parted off entirely from the rest of the Hospital, and is to be used for infectious cases. The walls are in Parian cement, coloured with distemper in light sage-green and brown. The top of the building is asphalted for a garden, and half an acre of ground behind is being converted into a playground. The total capacity of the Hospital will now be 104 beds, but the Committee have purchased some old houses in Great Ormond-street, and, as soon as sufficient funds are collected, these are to be cleared away to afford more accommodation. The foundation-stone of the new wing was laid, it will be remembered, five years ago by the Princess of Wales, and the total cost has been £2500.

The fatal cases of small-pox in London, which have steadily, though slowly, declined in the seven preceding weeks from 78 to 44, were in the week ending June 30 again 44 in number. The deaths included 8 of children under five years of age; and 21 of the 44 occurred in private houses. There were only 10 other deaths from small-pox in the twenty towns now included in the Registrar-General's weekly returns—viz., 5 in Liverpool, 3 in Oldham, 1 in Leeds, and 1 in Salford.

At the annual meeting of the Birmingham Medical Benevolent Society, Mr. Alfred Freer, of Stourbridge, was appointed President; Mr. Watkin Williams, President-elect; Mr. Berry and Dr. Wade, Treasurers; Mr. Kimbell-Knowle and Mr. C. J. Bracey, Vice-Presidents; and Mr. T. H. Bartleet, Hon. Secretary for the ensuing year.

THE RECENT HOSPITAL SUNDAY COLLECTION.

Up to the beginning of the present week the sum officially reported to have been received at the Mansion House for the Hospital Sunday Fund amounted to the sum of £23,000. This result would convey the idea that greater promptitude had this year been exhibited in paying over the various sums received; but it is still very problematical whether the total amount subscribed will exceed £30,000. The experience of past years has shown that the great bulk of the contributions is received at the Mansion House within three weeks of the day of collection; after that time the Fund is kept open by the dilatory proceedings of some of the collectors, though why all the money received could not be at once accounted for it is difficult to understand. A moderate promptitude in handing over the various collections would facilitate the duties of the Committee, and enable the distribution to be made before the autumnal recess, when so many of the members have left town. This in itself would be a boon to the recipients, and should be an argument for prompt action on the part of those ministers who kindly undertake to assist the movement. There is not much in the way of novelty to instance in the record of this year's collections. The sums received at most of the well-known places of worship were about up to the average of past years, the largest amount (£425 17s. 5d.) having been received from St. Peter's, Eaton-square, through the Rev. G. H. Wilkinson. We must, however, repeat the observations that we have more than once made in reference to London Hospital Sunday. This year it was announced that about 400 congregations more than last year would be asked to contribute to the Fund; and yet the total amount subscribed does not up to the present time appear to have proportionately benefited. When the enormous size and immense wealth of the metropolis are taken into consideration, the amount annually realised by this Fund does not compare favourably with the sums received in provincial towns on similar occasions, and after five years' experience it still remains an open question whether the principal and recognised London hospitals have benefited by the introduction of the movement. There is but one opinion as to the impartial and laborious manner in which the Committee of Distribution perform their duties; but it is also certain that many charities prefer their claims (to the detriment of the leading institutions) which would not be responded to by the public on personal solicitation. If it could be satisfactorily proved that the introduction of a Hospital Sunday collection in London had resulted in a clear gain of £30,000 to these institutions, we should be among the foremost to advocate its continuance but we greatly fear that the movement has resulted in the gain of some of the less deserving institutions of the metropolis at the expense of some of the largest and most deserving.

CHARING-CROSS HOSPITAL SCHOOL.

The distribution of prizes for the session 1876-77 took place at Charing-cross Hospital on Wednesday afternoon, the 27th inst., the Right Hon. the Earl of Wharncliffe in the chair. After the chairman had briefly opened the proceedings, Mr. Hird (the Dean) read the report of the Medical School Committee, which referred to the recent enlargement of the Hospital and the opening of the new wards by their Royal Highnesses the Prince and Princess of Wales, and the increase in the number of beds, which now amounts to 236. He also spoke of the increase in the number of students during the academical year, the entries being thirty-five for the full and

twenty-four occasional, making a total of fifty-nine new students; and of the extensive alterations recently made in the school premises for their comfort and accommodation. He also referred to a special class that had been instituted for the Primary Fellowship examination under the direction of Dr. Cantlie and Mr. Godlee, and to the many valuable books that had lately been purchased, and to those presented to the library by the staff. The chairman then proceeded to distribute the prizes as follows:—Scholarships: Llewellyn (£25), John Brown; Golding, (£15), H. G. Jacob. Governors' gold clinical medal, John Brown. Pereira Prize (£5) and bronze medal, John Brown. Silver Medals: Medicine, John Brown and A. W. D. Leahy; Physiology, H. G. Jacob; Anatomy, H. G. Jacob; Surgery, R. C. Rowbotham; Chemistry, H. F. Corbould; Botany, Charles Curde; Materia Medica, H. G. Jacob; Midwifery, John Brown; Forensic Medicine, John Brown; Practical Chemistry, S. Nockolds. Bronze Medals: Medicine, T. M. Hughes; Physiology, C. R. Crane; Anatomy, James Turton; Surgery, T. M. Hughes. Certificates of Merit: Senior Physiology, W. H. Day and R. W. Oswald; Junior Physiology, James Turton and J. S. E. Cotman; Senior Anatomy, R. W. Oswald and Charles Curde; Junior Anatomy, J. S. E. Cotman and Martin Henry; Senior Surgery, A. W. D. Leahy and John Brown; Junior Surgery, H. G. Jacob and Charles Curde; Chemistry, C. R. Crane and J. C. Culling; Botany, F. J. Grindon; Materia Medica, T. M. Hughes and F. W. Brookes; Midwifery, Henry Hoole; Practical Chemistry, Charles Curde and W. H. Day; Pathology, John Brown. The chairman, after congratulating the recipients, addressed the students at some length in a very earnest and impressive manner. A vote of thanks to the Earl for his kindness in presiding at the meeting, accompanied by hearty cheering, terminated the proceedings.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The annual election of Fellows into the Council of the College took place, as usual, in the Library of the institution, on Thursday, the 5th inst. Punctual to the hour advertised (two o'clock), Mr. Prescott Hewett, the President, took the chair, accompanied by the Vice-Presidents, Messrs. Birkett and Simon, and some members of the Council. Having shortly explained the object of the meeting, he called on Mr. Trimmer, the Secretary, to read the circular convening the meeting, and also those portions of the by-laws relating to elections into the Council. This having been done, the President invited the Fellows to proceed at once to the election of three Fellows in the vacancies occasioned by the decease of Sir William Fergusson, Bart., and by the retirement in the prescribed order of Messrs. John Gay and J. E. Erichsen, who offered themselves for re-election, the new candidates being Messrs. William Adams, William S. Savory, and Timothy Holmes. The polling then commenced, and was not brought to a close until 5.30, when the President stated that, as usual, Mr. Stone would take the result as read off from the papers by the Secretary, and that blank forms would be handed to any gentlemen desirous of checking the votes. This having been done, the President announced that the choice of the Fellows had fallen on Messrs. Erichsen, Savory, and Holmes. The numbers polled by each candidate were as follows—viz., for Mr. Erichsen, 189 (including 31 plumpers); Mr. Savory, 149 (including 10 plumpers); Mr. Holmes, 123 (including 11 plumpers); Mr. Gay, 112 (including 7 plumpers); Mr. Adams, 94 (including 6 plumpers).

As showing the great interest taken in the election, it is deserving of mention that many Fellows attended from distant provincial towns, as Messrs. Archer, Birmingham; Ashby, Grantham; Baker, Birmingham; Balding, Royston; Bartleet, Birmingham; Blackmore, Manchester; Bowen, Birkenhead; Campbell, Stourbridge; Cattlin, Brighton; Childs, Bungay; Colgate, Eastbourne; Cooper, Slough; Dobson, Bristol; Foster, Bradford; Franklin, Leicester; Green, Bristol; Harris, Redruth; Holman, Hurstpierpoint; Horsfall, Leeds; Hough, Cambridge; Humphry, Cambridge; Hussey, Oxford; Ingle, Manchester; Jordan, Birmingham; King, Hull; Lancaster, Bristol; Lee, Salisbury; Longmore, Southampton; Lund, Manchester; Monckton, Rugeley; Nicholls, Chelmsford; Parker, Liverpool; Postgate, Birmingham; Prall, West Malling; Rayne, Newcastle-upon-Tyne; Smith, Stevenage; Smith, Warrington; Steele, Bristol; Symonds, Oxford; Symonds, Lincoln; Tait, Birmingham; Taylor, Guildford; Thomas, Birmingham; Thomson, Oldham; Thomson, Ross; Ward, R.N.; Webber, Modbury; West, Birmingham; Wheelhouse, Leeds; Wiblin, Southampton; Wood, Shrewsbury; Bennett, Sydney, New South Wales; and O'Shaughnessy, Calcutta. In the evening the Fellows dined together at the Albion Tavern, under the presidency of Mr. E. Law Hussey, of Oxford.

THE TITLE OF "M.D."

In the Court of Second Exchequer, Ireland, a case important in its results to medical practitioners was tried, on June 18 and 19, before Mr. Baron Deasy and a city common jury. The action was brought by Mr. Baxter, a medical practitioner in Dublin, to recover £62 1s., alleged to be due by the defendant, as executor and sole legatee of his late sister, Miss Anne Maria Kirwan, for attendance and medicine. The defendant pleaded payment into court of £20; that any sum justly due had been paid before the action was brought; and that the plaintiff, as an apothecary, was only entitled to a fee of 5s. a visit, and not 10s. as he had charged. In the course of cross-examination, the counsel for the defendant elicited the fact that the plaintiff, although only a Licentiate of the Apothecaries' Hall, Dublin, used to place the letters "M.D." after his name on his bills. At the conclusion of the arguments, Baron Deasy, in charging the jury, said this claim of the plaintiff was not put forward until the only person who could dispute it had passed away—a claim unsupported by anything save the statement of Mr. Baxter, and contradicted by documents under his own hand, proving what his own fees were. The conduct he had pursued for years in affixing the letters "M.D." to his name, when he had no more right to do so than any other person in the community, was deserving of the strongest disapprobation. It was not only a legal offence, but an offence against morality and integrity, and he was sorry to see a man in Mr. Baxter's position insensible to that fact, and holding himself forth to his customers as a doctor of medicine, when he was no more a doctor of medicine than the patients themselves. He pointed out that it had been proved that when the plaintiff had furnished the bills to Miss Kirwan he had claimed only 5s. a visit. It would be entirely for the jury to say whether they would allow him to double his rate of fees after his patient's death. The jury found for the defendant.

THE ANNUAL REPORT ON THE SEAMEN'S HOSPITAL, GREENWICH.

A general report on the cases under treatment at the Seamen's Hospital, Greenwich, during the year 1876, has just been published by Mr. Johnson Smith, F.R.C.S., the Senior Resident Medical Officer. During the period 2106 patients were admitted. Of these, 972 were passed into the medical, and 1134 into the surgical wards. The increase in the number of admissions that has been noted year by year since the removal of the Hospital from the river on board the *Dreadnought*, may be attributed in part to an increase in the number of sick applicants from the mercantile marine. The supply of patients, however, from this source has not increased to any very considerable extent, for, though more and more seamen have been admitted during the past seven years into the medical wards, there has, during that period,

been a progressive falling-off in the number of those applying for the treatment of venereal disease. In noticing the cases of scurvy treated during the year, the report states that, notwithstanding the recent increase in the number of cases received, and although the views of the medical inspectors differ much as to the etiology of the disease, and the value of such preventive agents as were maintained by the special legislation of 1867, the view expressed by Dr. R. Barnes is, after all, the most correct—viz., that "the abolition of scurvy is entirely a question of diet, and a very simple question of diet. The whole secret consists in adding to the ship dietary a moderate proportion of fresh vegetables, or, in default of this, half an ounce daily of preserved lime-juice." The absence of erysipelas in the return of deaths for 1876, and the fact that in three cases only out of the six fatal cases of pyæmia had the affection been contracted in the Hospital, serve to give an exceptional character to the past year, since in no previous year since 1859 had so small a mortality from the affections in question been noted. In 1876, as in the previous year, the antiseptic method was almost generally practised in the surgical wards.

ST. ANDREWS GRADUATES' ASSOCIATION.

The ninth anniversary session of the Association of the St. Andrews Graduates was held at the Westminster Palace Hotel on Thursday, June 28. Two hours were most interestingly and instructively spent previously in Westminster Abbey under the kind guidance of the Very Rev. the Dean, Lord Rector of St. Andrews. At the dinner, in the evening, Dr. Lush, M.P., was in the chair, and was supported by Lord Gordon, Mr. Knight, M.P., Mr. Ramsay, M.P., Prof. Smyth, M.P., Mr. Walter James, M.P., Mr. Rowley Hill, M.P., Dr. Cameron, M.P., Dr. Mitchell, Dr. Bucknill, Dr. Crichton Browne, Mr. Balfour Browne, Dr. Richardson, F.R.S., Rev. Dr. Rogers, Dr. Paul, Dr. Day (of Stafford), Dr. Cholmeley, Dr. Kesteven, Dr. Weir (of Malvern), Dr. MacEwen (of Chester), Dr. Griffith (of Portmadoc), Dr. Cleveland, Dr. Wiltshire, Dr. Mott, Dr. Sedgwick, and many other London and country graduates. Dr. Lyon Playfair, M.P., was, to his great regret, prevented attending by his Parliamentary duties. Dr. Paul was presented with a handsome claret-jug and goblets for his services as Treasurer since the foundation of the Association. A very cordial vote of thanks to the Dean of Westminster was passed; and the hearty congratulations of the Association were offered to Dr. Richardson, F.R.S., on the recognition of his services to literature and the University by the conferring on him of the degree of LL.D. of St. Andrews. The following were elected as the Executive for the year 1877-78: —*President of Council:* Dr. B.W. Richardson, F.R.S. *Honorary Treasurer:* Dr. Paul. *Honorary Secretary:* Dr. Sedgwick. *Council:* Drs. Cholmeley, Christie, Cleveland, Crosby, Henry Day, Dudfield, Griffith, Griffiths, Holman, Lawrence, Lush, M.P., Macintyre, Mr. Menzies, Professor Pettigrew, Dr. Julius Pollock, Rev. Dr. Rogers, Drs. Joseph Rogers, Lawes Rogers, Cooper Rose, Royston, Scott, Seaton, Whitmore, Willett, Duckworth Williams, Rhys Williams, Wiltshire, George Bird, Falls, Surgeon-Major Franklin, Drs. Mortimer Granville, Kesteven, Charles Mott, Bransby Roberts, Stocker, and Weir.

HEAT-STROKE.

The *Daily Telegraph* one day this week published an article which most forcibly illustrated the old paradox, that a little knowledge is a dangerous thing. It seems the Editor had received a communication from a gentleman calling himself an engineer. The editor did not see fit to reject this manuscript entirely, but instead, he gave the substance of it in a leading article, thus giving the painful absurdity of the would-be health-dealer all the great weight of the editorial "*we*." According to what we could gather from this editorial, the letter-writer had seen what he called sun-stroke in brickfields, and, acting on a simple theory, had been successful in curing many such cases. The theory was this: Frost-bite is cured by the application of ice; why should not heat-stroke be cured by the application of heat? The answer is plain and obvious. Frost-bite is not cured by ice; it is cured by heat; but this heat must be so gradually applied that it is found to be best to generate it by a body such as ice or snow. This is used as a friction-agent. The friction generates the heat; the ice or snow modifies it. But to apply heated bricks to an over-heated body is a different story. What is to be said of an engineer who does not understand the theory of heat?

THE UNIVERSITY OF LONDON AND MEDICAL WOMEN.

We understand that the Senate of the University of London (or, to speak more correctly, a small majority of its members) continues to pursue the course of action, with regard to the admission of women to degrees in medicine, which it commenced in February, and of which Convocation has so distinctly disapproved. At the meeting of the Senate on Wednesday last, general regulations were adopted with respect to the character of the examinations; and, as we warned the graduates several months ago would probably be the case these regulations admit two important modifications in the examination of women for the ordinary degree. First, women who may have already commenced or completed their medical education are to be treated with special consideration; and secondly, foreign certificates will be accepted in lieu of home ones. Meanwhile, the constitutional question of the behaviour of the Senate towards Convocation in this matter, to which we referred last week, is occupying the earnest attention of a large portion of the medical graduates, who are taking active steps to obtain an early opportunity of giving public expression to their opinion.

DR. BROWN-SÉQUARD.

The four lectures given in Liverpool recently by Dr. Brown-Séquard—that on the 27th ult. being on the occasion of the meeting of the Lancashire and Cheshire branch of the British Medical Association—were listened to with much interest by large and appreciative audiences. The most spacious of the theatres of the Royal Infirmary School of Medicine was on each occasion crowded by medical men from the town and neighbourhood. In these, as in his recently published lectures, Dr. Brown-Séquard vigorously opposed what he conceives to be the unfounded theories of Fritsch, Hitzig, Drs. Ferrier and Jackson, and those other physiologists who maintain that there are special psycho-motor centres in the cerebral convolutions for the face, arm, leg, and other parts of the body.

THE CHAIR OF PHYSIOLOGY IN ABERDEEN.

By the resignation of the present incumbent, the chair of Physiology (or, according to Scottish phraseology, of the Institutes of Medicine) in the University of Aberdeen is now vacant. The only candidate of whom we have heard is Dr. Stirling, who now assists Professor Rutherford in Edinburgh. It is not very often one can say that an unopposed election to such a post is good. In this case it would be impossible to do better than to elect Dr. Stirling.

NORTH-EASTERN HOSPITAL FOR CHILDREN.

At the ninth annual meeting of the North-Eastern Hospital for Children, recently held, it was stated that the Committee had for some time felt the necessity of appealing to the public for funds to enable them to carry out certain proposed alterations. For this object at least £5000 would be required, towards which the sum of £1260 had already been been promised. The people among whom the Hospital was placed were poor, living as it were from hand to mouth, and

it was from richer districts that assistance must be solicited. The Secretary read the list of subscriptions towards the building fund, which included £500 from Mr. Joseph Gurney Barclay, the chairman of the meeting, and further donations were announced.

ARMY VETERINARY DEPARTMENT.

THE Secretary of War appears to be even less happy in his management of the Army Veterinary Department than he has hitherto been in that of the Army Medical Department; for in reply to a question, a few nights ago, as to the condition of the former, he stated that it is true that "no candidates had offered themselves for the fifteen vacancies now existing" in the Department. Many schemes had been submitted to the War Office, and were "under consideration," but, till their probable cost and results had been inquired into, he did not consider it advisable to make any proposal on the subject.

MEDICAL PARLIAMENTARY AFFAIRS.

Vaccination.—Mr. Sclater-Booth, replying to Mr. Greene, said he had made inquiries with reference to a man at Liverpool, who refused to let his children be vaccinated; and, as a result, the whole family of eight children had been ill with small-pox. One child had died, and another was dangerously ill. He had been repeatedly fined. Such cases had frequently come under his notice. It was reported that the fines were regularly paid by the Anti-Vaccination Society. Mr. Hopwood also asked a legal question with reference to the case of Joseph Abel, as to whether the magistrate may at his own discretion make an order for vaccination, or not. Mr. Sclater-Booth replied that, in his opinion, a magistrate has no discretion after the case has been clearly proved against the man for neglect of vaccination.

Drainage of Ash.—An inquiry was made respecting the drainage of the town of Ash, which was said to be very defective. The local authorities had been instructed by the Local Government Board to take the necessary steps to ameliorate the sanitary condition of the parish; but they seem, said Mr. Sclater-Booth, to have arrived at the conclusion that no drainage was required. As the case presented certain difficulties, he had not decided what course to adopt.

Militia and Army Surgeons.—Dr. Playfair drew attention to the position of the militia surgeons under the Royal Warrant of 1870, by which much of the work and emoluments appertaining to the duties of militia surgeons was transferred to army surgeons. This was especially hard upon those who had served for many years, as they could not at their advanced age get sufficient private practice. Militia surgeons would now receive, at the most, £45 a year, with considerable deductions. Lord Cardwell and the present Secretary for War had promised to consider their claims for compensation, but hitherto nothing had been done. Dr. Lush said that there was much discontentment in the Medical Department of the Army. The new system of military tactics required that large bodies of troops should be moved with celerity, and it required the anxious supervision of the surgeons to keep the troops on rapid marches in good fighting health. In 1869 there were 631 medical officers of the army at home, but this number has been reduced to 531. Attempts were made three years ago to remedy this grievance, but without any result. Army surgeons suffered from disabilities unknown to officers of similar rank and pay, especially with regard to forage, leave of absence, and the right to exchange. He quoted cases in support of these statements. Colonel North also spoke strongly against the present treatment of the Medical Department by the War Office regulations. Mr. Hardy controverted the statements made, and said that the agitation might be traced to one or two individuals. To his knowledge a surgeon in London had spent his whole time in dissuading young men from joining the Service. He alluded to the three-years system in India, rendered necessary by the exigencies of the climate. In consultation with the Director-General of the Army Medical Department, that day, he had been assured that the Medical Department had never been organised upon so good a footing as at the present, and it could be put into the field and brought into operation without a moment's delay. There are now only forty-three vacancies in the Department, which would be reduced to twenty-six when the seventeen candidates now completing their course at Netley were attached to their regiments. For these vacancies there would be an examination in August. He referred to the question of compensation, and said that while no lump sum had been paid, the effect of the new regulations was to give immediate promotion, with relative increase of pay. On the forage question, the War Office, discouraging a system of perquisites, had arranged to give forage where the medical officer had a horse, but not otherwise. It was obvious that medical officers could not be granted leave of absence in the same way as other officers. He did not see how it was possible to meet the demand for exchanges under the unification system. All must take their share of foreign service. He referred to the greater experience of army surgeons in the examination of recruits for the militia, and to the avoidance of delay between the examination and the preliminary drill when this work was taken out of the hands of the militia surgeons. Here again compensation was made by increasing the pay from 14s. 4d. a day to £1 6s. 6d. As the recruiting was done by piecework—*i.e.*, so much per man examined—the supposed hardship was scarcely perceptible.

Vaccination.—Earl Percy rose to call attention to the manner in which vaccination is practised in this country. He was anxious that those who opposed vaccination should be left without the shadow of an excuse for their conduct. He would not defend the law-breakers, nor, on the other hand, those who, while occupying positions of trust for enforcing the law, neglected to put it in operation. When a law was once established, it was incumbent on all good citizens to respect it. It is very desirable that any doubts as to the purity of the lymph-supply shall be removed, and that the public should have every confidence in the public vaccinators. The weakness of the lymph now in use had been long admitted. No attempt had been made to replace it from a new source, and small-pox is increasing in the country. He said that the opinions of doctors on the subject of the transmission of disease by means of vaccination had considerably changed of late years, although Mr. Simon, in his reports, said that almost all European doctors denied the possibility of transmitting disease when vaccination is properly performed. He candidly confessed that he had no remedy to propose, but he desired to have further inquiry made by the Government, especially with reference to the results of the Belgian system of vaccination from the calf. Dr. Seaton, who had reported unfavourably of this system, made his investigations in 1869, since which time the method of animal vaccination had been greatly improved. He concluded by moving—"That it is expedient that an inquiry should be instituted into the practice of vaccination for the purpose of ascertaining whether it cannot be conducted in a more satisfactory manner than at present." Mr. Sclater-Booth controverted the deductions of Earl Percy with reference to the prevalence of small-pox, and pointed out that this disease is being steadily kept in check wherever vaccination is properly carried out. During the last century one-fifth of our soldiers and militiamen suffered more or less severely from this disease. The National Vaccine Establishment had never neglected an opportunity of introducing a new stock of vaccine matter. It was an error to assume that the whole of the vaccine matter in this country is worn out by lapse of time. He could assure the House that there was no widespread feeling in favour of animal vaccination. There was nothing to show that medical men of eminence considered that the system of vaccination required amelioration. The evidence quoted by Sir Trevor Lawrence in proof of the potency of vaccine lymph in protecting those engaged in nursing small-pox patients from becoming infected with the disease ought to be sufficient to satisfy everybody that vaccine lymph is not becoming effete. The experience of our small-pox hospitals goes to prove that, while the disease has lost none of its virulence and fatal tendency, it is alone kept in check by efficient vaccination. With regard to accumulated penalties for non-compliance with the Act, he thought it very undesirable to prosecute repeatedly for the same offence, but he was not prepared to say that, in districts where the Anti-Vaccination League had interfered unduly, the magistrates were not justified in convicting and in enforcing penalties. He desired to mitigate the severity of the law, but he did not think it possible to carry through Parliament a measure having the effect of breaking down the stringency of the law on the subject. He could not take any steps while an epidemic was raging, but when the epidemic had abated he would consider the scruples of those who objected to vaccination. Lord Percy's motion together with a rider of Mr. Pease condemning accumulated penalties, was lost by a large majority.

FROM ABROAD.

The Sea-Bathing Hospital at Berck.

In 1861 the Paris Assistance Publique, encouraged by the excellent results of the trials that had been made of treating scrofulous affections at the seaside, opened a small Hospital at Berck, near Boulogne-sur-Mer, capable of receiving 100 children. It was constructed of slight and inexpensive materials, and so rapidly as to be completed in eighty-five days. Between 1861 and 1868, 924 children had been treated in the Hospital, with results confirmatory of those obtained during the early trials. The Assistance Publique thereupon resolved to erect a larger establishment; but, instead of remaining faithful to the plan of rapid and economical construction, inspired by the same ideas that have presided over the erection of the new Hôtel-Dieu at Paris, it determined to have a grand edifice. In 1869 it opened its new Hospital, the first establishment of which for 584 beds cost 3,235,130 fr.—each bed costing, therefore, 5539 fr. The site of the new Hospital, too, has been so unfortunately chosen that it has been constantly in danger of being submerged by the sea, so that from 1872 to 1876 defensive works have been required which have cost 221,254 fr. These works are, however, found insufficient, and a new demand of funds for continuing them has been made on the Municipal Council. The Council, finding that from 1869 to 1876 the Hospital has received 6748 scrofulous children, or an annual mean of 800, and being unwilling, as long as a prospect of saving it remained, to abandon an establishment that has cost nearly 4,000,000 fr., has, upon the proposition of Dr. Bourneville, voted the sums asked for. A further sum has also been required for the rectification of the water-supply, which has been as badly organised as the site has been injudiciously chosen. "If," says the *Gazette Médicale* (June 23), "we say so much on the economical question concerning this Hospital at Berck, it is that the question in regard to establishments of this kind is intimately confounded with the medical and philanthropical question. After all the expense of construction, maintenance, and defensive works, each bed has cost at the end of 1876 the sum of 6205 fr.; and the additional defensive works about to be undertaken will raise this sum to a still higher figure. But the more this is raised the fewer of these little sufferers will be admitted to the benefit of seaside treatment. Then, again, the larger a hospital, and the more patients it contains, the less are its sanitary conditions in a satisfactory state. Hygiene, economy, and the interest of numbers, then, agree in commending the adoption in future of small hospitals of slight construction, the number of which may be multiplied according to the necessities for their erection and the funds to be disposed of for that purpose." In the matter of hospitals, whether as regards their erection, their hygienic conditions, or the results obtained within their walls, the hackneyed saying, "They manage these things better in France," certainly will not apply.

Diabetes in Children.

At a meeting of the Société de Biologie (*Gaz. des Hôp.*, No. 44), M. Redon read a communication upon this subject, which, he observes, has been but little investigated. From inquiries he has made among a great number of practitioners, and from his own observations, he has come to the conclusion that the ideas which prevail respecting it are incomplete and erroneous. Basing his observations upon thirty-two cases which he has collected (six of these not yet published), he finds that, while the etiology is very much the same as in the adult, yet the relationship between the diabetes and the various diatheses is brought out more clearly.

Thus, parents the subjects of gout, arthritism, herpetism, scrofula, or certain nervous affections, insanity, convulsions, etc., may either produce children who are all diabetic, or only some diabetic and others exhibiting other forms of vitiated constitution. In more than one-half the cases the disease manifested itself before the ninth and twelfth years. The affection has been so often overlooked that it certainly occurs much more frequently than is suspected, and should be always sought for when a child seems to be suffering from any ill-determined form of disease. It seems to occur pretty equally in children of both sexes. Polyuria is of nearly constant occurrence, the quantity of urine being proportionally greater, as well as the quantity of sugar eliminated. Polyphagia exists in four-fifths of the cases, and wasting is an early and rapid symptom. The pulse is very frequent. The disposition of the child undergoes in the progress of the disease great change; the child from being restless, excitable, and mischievous, becoming dull and taciturn. Complications are of less frequent occurrence than in the adult, probably because of the shorter duration (from some months to two years) of the disease. Dryness of the skin is an extremely frequent characteristic, and this symptom alone may in many cases give rise to a suspicion of this disease. Phthisis, which is usually regarded as a frequent termination of the affection, was only observed in four out of twenty-two deaths, and even in these it was doubtful that it was the cause of death. The children die in a state of marasmus, life being insensibly extinguished, and sometimes there is a state of coma. The prognosis is not so fatal as it has hitherto been considered, for of thirty-two cases at least six were cured—the recovery being always contingent on the prompt recognition and early treatment of the disease. On these conditions a great proportion of cures, which may be rendered permanent by appropriate hygienic measures, may be obtained; while, when the diabetes is overlooked, or only recognised too late, it will always prove fatal. The treatment consists almost entirely in appropriate regimen and hygiene, and should be of the same character as that employed by Prof. Bouchardat for the treatment of the adult.

The Mortality Returns of the German Empire.

With the present year was commenced by the newly established sanitary authority at Berlin an interesting publication. It is entitled *Veröffentlichungen des Kaiserliche Deutchen Gesundheitsamtes*, its chief object being to furnish a weekly account of the mortality which occurs in the towns of the German Empire having 15,000 inhabitants and above; the meteorological conditions which have prevailed during the same periods being also stated. By the last number which has come to hand (that for June 3-9), we find that the 7,026,313 inhabitants of 149 towns (distributed into eight geographical or climatic groups) furnished a mortality of 4183, or 31 deaths per 1000. During the same week there were 5387 births, the natural increase of population being therefore 1204. The deaths which occurred during the first year of life varied in the different groups of towns from 33·9 per cent. to 47·7. In Berlin it was 50·6, and in Munich 46·4. The proportions of deaths above sixty varied in the different groups from 8·6 per cent. to 20 per cent. The "causes of death" are grouped somewhat roughly under four heads: (1) Infectious diseases—viz., 1, small-pox; 2, measles and rotheln; 3, scarlatina; 4, croup and diphtheria; 5, pertussis; 6, abdominal typhus (gastric and nervous fevers); 7, typhus (*Flecktyphus*); 8, cholera; 9, dysentery; 10, puerperal fever; and 11, other infectious (non-specified) diseases. (2.) Other predominant diseases—viz., 1, phthisis; 2, acute inflammatory diseases of the respiratory organs; 3, apoplexy; 4, acute articular rheumatism; 5, diarrhœa; 6, cholera nostras. (3.) All other diseases, none of which are specified. (4.) Violent deaths—viz., 1, from accident and unknown causes; 2, from suicide; 3, from homicide. With each number of the *Veröffentlichungen* is published a chart exhibiting graphically at eight points of observation (Conitz, Breslau, Munich, Heiligenstadt, Berlin, Bremen, Cologne, and Carlsrühe), in the German climatic circles, the daily variations of the barometer and thermometer, the relative amount of humidity and the rainfall, and the direction of the wind, so that an exact statement of these particulars for every day of the year will be on record. Besides these returns relating to the German empire, the mortality returns are also given of thirty-three of the chief cities of Europe and America; and a distinct department of the publication is reserved for foreign sanitary news—for example, the present number contains information concerning the epidemic of small-pox in England, the plague at Bagdad, and a report of Dr. Castaldi's sanitary visit to the shores of the Caspian.

A supplement is also published every week, giving successive detailed accounts of the mortality and sanitary state of the various German towns embraced in the scheme; but the supplement accompanying the present number contains the summary of the first quarter's returns. The general summing up of this first quarter of 1877 (details of which are given for every city) is as follows:—The total population of the 149 towns for the quarter is returned at 6,981,775. There occurred

72,537 living births, or 41·6 per annum for 1000 inhabitants, and 47,236 deaths (exclusive of children born dead), or 27·1 per 1000 inhabitants. Of the deaths, 16,210 occurred during the first year, or 34·3 of the whole mortality; 7186 between 2 and 5 years, or 15·2; 2687 between the 6th and 20th years, or 5·7; 6632 between 21 and 40, or 14·0; 6427 between 41 and 60, or 13·6; and 7663 from 61 to 80 and upwards, or 16·2. Of these deaths, 18 (0·04) took place from variola; 744 (1·6) from measles and rotheln; 1026 (2·2) from scarlatina; 2130 (4·5) from croup and diphtheria; 875 (1·9) from pertussis; 819 (1·7) from abdominal typhus (nervous and gastric fever); 34 (0·07) from typhus (*Flecktyphus*); 24 (0·05) from dysentery; 348 (0·7) from puerperal fever; 261 (0·5) from other and non-specified infectious diseases; 7251 (15·3) from phthisis; 5671 (12·0) from acute inflammations of respiratory organs; 1709 (3·6) from apoplexy; 88 (0·2) from acute articular rheumatism; 1237 (2·6) from diarrhœa; 423 (0·9) from cholera nostras; 23,615 (49·9) from all other unspecified diseases; 586 (1·2) from accidents; 414 (0·9) from suicide; 33 (0·07) from homicide.

The *Veröffentlichungen*, imperfect as they are (seeing that the causes of 23,615 deaths remain unspecified), will prove of great interest, and are to be purchased at a low price (10s. per annum, exclusive of postage). There is a copy in the library of the Royal College of Surgeons.

FOREIGN AND COLONIAL CORRESPONDENCE.

FRANCE.

PARIS.

HOSPITAL HYGIENE: HOSPITAL PRIVIES AND CLOSETS; DEFICIENCY OF BATH ARRANGEMENTS, AND OF THE ORDINARY WASHING APPLIANCES; VENTILATION.

In my last letter I called attention to the almost complete neglect of isolation in the case of erysipelas and the acute specific fevers in the Paris hospitals. I wish, in the present letter, to speak of some other points in connexion with the hygiene of these establishments, which, though of minor importance compared with the one of which I have already treated, yet demand from the authorities more attention than has hitherto been given to them. I cannot pretend to a knowledge of the interior arrangements of, by any means, all the hospitals in Paris, but that abuses such as I shall mention should exist in any of them is indicative of the very partial attention as yet paid to such subjects. There are, I am glad to say, signs that the Administration is gradually waking up, but the progress made is slow—much slower than it should be when the importance of good hygienic conditions in hospitals is considered, and much slower than many of the members of the medical staffs would have it.

I would first speak of the water-closets—or rather privies, for it is the exception, so far as I have seen, to find water laid on. These, for the most part, partake of the general want of attention to the principles of health and comfort which one finds in the closets everywhere throughout France. Until within the last three years there had been provided, for the use of the patients at the Hôtel Dieu, simply round holes in the floor, lined with tin, and a couple of iron bars at the sides for the patients to hold themselves up with; and though this exceedingly primitive state of things has been since that time remedied, yet the closets are still far from what they should be; and both there, and at some other hospitals I could name, the smell from the privies is at times so bad in the wards as to be quite offensive on first going into them. At the Salpétrière, which is one of the largest establishments in Europe, having over 5000 inhabitants, and which, therefore, ought to have its sanitary arrangements well systematised, and brought as nearly as possible to perfection, the privies are of the worst possible description. In one building the accommodation provided consists of six seats, placed close together, and without any divisions between them, from which large brick tubes, as large as the seats themselves, lead downwards and backwards at an angle of 60° to the cesspool, which is in full view of anyone standing in front of the seats; and in other parts of the hospice, where separate closets are provided, so little attention is paid to cleanliness that it is quite disagreeable to go near them. These are only instances of what one finds in most of the older hospitals, and will, I think, show how much room there is for improvement in this respect.

From the closets I will pass to the washing arrangements in the hospitals. There is in these great inequality in different institutions, some hospitals being provided with a system of baths of the latest patterns, others being left in a very deficient state as regards ordinary baths, and almost entirely without medical baths of any kind. Prominent amongst the latter, I must again mention the Salpétrière. In this great establishment, in which are collected large numbers of patients suffering from mental diseases, or from chronic nervous diseases, and a considerable number of children, the deficiency of the ordinary baths for purposes of cleanliness is a matter of common complaint, and medical baths may be said not to exist. I was present lately, on an occasion when a patient had been ordered a douche by her physician. The only available douche was in quite a different part of the building, and was within the jurisdiction of another physician, without whose leave it could not be used. As he had left the hospital, this could not be obtained, and the treatment had accordingly to be postponed. I may add that this solitary douche is an exceedingly inefficient one, and that as the water-supply is by no means constant, its use is in this way much restricted. When we consider how important an adjuvant in the treatment of mental and chronic nervous disorders the proper use of various kinds of baths has become, it will be evident that no time should be lost in remedying the deficiencies at the hospice. At Bicêtre—which is for men what the Salpétrière is for women—there is an equal want of proper arrangements for the carrying out of medical treatment by baths. It is not everywhere, however, that such inefficiency exists, for at some of the hospitals the baths are everything that can be wished. Thus, at St. Louis, the great hospital for diseases of the skin, there is a very perfect system of baths of every kind—a large number of ordinary baths for purposes of cleanliness, of sulphur and mercurial baths, good vapour and fumigation baths, and douches of every description; and all these are available for both out and in-patients. At the Hospice of St. Anne, for the insane, an equally perfect system exists, and both at the Children's Hospital in the Rue de Sèvres, and the Hospice for Foundlings, there is a good supply of baths, those at the Children's Hospital being available for out-patients. This is as it should be; but the sight of these perfect systems serves to bring into more prominent relief the want of them at the many hospitals which are yet without them. We have by no means arrived at perfection in England in this respect, but we will hope that the day is not far distant when both in London and Paris we shall reach the consummation for which the *Progrès Médical* has long been pleading—viz., that each hospital shall have its complete system of baths available for both in- and out-patients.

Apart, however, from the question of the presence or absence of a complete system of baths, there is room for great improvement in the ordinary washing arrangements in the hospitals. In every hospital in England of which I have seen the internal working it has been a rule that every patient should have a bath on admission, unless it were distinctly ordered to the contrary by the medical attendant; and if a patient cannot be actually put into a bath, he is—if there be no reason to the contrary—well washed in bed. Here, however, it is quite the exception for a patient to have a bath on admission, and many of them lie in their accustomed state of dirt for the whole time they are in hospital. In a large hospital several storeys high, moreover, there should be an ordinary washing-bath, if not for each ward, at any rate for each storey, as it is naturally difficult or impossible to carry many of the patients down to the regular bath-house, even where such exists: these, however, are hardly ever to be found. It is rare, also, to find lavatories provided for the patients, and basins even are looked upon as unnecessary luxuries, the patients being generally expected to wash in pails, or, more commonly, simply at a tap. The Salpétrière must be here again brought forward as peculiarly deficient, for in that establishment, the inmates of which, if not actually invalids, consist of women admitted for old age and helplessness, the only arrangements provided for washing are pumps in the different courts of the building, and to these places the poor old inmates have to come, whatever the weather, if they wish to make themselves clean. That such a state of things should exist is almost incredible, and it becomes none the less so when we find that at St. Anne, one of the most recently built of the charitable institutions, the Administration has provided lavatories, which, like the baths at the same institution, are irreproachable.

These are all points of which some of the leaders of

medical opinion in Paris have long complained, and it is due to M. Bourneville, the editor of the *Progrès Médical*, to mention the untiring advocacy he has accorded in his paper to the measures for improvement in these respects, and for repeated efforts he has made to get the Administration to move in the matter.

Before closing my letter I must say a few words upon the ventilation in the hospitals. I am not aware of a single hospital where there is any means, other than the windows, provided for the ingress of air. As these are almost always constructed more or less on the usual French plan, which makes it difficult to open them at all without opening them so much as to produce violent draughts in the wards, it results that in the colder weather the wards are entirely shut for hours at a time, and the air becomes exceedingly heavy and close. One is constantly struck with this on entering the wards for the morning visits, when the patients are still breathing the used-up air of the previous night. This is a defect which becomes much more apparent in some wards than in others, for they vary very greatly in height and in the cubic space accorded to the patients. Even in the same hospital this is the case, the wards on the ground floor being perhaps only ten or twelve feet in height, and the space not unfrequently further restricted by large pillars, whilst those above may be twenty or even twenty-five feet in height. It is, I am afraid, too much to expect that the Administration will spend much money in introducing proper ventilating apparatus into their hospitals, but even with the existing state of things a little careful supervision on the part of the internes would do a great deal towards remedying this defect.

The different points to which I have thus called attention are merely the expression in the hospitals of characteristics in the French nation which have become proverbial. Every Englishman who has been much in France has had reason to complain of the water-closets, and he will no less have remarked the difference between the two countries in the means provided for the toilet, and in the matter of ventilation. Moreover, we find the average Frenchman much less acute than the average Englishman. But it is time that the responsible authorities became thoroughly alive to the fact that what may be done with impunity in households, and in connexion with people in health, cannot be done when we have to deal with large numbers of people collected into one building, —and people not in health, but in every stage of disease. That they are beginning to appreciate the importance of hygiene is evident from the great care which has been taken to provide their more recent establishments—such as the Hospice of St. Anne—with the most recent hygienic arrangements; but that considerable callousness still exists is evident from the way in which at other institutions flagrant defects are allowed to remain unremedied—defects which, in many instances, might be set right at a comparatively small cost.

It has been decided that the ratepayers of Keighley will have to pay the sum of £125 14s. 1d. incurred by the anti-vaccinating Guardians in defending themselves against the Local Government Board.

Students of Berlin University in the Summer Session of 1877.—Of the 2490 students who attended the winter course, 768 have left, and 515 new ones have entered, making the present number 2237, being an increase of 260 as compared with the summer of 1876. Of these 2237 students, 135 are theological, 792 jurists, 297 medical, and 1013 philosophical. The number of medical students has not only increased as compared with the last summer session (when it was 260), but exceeds that of the last winter session (281), leading to the hope that the declining state of the medical school has become arrested. Not only have the civilian medical students thus increased, but the military medical students have risen from the 160 of last winter to 215. Besides the 2237 matriculated students there are those of various public academies, etc., who attend lectures, making up the total number of auditors to 4311. Of the 297 medical students, 216 are Prussians, and 24 natives of other parts of the German Empire. Among the foreigners are 32 Russian and 14 Americans, but no English. Pharmaceutists and dentists are 43 in number, but they are registered in the Philosophy Faculty. With regard to the professorial medical staff, there are 12 ordinary professors, with Professor von Langenbeck as the senior, 17 extraordinary professors, and 45 privat-docenten.—*Berlin. Klin. Woch.*, June 18.

LEGAL INTELLIGENCE.

THE CARMICHAEL MEDICAL PRIZE FUND.

In the Rolls Court, Dublin, judgment was given on June 26, in the case "*In re* the Trusts of Carmichael's Will, *ex parte* the Royal College of Surgeons, Ireland." The late Surgeon Carmichael, of Dublin, by his will of October 11, 1849, left £3000 to the Royal College of Surgeons, Ireland, the interest of which was to be applied in pursuance of elaborate directions set forth in the sequel of his will. Prizes of £200 and £100 respectively were to be given every four years for the two best essays on specified medical subjects. The trust fund produced about £88 a year, or £350 every four years, and out of the balance, after providing for the prizes, the cost of printing 700 copies of the successful essay was to be defrayed. In case no essay of sufficient merit was sent in, the prizes were to be doubled in value at the end of the next four years, and any ultimate surplus of interest was to go to the Royal Medical Benevolent Fund Society of Ireland. In 1869 a scheme was framed in accordance with the founder's intentions, and settled by the late Master of the Rolls, who refused to make any provision for payment of the gentlemen who were to examine the candidates' essays.

Mr. Wm. M. Johnson, Q.C., applied on behalf of the Royal College of Surgeons, that they might be at liberty to apply the sum of £150 out of the trust funds, in paying three of their members £50 each for examining the essays sent in to compete for the prizes payable out of the fund. The petitioners' case, which was supported by the affidavit of Surgeon Colles, was, that the scheme, as settled, had become unworkable from their inability to get competent persons to undertake gratuitously the task of judging the essays, which were generally very numerous and very long. Consequently the College had not for the four-year period ending in the spring of this year issued the necessary advertisements for candidates for the prizes, and they had allowed the first Monday in May—the day fixed for the purpose—to pass without having awarded any prizes.

Mr. F. Walsh, Q.C., for the Royal Medical Benevolent Fund Society, argued that, according to the will of the late Surgeon Carmichael, and to the frame of the scheme as settled by the late Master of the Rolls, that Society was entitled to the accumulation of interest now standing to the credit of the fund.

The Master of the Rolls, in giving judgment, expressed his deep regret that such an application had ever been made. The late Surgeon Carmichael was a man of great eminence in his profession, and one would have imagined that the Council of the Royal College of Surgeons, out of respect to his memory, if not with a desire to advance science or from any other motive, would have taken care that these valuable prizes should not be allowed to lapse. The Council should either have refused the bequest altogether, or, after taking it, if they could not get any of their body to judge the essays gratuitously, they should have provided remuneration for that out of their own funds. With the greatest respect for the Royal College of Surgeons, he was bound to say that they had acted in this case in a manner not creditable to themselves. He felt coerced by every consideration to refuse the prayer of the petition with costs.

Dr. Hetley, of Norbury Lodge, Upper Norwood, has been appointed a Justice of the Peace for the county of Surrey.

Jubilee of Professor Phœbus.—The jubilee of Geheimer Medicinal-Rath und Professor Philip Phœbus was celebrated at Giessen on June 15, on the occasion of his completing the fiftieth year of his doctorate. Appointed Professor of Pharmacology at Giessen in 1845, he has continued to remain at this University notwithstanding offers made him from Dorpat, Agram, and St. Petersburg. He founded the first Pharmacological Institute, and continued its direction until 1867, and became the most able exponent of the branch of medical science to which he had devoted himself. He was also a pathological anatomist of repute, and an able medical observer, as his works on the Pathological Anatomy of Cholera and on Hay-Fever amply testify. On the occasion of the jubilee, warm congratulatory letters were forwarded to him by the Berlin Medical Society and the Hufeland Society.—*Berlin. Klin. Woch.*, June 11 and 18.

NEW INVENTIONS AND IMPROVEMENTS.

HYGIENIC GARTERS.

The employment of the differentiating adjective "hygienic" by inventors and manufacturers is a by no means to be despised practical proof, among other proofs, of the increasing popular appreciation of hygiene and sanitary science; and this is an additional reason why we should notice the "Hygienic Garter" produced by "The Patent Elastic Webb Company (Clapham-road, S.W.). Medical men well know that the ordinary flat, strap-like, circular garters often act injuriously by their interference with the superficial venous circulation; but the peculiar construction of the hygienic garter—viz., a specially-arranged finely-corrugated elastic webbing, enclosed within silk ribbon—seems well calculated to do away with the usual objections. These garters are comfortable, and very well made, and really deserving of commendation. We will, however, give the manufacturers one hint about them. We have shown them to several ladies, each one of whom made the objection that the clasps do not look secure. We suspect that the objection is an "idea" only; but, nevertheless, it may stand in the way of the sale of the garters.

BRAVAIS' DIALYSED IRON.

"Fer Bravais," which is a nearly pure concentrated solution of peroxide of iron in the colloid form, obtained by dialysis from the soluble oxychloride, is a very elegant and valuable preparation. It has no styptic taste, mixes well with water in any proportion, does not stain the teeth, and does not cause constipation. It is provided in a very neat form, in a box which contains a little pipette with an indiarubber cap for the delivery of the drops, and may be taken pure, dropped on a lump of sugar, or stirred in a glass of wine. The English agents for it are Messrs. Burgoyne, of Coleman-street, and Messrs. Roberts, of 76, New Bond-street.

It is fair, however, to add that the preparation is not quite a new one in England. Messrs. Squire, of Oxford-street, also manufacture a similar solution, which they claim to have brought out in 1869.

GRANULAR EFFERVESCING HYPOPHOSPHITES OF SODA AND OF LIME.

We have received from Messrs. Young and Postans, of 35, Baker-street, examples of pleasant and useful preparations of Granular Effervescing Hypophosphites of Soda and of Lime. They are made of such a degree of strength that each contains five grains of the hypophosphite to the teaspoonful. They keep well, and will be found trustworthy and serviceable.

NITRITE OF AMYL CAPSULES.

A safely ready means of administering nitrite of amyl has, from the increasing appreciation of the value of the drug, become a desideratum of no little importance; and this has been well and happily provided by Messrs. Allen and Hanbury, of Plough-court. They have devised a method of sealing-up the remedy in little glass capsules, which can be readily broken, in a handkerchief, when wanted, and each of which contains about four minims of the nitrite. They are sold in handy little boxes, each of which contains six, and should entirely supersede the ordinary rough-and-ready mode of sniffing at a bottle containing the agent, or of "pouring a little of it" on a pocket-handkerchief.

GRANULAR EFFERVESCENT SALICINE; GRANULAR EFFERVESCENT SALICYLATE OF SODA; GRANULAR EFFERVESCENT SALICYLIC ACID.

Messrs. Savory and Moore, New Bond-street, have sent us some admirable preparations of effervescent salicine, effervescent salicylate of soda, and effervescent salicylic acid, which may be confidently recommended as very convenient and palatable preparations of these remedies, now so much employed. The granules are very well formed, and effervesce briskly. The common forms of these remedies are neither elegant nor agreeable to take, and these effervescing ones of Messrs. Savory and Moore's will, we doubt not, be gladly and largely employed. In each preparation a teaspoonful contains a five-grain dose of the respective drug.

MEDICAL NEWS.

University of Dublin.—Summer Commencements, 1877.—At a meeting of the Senate of the University, held on Thursday, June 28, in the Examination Hall of Trinity College, the following degrees and licences in Medicine, Surgery, and Midwifery were conferred by the Right Honourable Judge Longfield, *pro* Vice-Chancellor:—

Licentiati in Medicinâ.—Hall, Jacobus Campbell; Manning, Georgius Henricus.

Licentiatus in Chirurgiâ.—Hall, Jacobus Campbell.

Baccalaurei in Chirurgiâ.—Adams, Johannes Jacobus; Battersby, Henricus Joseph; Booker, Gulielmus Arturus; Byrne, Gulielmus; Conolly, Johannes Vincentius; Crofts, Freeman Wills; Dobbs, Arturus Franciscus; Hamilton, Gulielmus; M'Cartie, Fredericus Fitzgerald; Malet, Henricus (*stip. con.*); O'Dwyer, Malachias; Sheppard, Rev. Henricus Drought; Thompson, Jacobus Eduardus.

Baccalaurei in Medicinâ.—Adams, Johannes Jacobus; Barton, Travers Boyne; Battersby, Henricus Joseph; Booker, Gulielmus Arturus; Byrne, Gulielmus; Cooper, Carolus Alfredus; Crofts, Freeman Wills; Dobbs, Arturus Franciscus; Hamilton, Gulielmus; Malet, Henricus; O'Dwyer, Malachias; Patterson, Johannes; Sheppard, Rev. Henricus Drought; Walsh, Gulielmus Butler; Whittle, Ewing Mould Glynn (*ad eund. Cantab.*).

Magistri in Arte Obstetriciâ.—Sinclair, Eduardus B. (*honoris causâ*); M'Clintock, Alfredus (*honoris causâ*); Macan, Arturus Vernon.

Magistri in Chirurgiâ.—Battersby, Henricus Joseph; Taylor, Sidney Hamilton; M'Dermott, Radolfus.

Doctores in Medicinâ.—Elliott, Thomas; Moran, Jacobus Joseph; Murphy, Jacobus; Popham, Samuel Lane; Porter, Joseph Franciscus; Sheppard, Rev. Henricus Drought; Thompson, Jacobus; West, Arturus Annesley; Wolseley, Cadwallader Brooke; Whittle, Ewing Mould Glynn.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, June 28:—

Gristock, William, 26, Blandford-square.
Johnson, William Henry, Hogsthorpe, Lincolnshire.
Marriott, Frederick Thomas, Western General Dispensary.
Marsh, Frank, Tillington, near Stafford.
Oxley, Alfred James Richard, Conisbro', Yorkshire.

The following gentleman also on the same day passed his primary professional examination:—

Burt, Alfred, Guy's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Greenfield, W. S., M.D., M.R.C.P.—Assistant-Physician to St. Thomas's Hospital, *vice* W. M. Ord, M.B., F.R.C.P.

James, Henry Godfrey, L.R.C.P.E.—Assistant Medical Officer to the East Riding Asylum, Beverley.

Ord, W. M., M.B., F.R.C.P.—Physician to St. Thomas's Hospital.

NAVAL, MILITARY, &c., APPOINTMENTS.

Admiralty.—Staff-Surgeon Samuel Campbell, M.D., has been promoted to the rank of Fleet-Surgeon in her Majesty's Fleet, with seniority of May 29, 1877. Staff-Surgeon William Harris Lloyd, M.D., has been promoted to the rank of Fleet-Surgeon in her Majesty's Fleet, with seniority of May 31.

Bengal Medical Establishment.—To be Surgeons-Major—Surgeons Kenneth M'Leod, M.D., James Cleghorn, M.D., John Bennett, M.D., Edward Barton Gardner, James Kelly, M.D., Lionel Dixon Spencer, M.D.

Madras Medical Establishment.—To be Surgeons-Major—Surgeons Alexander Porter, M.D., Samuel Bradshaw Hunt, William Smyth Fox, and David John McCarthy, M.D.

Indian Military Forces.—The undermentioned officers of her Majesty's Indian Military Forces to be granted a step of honorary rank on retirement:—To be Surgeons-General—Deputy Surgeon-General John Nicholas Tresidder, Bengal Army; Deputy Surgeon-General Charles Manners Smith, Bengal Army. To be Deputy Surgeon-General—Surgeon Major Edward McKellar, Bengal Army.

Militia Medical Department.—The undermentioned Surgeons to be Surgeons-Major, under the provisions of the Royal Warrant of July 12, 1876:—Charles Harwood (1st Derby), Alexander Leslie Gracey (Northumberland Artillery), Lyttleton Frederick Osbaldeston (Hertford), Stephen John Frederick Stafford (Norfolk Artillery).

War Office.—1st Regiment of Life Guards: Surgeon Thomas William Thompson to be Surgeon, *vice* Edgcombe Venning, who resigns his commission. Grenadier Guards: Surgeon George Ballingall Stuart, M.B., to be Surgeon, *vice* Surgeon-Major W. R. Lane, appointed Battalion Surgeon, Scots Guards. Scots Guards: Surgeon-Major Ralph Lane, from the Grenadier Guards, to be Battalion Surgeon, *vice* Surgeon-Major J. W. Trotter, retired on temporary half-pay. Medical Department: Deputy Surgeon-General Stanhope Hunter Fasson, M.D., from half-pay, to be Deputy Surgeon-General, *vice* N. Henry Stewart, M.D., deceased; Surgeon Major Thomas John Tucker retires upon half-pay; Surgeon-Major Curtiss Martin retires upon temporary half-pay; Surgeon-Major Edward Louis M'Sheehy, M.D., retires upon temporary half-pay; Surgeon-Major Reginald Croft Lever, M.B., retires upon temporary half-pay; Surgeon-Major Arthur Rudge retires upon half-pay; Surgeon Nugent Wade retires upon temporary half-pay. The Christian names of Surgeon Jackson, M.B., are "Thomas Wilson," and not

"Thomas" only, as hitherto stated. Surgeon-Major Arthur Rudge, who retires upon half-pay, to have the honorary rank of Deputy Surgeon-General; Surgeon Edward McCarthy, M.D., retired upon half-pay, to have the honorary rank of Surgeon-Major.

BIRTHS.

BARLOW.—On June 30, at Norfolk House, Albion-road, Dalston, the wife of Robert Barlow, M.R.C.S. Eng., of a daughter.

CLOTHIER.—On June 28, at 6, Ridgmount-terrace, Highgate, N., the wife of Henry Clothier, M.D. Lond., of a son.

GRIEVE.—On July 1, at Canje House, Berbice, British Guiana, the wife of Robert Grieve, M.D., of a son.

HAWARD.—On June 29, at 5, Montagu-street, Portman-square, the wife of Warrington Haward, F.R.C.S., of a son, stillborn.

MACSWINEY.—On June 23, at Dover, the wife of Eugene Valentine MacSwiney, M.D., A.M.D., of a son.

PAIRMAN.—On July 1, at 42, Robert-street, Hampstead-road, N.W., the wife of Robert Pairman, M.D., of a daughter.

PRINGLE.—On June 27, at Angelton, Bridgend, the wife of H. T. Pringle, M.D., Medical Superintendent of the Glamorgan County Asylum, of a son.

THOMPSON.—On June 24, at the City and County Lunatic Asylum, Stapleton, Bristol, the wife of George Thompson, L.R.C.P. Lond., M.R.C.S. Eng., Medical Superintendent, of a son.

MARRIAGES.

LEE—HUTCHINSON.—On June 26, at the parish church, Burnham, Henry Lee, F.R.C.S., of 9, Savile-row, W., to Marion, only daughter of William Hutchinson, Esq., of Grove-place, Burnham.

TEMPLETON—CAMPBELL.—On June 28, at Elderslie House, Largs, N.B., John Stewart Templeton, Esq., of Glasgow, to Emily Jane Fraser, third daughter of William Campbell, M.D., of Burnyside and 22, Cromwell-crescent, London, S.W.

THOMPSON—PAGET.—On June 30, at St. George's, Hanover-square, Henry Lewis Thompson, Rector of Iron Acton, Gloucestershire, late Censor of Christ Church, to Catherine, elder daughter of Sir James Paget, Bart.

TURNBULL—ROCHFORT.—On June 28, at St. Barnabas Church, Kensington, George Wardlaw Turnbull, M.D., of Exmouth, to Ellen, youngest daughter of the late Lieutenant Dalway, R.N., and widow of the late Colonel Rochfort.

DEATHS.

GOMPERTZ, W. F. L., F.R.C.S., late Surgeon 6th R.L. Militia, on June 23, aged 55.

HANKS, MARY ANN DINAH, wife of Henry Hanks, L.R.C.P. Edin. M.R.C.S. Eng., at 146, Mile-end-road, on June 26.

TURNBULL, SOPHIA, wife of Matthew James Turnbull, M.D., at Tweed View, Coldstream, on June 28, aged 51.

VACANCIES.

LADIES' CHARITY AND LYING-IN HOSPITAL, LIVERPOOL.—House-Surgeon. Applications, with testimonials, to the Honorary Secretary, at the Hospital, Myrtle-street, Liverpool, on or before July 9.

ROYAL FREE HOSPITAL, GRAY'S-INN-ROAD.—Junior Resident Medical Officer. Candidates must be possessed of a medical or surgical qualification from one of the Examining Boards of the United Kingdom. Applications, with testimonials, to the Secretary, on or before July 11.

SEAMEN'S HOSPITAL, GREENWICH.—House-Surgeon. Candidates must be Fellows or Members of the Royal College of Surgeons of England, unmarried and under the age of thirty years. Applications, with particulars of professional qualifications, and references as to moral character, to the Secretary, on or before July 12.

WEST KENT GENERAL HOSPITAL, MAIDSTONE.—Honorary Physician. Candidates must be Doctors or Bachelors of Medicine of some University of Great Britain or Ireland, or Fellows or Members of the Royal College of Physicians in London. Applications, with legal testimonials and certificates of competency and character, to the Secretary, at 16, Knightrider-street, Maidstone, on or before July 12.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Lexden and Winstree Union.—Mr. C. J. Worts has resigned the Ninth District; area 11,530; population 3208; salary £90 per annum.

APPOINTMENTS.

Alresford Union.—Charles E. Covey, M.R.C.S., L.S.A., to the First District and the Workhouse.

Bolton Union.—George L. Latour, M.D. Ire., M.R.C.S. Eng., as Resident Assistant Medical Officer at the Workhouse.

Isle of Wight Union.—James M. Williamson, M.C. and M.D. Edin., to the Godshill District.

Penistone Union.—Alex. G. Duncan, M.B., C.M., L.R.C.P. Edin., to the Denby District.

COMPARATIVE LONGEVITY.—Official documents establish that, per million inhabitants, there will be found 71,602 who have attained their sixtieth year in Italy, 72,910 in Great Britain, 76,982 in Holland, 78,187 in Sweden, 86,657 in Denmark, 88,432 in Belgium, and 101,495 in France. Of centenarians there are 15 per million in Great Britain, 7·3 in France, 7 in Belgium, 2·6 in Sweden, and 1·3 in Holland. Women furnish most examples of this prolonged longevity.—*Lyon Méd.*, July 1.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Sigma.—According to M. Léon Duprat, beer is a more ancient drink in France than is generally supposed. It was adopted by the ancient Gauls from Germany. St. Louis subjected the brewers, together with the chief corporations then existing, to special statutes and regulations of their own. In the sixteenth century there were two sorts of beer brewed in France—the "*bière des convents*" for nuns, and the "*bière des pères*" for monks. In Louis XIV.'s time there were seventy-eight breweries in Paris. The Exhibition of 1867 gave a great stimulus to the consumption of beer in Paris.

A Fellow by Examination.—Mr. Savory was one of the eight candidates for the four vacant seats in the Council of the College of Surgeons in 1873, when Sir James Paget headed the poll with 200 votes; Mr. Walton, 136; Mr. Southam, 113; and Mr. Marshall, 106,—who were duly elected. Mr. Forster, since elected a member of the Council, was only one below Mr. Marshall, viz., 105; Mr. Savory, 97; Mr. Hird, 62; and Mr. Hussey, 29. At the election in 1871 Mr. Spencer Wells headed the list with 131; Mr. Critchett, 130; Mr. Clark, 127; Mr. Busk, 117; Mr. Holt, 104; and Mr. Cock, 74.

Mr. Mitchell.—The late Mr. Jones, of Jersey, removed the scapula only from his patient, whom he left with a useful arm. The preparation is in the Museum of the College of Surgeons.

An Old Subscriber.—The "Pencillings" in this journal were written by the late Dr. J. R. Lynch, under the *nom de plume of* "Probe."

Associate.—Professor Henry Smith, of King's College, was admitted a Fellow by examination on December 7, 1849. He was asked, but declined to come forward on the present occasion for a seat in the Council.

A Pupil.—"Lessons in Elementary Anatomy," by Mr. S. G. Mivart, will give you the desired information.

Juventus.—The Census of France is taken every five years, and not, like that of the United Kingdom, at decennial periods. But on the last occasion the war and the disturbances which followed it interrupted the ordinary course of these inquiries, and an interval of six years elapsed—*i.e.*, between the Census of 1866 and the Census of 1872.

Vegetarian.—Of esculent plants the watercress is one of the oldest known. It is said to have been eaten by the ancients along with lettuces to "counteract the coldness" of the latter by their stimulating qualities. Nicholas Meissner, of Erfurt, it is stated, made—about the middle of the sixteenth century—the first effort at cultivating cresses artificially, and to this day Erfurt is celebrated for its *Kresse*, supplying most of the Rhine towns with it. In the neighbourhood of London watercress culture was first commenced at Northfleet, near Gravesend.

Dr. Daniell.—The Mr. Robert W. Keate who was appointed the Governor-in-Chief of the West African Settlements was a son of Mr. Robert Keate, of Albemarle-street, Surgeon to St. George's Hospital, and twice President of the Royal College of Surgeons.

A Naval Surgeon.—The egg of the great auk is very scarce; duplicates, belonging to the College of Surgeons, were sold at Stevens's a few years ago for thirty guineas each.

Mr. Williams.—The late Mr. George Cooper, F.R.C.S., was re-elected Master of the Society of Apothecaries in 1868. He died last week in the eighty-fifth year of his age. His son, Mr. Clarence Cooper, of H.M.'s Indian Army, is a Fellow of the College by examination.

Dr. Hamilton.—It was the custom of the ancients to place coins on the eyes of the corpse when buried, called "Charon's penny." The following lines on a notorious quack were written by a well-known satirist:—

> "This quack to Charon would his penny pay;
> The grateful ferryman was heard to say—
> 'Return, my friend, and live for ages more,
> Or I must haul my useless boat ashore.'"

Inspector-General.—You have been correctly informed, that, not having signed the by-laws of the College since your election as a Fellow, you could not vote at the annual election yesterday. Mr. Allingham, the Honorary Secretary, would, however, have admitted you to the Fellows' Festival had you applied to him.

AN ADVERTISEMENT.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—The following advertisement appeared in the *Daily News* of July 2:—

"Town Traveller.—A gentleman, with a first-class business amongst bakers and confectioners in London and suburbs, has time for an additional engagement. The advertiser is thoroughly conversant with the drug trade, and has a connexion.—Address," etc.

I call your attention to it, for these things ought not to be. Your valuable journal can do much by exposing the infamous practices that are going on in the adulteration of our food. We know too well the deleterious compounds that are sold at confectioners' and other shops; but if medical men were to take up the question and sift it to the very core, there is but little doubt that we should be a better and happier people. I trust you will not think the question insignificant, but do something for poor humanity's sake. I am, &c. A FRIEND.

Broadstairs.

Kenneth.—We believe the pauper boarding-out system in Scotland is a conspicuous success.

STREET NOISE IN THE OLDEN TIME.

Taylor, the water poet, when there were only some dozen hackney-coaches and a few private carriages, writes:—"I pray you but ask the streets and the chambers or lodgings in Fleet-street or the Strand how they are pestered with coaches, especially after a masque or play at the Court, where even the very earth shakes and trembles, the casements shatter, tatter, and clatter, and such a confused noise is made, so that a man can neither sleep, speak, hear, write, or eat his dinner or supper quiet for them; besides, their tumbling din—like a counterfeit thunder—doth sour wine, beer, and ale most abominably, to the impairing of their healths that drink it."

THE RAINFALL IN THE BRITISH ISLES IN 1876.

We learn from Mr. Symon's report "On the Distribution of Rain over the British Isles during the Year 1876," that the rainfall was greater by 14 per cent. than the average from 1810 to 1869, or sixty years, and that the excess was largest in England and Wales, while Ireland had only a small excess of rainfall. The special characteristic of 1876 was the absence of heavy individual rains, the heavy falls being rather less than usual, though very near the average. As compared with that of 1875, the rainfall of 1876 was greater in some counties than in others, as is usually the case. The information will no doubt be found interesting to observers.

COMMUNICATIONS have been received from—

Mr. R. BRUDENELL CARTER, London; Mr. JOHN CHATTO, London; Mr. GEORGE BROWN, London; Messrs. FELTOE and SONS, London; Mr. BARTLEET, Birmingham; REGISTRAR OF APOTHECARIES' HALL, London; Messrs. BAILEY and SON, London; Dr. L. SEDGWICK, London; Dr. MADDEN, Dublin; Mr. KEMP, London; Dr. H. THOMPSON, London; Dr. SIEVEKING, London; Dr. DOWSE, London; Dr. CARTER, Liverpool; A FRIEND, Broadstairs; Dr. STIRLING, Edinburgh; Dr. J. W. MOORE, Dublin; Dr. PAVY, London; Mr. J. BOOTH, London; Dr. HETLEY, Norwood; Dr. J. W. WAKLEY, London; LIBRARIAN OF CHARING-CROSS HOSPITAL; Dr. W. S. GREENFIELD, London; Mr. T. M. STONE, London.

BOOKS AND PAMPHLETS RECEIVED—

W. Braithwaite, M.D., and James Braithwaite, M.D. Lond., The Retrospect of Medicine, January-June, 1877—J. Kraus, M.D., Carlsbad and its Natural Healing Agents—Robert Bentley, F.L.S., and Henry Trimen, M.B., F.L.S., Medicinal Plants, Part 22—James R. Chadwick, M.D., Labour complicated with Uterine Fibroids and Placenta Prævia; Pus in Ovarian Fluids; Rare Forms of Umbilical Hernia in the Fœtus—Benjamin Ward Richardson, M.D., F.R.S, The Action of Alcohol on the Mind—Medical and Surgical Reports of the Boston City Hospital—George Heaton, M.D., The Cure of Rupture, Reducible and Irreducible—J. P. Lewis, M.D., Temperance *v.* Teetotalism.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Archives Générales de Médecine—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—La Province Médicale—New York Druggists' Advertiser—Monthly Homœopathic Review—Live Stock Journal and Fanciers' Gazette—National Anti-Compulsory Vaccination Reporter—Obstetrical Journal of Great Britain and Ireland—Veterinarian—Sanitarian—British and Foreign Medico-Chirurgical Review—Monthly Microscopical Journal—Union Médicale—Hardwicke's Science Gossip—Toronto Sanitary Journal—Medical Temperance Journal—Edinburgh Medical Journal—Popular Science Review.

APPOINTMENTS FOR THE WEEK.

July 7. Saturday (this day).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

9. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

10. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

11. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex. 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

12. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

13. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, June 30, 1877.

BIRTHS.

Births of Boys, 1129; Girls, 1162; Total, 2291.
Average of 10 corresponding years 1867-76, 2171·9.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	694	676	1300
Average of the ten years 1867-76	657·8	597·0	1254·8
Average corrected to increased population ...	...	...	1343
Deaths of people aged 80 and upwards ...	...	...	41

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	5	5	2	1	6	...	3	1	5
North	751729	20	7	9	2	10	1	3	1	11
Central ...	334369	...	4	1	...	1	...	...	...	3
East	639111	5	14	3	1	5	..	4	...	15
South	967692	14	15	9	2	6	5	5	3	16
Total	3254260	44	45	24	6	28	6	15	5	50

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·992 in.
Mean temperature	61·6°
Highest point of thermometer	85·5°
Lowest point of thermometer	44·2°
Mean dew-point temperature	47·5°
General direction of wind	W.S.W. & N.N.W.
Whole amount of rain in the week...	0·01 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, June 30, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending June 30.	Deaths Registered during the week ending June 30.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2291	1300	85·5	44·2	61·6	16·45	0·01	0·03
Brighton	102264	43·4	51	45	72·1	50·3	59·0	15·00	0·12	0·30
Portsmouth ...	127144	28·3	70	28	70·8	50·0	58·8	14·89	0·04	0·10
Norwich	84023	11·2	50	19	82·8	47·0	60·6	15·90	0·06	0·15
Plymouth	72911	52·3	44	24	72·5	45·0	58·7	14·83	0·01	0·03
Bristol	202950	45·6	127	95	78·5	40·5	59·9	15·50	0·10	0·25
Wolverhampton ...	73389	21·6	54	31	78·0	42·0	56·4	13·55	0·13	0·33
Birmingham ...	377436	44·9	288	167	...	...	...	...	...	...
Leicester	117461	36·7	88	38	80·8	41·5	58·9	14·94	0·04	0·10
Nottingham ...	95025	47·6	60	32	80·4	38·2	57·8	14·34	0·05	0·13
Liverpool	527083	101·2	408	262	70·6	50·0	56·8	13·78	0·21	0·53
Manchester ...	359213	83·7	236	189	79·0	41·0	59·0	15·00	0·77	1·96
Salford	141184	27·3	136	75	74·8	39·0	55·6	13·12	0·99	2·51
Oldham	89796	19·2	81	50	...	...	...	...	...	...
Bradford	179315	24·8	118	79	73·2	44·2	56·8	13·78	0·28	0·71
Leeds	298189	13·8	215	106	75·0	44·0	57·7	14·28	0·24	0·61
Sheffield	282130	14·4	198	90	78·0	45·0	58·9	14·94	0·15	0·38
Hull	140002	38·5	97	41	79·0	44·0	58·6	14·78	0·18	0·46
Sunderland ...	110382	33·4	91	48	74·0	47·0	59·9	15·50	0·38	0·97
Newcastle-on-Tyne	142231	26·5	97	64	...	...	...	...	...	...
Edinburgh	218729	52·2	155	95	69·9	42·8	57·0	13·89	0·24	0·61
Glasgow	555933	92·1	428	222	65·0	47·2	57·3	14·06	0·66	1·68
Dublin	314666	31·3	229	187	75·0	43·1	60·4	15·78	0·35	0·89
Total of 23 Towns in United Kingdm	8144940	38·3	5612	3237	85·5	28·2	58·5	14·72	0·25	0·63

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·99 in. The lowest reading was 29·82 in. at the beginning of the week, and the highest 30·09 in. on Thursday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

SELECT LECTURES ON MEDICAL JURISPRUDENCE.

By FRANCIS OGSTON, M.D.,
Professor of Medical Logic and Medical Jurisprudence in the University of Aberdeen.

LECTURE XVII.

WOUNDS—*Continued.*

6. "POISONED WOUNDS," *which should come next in order, will be reserved for consideration under* "TOXICOLOGY."

7. *Burns*, to which I have now to call your attention, though, in general, sufficiently characteristic to admit of being classed apart from the injuries previously considered, vary amongst themselves to a considerable extent with the producing cause, whether that cause has been an elevated temperature, either in the form of dry heat, or through the medium of liquids or of incandescent bodies. The varying effects of heat on the body have been differently classified by surgical writers, those effects rising in severity, from the mere reddening of the surface, to the destruction of the deep-seated parts.

I purposely here exclude the injurious effects of certain irritant and escharotic substances, which are capable of giving rise to consequences not unlike the agencies which owe their injurious or destructive properties to the mere elevation of their temperature, but which are not likely to be readily confounded with burns, strictly so called; unless we take in the sequelæ of both the one and the other, when the diagnosis may become impossible from the similarity or identity of their effects.

Injuries of this class are only liable to come within the province of the medical jurist when called on to determine—(1) whether, when death had followed their production, they had in any particular instance been the cause of death; or (2) whether, when found on the dead body, they had been inflicted during life or only after death.

Death following burns may take place in two different ways. Severe and extensive burns, particularly in the young, may destroy life from the depression of the nervous system, owing to the number of cutaneous nerves injuriously affected; or, where the party has escaped this first danger, he may perish, at a later period, from the inflammatory reaction, and its usual consequences—extensive suppuration and hectic fever—even where he has escaped some of the intermediate consequences.

Little difficulty is likely to arise, in the inspection of the dead body, as to the connexion of certain morbid appearances in its interior with injuries of this class, present on its exterior, dating before the extinction of life. It is where the appearances on the dead body, characteristic of burns, are met with on its exterior, that the inquiry may originate—Could these have been produced on it before death? Instances of this sort are referred to by Foderé, Taylor, Christison, and Caspar, where death had been the result of violence, and fire had been subsequently applied to the corpse, to conceal the murderer's deed, and to suggest the idea of accidental *death by fire.*

The data possessed by us for the satisfactory settlement of the point as to whether certain appearances on the surface of the dead body, of a characteristic sort, ought to be regarded as of vital or only of post-mortem origin, are derived from the researches of Christison and Taylor, the results of which, with some minor differences, are substantially in agreement.

According to Sir Robert Christison, "of the effects which follow the application of heat to the living body, the most immediate is (1) a blush of redness around the burnt part, removable by gentle pressure, disappearing in no long time, and not permanent after death. Next to this in order," and following almost simultaneously, is (2) "a narrow line of deep redness, separated from the burnt part by a stripe of dead whiteness (bounded towards the white stripe by an abrupt line of demarcation), passing at its outer edge by insensible degrees into the diffused blush, but not capable of being removed, like it, by moderate pressure." This line of redness may be seen, he states, after the application of the actual cautery. The phenomenon which follows these is (3) the appearance of blisters, which, when the agent is a scalding fluid, generally appear in a very few minutes in the living, or may be delayed for hours when the scalds are extensive, as in young children; while, when the agent is an incandescent body, this appearance is not of such invariable occurrence, though often observed very soon after an ordinary burn from the clothes catching fire.

A line of redness near the burn, not removable by pressure, and blisters filled with serum, Sir Robert Christison considers as "certain signs of a burn inflicted during life." In a series of experiments in bodies dead from ten to thirty minutes, he failed to produce such appearances by boiling water, by a hot poker, or by cauterising irons.—(*Edin. Med. and Surg. Jour.*, vol. xxiv., pages 320-23, *pass.*)

A repetition of the experiments of Christison by Dr. Taylor led him to the same results and the same conclusion, though he warns us that *the absence* of the appearances thus relied on as vital does not point with certainty to the opposite conclusion. Caspar, after repeating and varying Christison's and Taylor's experiments on the dead body, failed to produce redness or serous vesication; and strongly asserts that "it is quite impossible to confound a burn inflicted during life with one inflicted after death."—("For. Med.," vol. i., page 302.)

This last author has met and combated the assertion of Leuret, that in anasarcous subjects vesications filled with serum may be caused by heat in the dead body twenty-four hours after death.—(*Ann. d'Hyg.*, vol. xiv., page 371.)

The only qualifications of the above conclusions of Christison and Taylor I would be disposed to make are (1), that not only must we take into account the occasional *failure* (as admitted by Christison), under certain circumstances, of vesication after vital burns, but also *the non-occurrence*, in some instances, of the redness of the burnt part; and (2), that *vesication without* accompanying *redness*, on a dead body, would not suffice to authorise the conclusion of *a burn during life*, as such blisters are met with after pemphigus in the living, and in the corpse from the progress of putrefaction.

My attention was called to the first of these points by the occurrence in police practice of the following case:—A woman was found at the Links (Aberdeen), in a state of insensibility from cold. Among other means adopted for rousing her, tin flasks filled with boiling water were applied to her feet and sides. On examining her two hours after, the cloths in which the jars were wrapped were found to have slipped aside at the chest, and the cuticle on the insides of both forearms was seen to be shrivelled and loose, but with entire absence of redness and vesication at these parts. She was at the time still insensible, with the pulse at the wrist barely perceptible. It was only next morning, when she had completely recovered from the effects of the cold, that the insides of the forearms were noticed to be largely blistered, and the blisters surrounded with broad patches of redness. It must be seen in this instance, had recovery not taken place, that the appearance of the arms, at the first visit, would have indicated post-mortem, not vital burns.

In connexion with the subject of burns, it may not be out of place here to notice the alleged occurrences of what has been termed *spontaneous human combustion*, and the occasional *preternatural combustibility of the human body.*

The first of these points may now be safely set aside as inadmissible, notwithstanding the high authority of Orfila and Devergie in its favour, and some cases advanced previous to their time, in proof, as it was believed, of such spontaneous combustion.

The second point, the occasional *preternatural combustibility of the body*, is also believed by our best writers on medical jurisprudence to carry with it its own condemnation. The arguments in its favour rest upon the occurrence at times of such cases as the following, which, with a similar one, came under my own notice in 1869:—A woman of sixty-six, of intemperate habits, was left in her house alone at 10 a.m. At eleven (an hour after) her body was found on the third step of the stair

near the kitchen, the step on which the corpse rested and one of the spokes of the wooden hand-rail being charred, as were the seat of a chair and a small portion of the front of a straw mattress on a bed, in the kitchen on the same floor, and adjoining the staircase. Contrasted with this moderate amount of combustion of the surroundings of the woman's body was the extent of its effects on herself. On the front of the head and face the absence of the soft parts left the exposed bones blackened and calcined. On the back of the neck and chest patches of a greasy charcoal were found here and there, and beside them the spinal column and several of the ribs exposed and burned black. The abdominal wall was wanting; the intestines a burned and blackened mass; and the surface of the liver calcined. "The upper limbs" were "distorted, the elbows strongly flexed, and everywhere charred to a great depth, the bones, however, even the fingers, preserving their position. The right thigh had its deeper muscles still uncharred, but presenting the appearance of roast beef, very dry. The skin and superficial muscles were totally burnt away. The right leg, only partially attached to the thigh, was entirely converted into a greasy, black, charred mass, even the bones not escaping." "The right foot, totally detached from the leg, had been changed into a soft, black, greasy, and shapeless cinder. The left thigh, leg, and foot in a condition similar to the right. Not a vestige of clothing remained anywhere." This case was published, from our notes of the judicial inspection, by my then assistant, in the forty-fifth volume of the *British and Foreign Medico-Chirurgical Review* (pages 191-92). An elaborate study of the subject proves, in the opinion of the reporter, the occasional preternatural combustibility of the body, a point in which I am disposed to agree with him, notwithstanding the ingenious attempts to explain any such instances as the above. That the combustion in this case had originated from a few smouldering ashes in the kitchen grate can scarcely be questioned, but appears to me to be insufficient to account for the fact of such extensive destruction of the body from the limited amount of combustible matter *ab extra*, without assuming that the body was in a condition unusually favourable for, and predisposed to, the feeding at its own fire, particularly when we consider the well-known fact of the difficulty experienced in its destruction by combustion.

The question, however, of the occasional preternatural combustibility of the human body, is one which I think should still be considered as *sub judice*.

(8). Of *Dislocations* it would be waste of time to speak, as on this subject I have nothing to add to what is to be found in ordinary surgical treatises.

Lastly. As regards *Fractures*, one or two medico-legal points require to be adverted to, arising out of the mode of their production.

In the first place, then, we are not to set down fractures in every case as *necessarily the result* alone *of external violence*. On the contrary, they have been known, occasionally, to arise from muscular action, either ordinary or violent. Under *Infanticide* I adverted to cases of such injuries occurring spontaneously in *the fœtus in utero*. Nor are such so-called spontaneous fractures unknown *in adults;* either as the result of violent muscular efforts on healthy bones, or of slighter muscular contractions, or insignificant or unknown causes, in rickety subjects.

A case of this last sort occurred to a carter in town, a few years ago. He had extensive comminuted fractures of both femurs from jumping down from the shaft of his cart; and on previous occasions fractured limbs from equally slight causes.

It has been laid down by Caspar that *severe and extensive fractures* met with *in the dead body* afford *a presumption that such fractures took place during life;* and that "an amount of force, which, if applied during life, would indubitably have produced fissures, if not fracture or complete smashing of the skull, leaves the dead skull quite uninjured."—("For. Med.," vol. i., page 245.) This, it may be observed, however, is contrary to what is asserted in surgical works.—("Holmes," vol. ii., page 36.)

As regards *the presence or absence of effused blood in the vicinity of fractures in the dead body*, difficulty will be experienced by the medical jurist in determining, in this way, the date of the injury. The test which alone has to be relied on with undoubting confidence, in proof of the fracture having been caused during life, is the commencement, at the part, of the restorative process. The presence of *coagulated blood* betwixt the interstices of the fractured bones was formerly held to indicate a fracture in *the living* as distinguished from one in *the dead body*, but this sign only proves that the injury took place *recently before* or *recently after death*. Should the evidence establish that the fracture must have been produced *during life*, or *many hours* after death, then the discovery of coagula of blood between the fractured ends of the bone would at once decide the case; for after the cooling of the body, it is altogether improbable that any blood effused should then coagulate, notwithstanding the strange assertion to that effect by Caspar, formerly adverted to. The fact should be borne in mind, however, that, though rarely, *blood has been found effused around fractures in the dead body;* while again, as I had occasion to notice formerly, *fractures followed by instant death* may give rise to little or no effusion of blood.

It occasionally happens that blows or falls of no great severity will cause fractures of a severe or fatal kind, only admitting explanation by attention to circumstances.

In a case examined by me, in 1839, death from diffuse suppuration took place on the seventh day after a blow on the shoulder, producing a comminuted fracture of the head of the humerus, which, at the inspection, proved to be made up of cancelli, covered with a shell almost as thin as paper. In another case, in November, 1840, a fissure, commencing at the temple, branching off in different directions at the base of the skull, and following a large effusion of blood inside the dura mater, led to the death of a man who had in a scuffle either received a slight blow or lost his balance and had fallen on soft ground (it was not certainly known which). The skull in this instance was unusually thin and diaphanous. In a third case, in January, 1857, a man was seen to go into a granary at Ythsie (Aberdeenshire), taking with him a bottle of whisky. An hour after, he was found insensible on the stone floor, and died in a few minutes after. It was conjectured that he had lain down on the drying-floor at one end of the building, six inches above the general level, and, when attempting to leave it by some steps, had fallen forwards on the stone floor. On inspecting the body, along with Dr. Irvine, of Tarves, we detected a comminuted and depressed fracture of the frontal bone; two linear fractures—one running from the left temple across the top of the head, downwards through the right temporal bone, and ending in the foramen lacerum anterius, with branches in different directions; the other from the summit of the head to the base of the skull on the opposite side; a linear rent two inches and a half in length and averaging a quarter of an inch in depth across the upper and fore part of the interior of the left cerebral hemisphere; a transverse fracture of the sternum; and a fracture of one rib. In this instance the man was a thick-set, bulky, and heavy person, which, with probably a considerably added momentum from a run forwards, may explain the extent of the violence from such a short fall. A case almost parallel was examined in 1854, after a fall from the quay of our harbour; but in this instance the fall had been from nine to ten feet. Occurrences like these present but few difficulties to the medical jurist, though, as far as regards the injuries to the cranium, such effects of falls are not uncommon, even where the height had not been great. In October, 1857, I was present at an inspection by my assistant, where a workman had perished, seven hours after a fall down six steps of a stair, from extensive fractures of the base of the skull.

Further, I may remark on this subject, that though it can only be on the rarest possible occasions that we are in a position to determine from the appearance of a fracture of bone, independently of its attendant injuries, the amount of violence it has received, or the character of the instrument by which it has been inflicted, yet such exceptional cases may occasionally be encountered. We have seen, for instance, under gunshot wounds, that a ball discharged at point-blank distance will traverse the cranium, leaving the entrance and exit openings of regularly rounded forms, free from splinters, and the former especially nearly of the size of the projectile which had passed through the cranial vault. What is more to the point to observe here, as being still rarer, is, that the size and shape of a fracture, inflicted by a blunt body with considerable violence, may sometimes correspond to the size and shape of the striking part of the instrument which has been employed. Thus, in the case of murder at Cairnhall in 1864—referred to under "Identity" in connexion with the footprints of the murderer—the fatal blow with the back of an axe had penetrated the skull, leaving the fractured and depressed portions of a four-sided shape, and of the length and breadth of the back of the weapon. Again, in the case of a young man tried for the murder of his mother, in Aberdeen, in June, 1867, the same

correspondence was encountered in two depressed fractures of the left frontal and temporal bones, inflicted with the head of a hammer.

This brings me to the consideration of a subject rising out of these concluded, viz.:—

Blood-stains and their verification—a topic of considerable importance to the medical jurist, and one which has of late attracted the attention of chemists and microscopists to a large extent.

The duty of verifying the character of stains, suspected to have been caused by blood, falls to the medical jurist on different occasions. Thus, where a person has been found dead from wounds inflicted by another, and where an instrument is detected in the possession of, or which had been known to have belonged to, the suspected murderer, *with red stains on it;* or where *such stains* are found *on the clothes or person of the accused*, it may be of importance to the proof of his guilt that these stains are shown to have been actually produced by blood.

The appearance of blood *so recently effused as to be still liquid* is so *characteristic* as to leave but little room for hesitation or doubt as to its nature. But where the homicide has been effected some time prior to the examination; where the blood with which the clothes or the instrument is stained has had time to dry up; or where the instrument has been partially cleaned or the clothes attempted to be washed,—it must often be a matter of doubt, in the mere view of these, whether they are owing to blood or some other red matter.

Before proceeding to the more particular examination of suspected blood-stains, their general appearance should be carefully noted, attention being directed to their position, number, configuration, size, amount, disposition of colour, and other particulars. By this means it may sometimes be ascertained whether the blood has flowed continuously or in jets—*i.e.*, from a vein or an artery; whether it has come directly from a wound, or merely from contact with blood previously effused in another situation. Blood, too, which has escaped from an incision *at or after death* may thus be occasionally distinguishable from the blood which has escaped *earlier from the fatal wound.* Further, it is possible at times to determine in this way the position of the parties—*i.e.*, of the wounded man and his assailant—at the time when the wound was inflicted.

Thus, in an interesting English case reported in the London *Medical Gazette*, vol. lxvii., page 612, a woman was found dead at the foot of a stair, with fractures of the skull and vertebral bones, and a branch of the temporal artery divided. That, in this case, the wound of the artery had not been caused by the fall was clearly brought out by the discovery of jets of blood on the wall at the top of the stair, four or five feet from the floor, such as must have come from an artery during life.

In a case of murder which I investigated at Glenmillan in 1869, the locality of the fatal blow was brought out in the same way. The man's body was found in a field about thirty yards from the nearest house. His skull was beaten in, apparently by some ponderous weapon, such as the back of an axe. But though the quantity of blood at the place showed that he had perished at the spot where his body was discovered, yet the finding of jets of blood on the side posts of the door of the house, and on the plaster of the wall in its vicinity, at the height of four or five feet from the ground, pointed out the house-door as the place where the injury had been inflicted.

In the further case of the death of the woman at Cluny, formerly referred to, from a wound in the temporal artery, by following out this line of observation it came out very clearly that the deceased had been in bed when she received the wound; that after she had bled there for some time she had got up and found her way through a passage to the kitchen; that after groping about for a little she had succeeded in lighting a candle, had gone back to the bedroom, and returned to bed.

Again, in a case of murder at Cults, to which I shall have to recur, two wounds in the genitals were found to have been inflicted after a large proportion of the blood in the body had escaped through a deep incision in the throat. This was ascertained from the observation of the circumstance that the effusion from the genital wounds consisted merely of reddish serum which had gravitated from the wounds directly downwards while she lay on her back, the posture in which the body was found.

(*To be continued.*)

THE HUNTERIAN LECTURES FOR 1877.

ON DEFECTS OF VISION WHICH ARE REMEDIABLE BY OPTICAL APPLIANCES.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

By ROBERT BRUDENELL CARTER, F.R.C.S.,
Professor of Surgery and Pathology to the College; and Ophthalmic Surgeon to St. George's Hospital.

LECTURE I.—ON REFRACTION.

(*Concluded from page* 11.)

THE lenses used for spectacles, at the time when the principles which should govern their employment were first investigated with scientific accuracy, were commonly distinguished by arbitrary numbers. A manufacturer made twelve different powers, and he numbered them from 1 to 12 consecutively as a matter of convenience. In optical researches, lenses had long been described by their focal lengths expressed in inches; and Donders, when he first published, adhered to this nomenclature, and employed a scale which had a lens of one inch focal length as its unit. Putting aside a few very rare exceptions, a lens of two inches focal length is the strongest that is ever required in ophthalmic practice, and this is only one-half of the inch unit. Hence, Donders launched us at once upon a system of fractional expression. According to his original nomenclature, a lens of two inches focal length was $\frac{1}{2}$, a lens of twenty-four inches focal length was $\frac{1}{24}$, and so on throughout the whole series, which comprised twenty-five pairs of convex, and the same number of concave lenses, of the powers shown under "focal length" in Table I.

TABLE I.—*Inch Scale of Test-Lenses.*

Focal length in inches.	Intervals.	Focal length in inches.	Intervals.
2		11	
	$\frac{1}{10}$		$\frac{1}{132}$
$2\frac{1}{2}$		12	
			$\frac{1}{84}$
3		14	
		16	
$3\frac{1}{2}$		18	
4			$\frac{1}{180}$
		20	
$4\frac{1}{2}$			$\frac{1}{120}$
	$\frac{1}{45}$	24	
5			$\frac{1}{120}$
	$\frac{1}{30}$	30	
			$\frac{1}{180}$
6		36	
			$\frac{1}{200}$
7		40	
			$\frac{1}{200}$
8		50	
			$\frac{1}{300}$
9		60	
			$\frac{1}{240}$
10		80	

It was found before long that the use of this series was attended by the gravest practical inconveniences. In the first place, it is often necessary, in estimating degrees of astigmatism, or in determining the power which should be given for working at some specified distance, to add or to subtract one lens to or from another. This necessarily involves the addition or subtraction of fractions—an operation which many people cannot perform correctly without (and some not even with) the aid of pencil and paper, and which, in the consulting-room or the out-patient department, is very troublesome and inconvenient, always occupying time which might be better employed. So much was this the case that Dr. Schobbens actually worked out and published in the *Annales d'Oculistiques* for 1867, a table of reciprocals, by which

such calculations were to be faciliated. The second objection was that the steps of the series were irregular, no two of them being separated by the same interval, and many of the intervals being widely different. The right-hand columns of Table I. show some of the optical intervals between lenses which stand next to one another in the series; and you will see, for example, that while the first half-inch interval (that between $\frac{1}{2}$ and $\frac{1}{2\frac{1}{2}}$) is equal to a lens of $\frac{1}{10}$, the last half-inch interval (between $\frac{1}{4\frac{1}{2}}$ and $\frac{1}{5}$) is equal to a lens of $\frac{1}{45}$. The first inch interval (between $\frac{1}{5}$ and $\frac{1}{6}$) is equal to a lens of $\frac{1}{30}$; the last inch interval (between $\frac{1}{11}$ and $\frac{1}{12}$) is equal to a lens of $\frac{1}{132}$. The first two-inch interval (between $\frac{1}{12}$ and $\frac{1}{14}$) is $\frac{1}{84}$; the last (between $\frac{1}{18}$ and $\frac{1}{20}$) is $\frac{1}{180}$. The first four-inch interval (between $\frac{1}{20}$ and $\frac{1}{24}$) is $\frac{1}{120}$; the last (between $\frac{1}{36}$ and $\frac{1}{40}$) is $\frac{1}{260}$. The interval between the two strongest lenses has already been stated to be $\frac{1}{10}$; that between the two weakest is $\frac{1}{240}$. There is no attempt at any kind of optical regularity; and the intervals are nothing but a succession of anomalies. The last, and perhaps the most important, objection rested upon the want of uniformity among the inches themselves. Lenses are made and measured in three countries—England, France, and Germany; and the inches of these three countries are not coincident. The Paris inch exceeds the English by one-sixteenth; and this difference, in some of the higher powers, is too considerable to be disregarded. A lens of four Paris inches is equal to an English four and a quarter, and a lens of eight Paris inches to an English eight and a half. If a surgeon prescribes in Paris inches, and the patient receives a lens measured in English inches, the intentions of the prescriber are not precisely carried out; and the difference, especially with very sensitive eyes, or in the correction of astigmatism, is sometimes highly important. Moved by these considerations, the International Congress of Ophthalmology decided in 1867 to appoint a committee to report upon the question; and, in 1872, having received the report, to adopt a metrical scale; but there were many obstacles to be overcome before this decision could be carried into effect. In the first place, the manufacturers of lenses rebelled against the proposal as a matter of commerce, and objected so strongly to having their inch grinding tools rendered obsolete, that at one time metrical lenses could not be procured. I obtained a set myself, nine years ago, from Paetz and Flohr, of Berlin; but both they and the Paris makers, so lately as in 1874, refused to supply another set, or even to make good some breakages in that which I possessed; and, in consequence of this refusal, I still described inch lenses in the treatise on Diseases of the Eye which I published in the following year. Ever since 1868 I have had the great practical convenience of working with metrical lenses; but I was obliged to translate them into inches in prescribing. A second difficulty arose from the fact that there was not complete agreement as to the nature and the divisions of the metrical scale which would be most convenient in practice; but both these difficulties were at length removed by Professor Donders, who announced, last year, that Dr. Snellen and himself had agreed upon a convenient scale, and that they had persuaded a Paris optician—Roulot, of 3, Rue des Vieilles-Haudriettes—to manufacture and supply the lenses. Professor Donders came to this country and delivered a lecture explanatory of the new system at Moorfields. To this lecture the leading London opticians were invited; and, since it was delivered, the practice of prescribing in the metrical scale has become common.

Table II.—*Metrical Scale of Test-Lenses: Number of Dioptrics.*

20·0	13·0	8·0	4·50	2·50	1·25
18·0	12·0	7·0	4·0	2·25	1·0
16·0	11·0	6·0	3·50	2·0	0·75
15·0	10·0	5·50	3·0	1·75	0·50
14·0	9·0	5·0	2·75	1·50	0·25

In this scale, the lenses of which, thirty in number, are enumerated in the above table, the unit is a lens of one metre focal length; and this unit is called a *Dioptric*. We take as our unit, you will observe, a weak lens instead of a strong one; and the first result of this arrangement is that our other lenses are multiples of the unit instead of being parts of it. The lens of one metre focal length, or the one dioptric, being No. 1 of the series, No. 2 is a lens equal to two of the former—that is, it is of double the power of the dioptric, or of half the focal length. It is two dioptrics, and its focal length is half a metre. No. 3 is equal to three dioptrics—that is, its focal length is one-third of a metre. Throughout the series every whole number expresses the number of dioptrics to which the lens so numbered is equal; and hence, from whole number to whole number, all the intervals are the same. There is a difference of one dioptric between No. 6 and No. 7; and there is equally a difference of one dioptric between No. 1 and No. 2. This difference, however, is sometimes too great for practical purposes; and hence a few quarter and half dioptrics have been added to the lower powers of the scale. These introduce the simple decimal fractions 0·25, 0·50, and 0·75; but these fractions are so easily manipulated that they cause no inconvenience. A quarter dioptric is a lens having a focal length of four metres; a half dioptric has a focal length of two metres; and three-quarters of a dioptric has a focal length of one metre and one-third. A glance at the table will show that the quarter dioptrics of the series go up to No. 3, and the half dioptrics to No. 6. For higher powers, such fine divisions are not needed; but if they were needed, the uniformity of the scale affords a ready means of supplying them. If I want a lens of six and a half dioptrics, or of eight and a half dioptrics, I have only to place 0·50 as an addition to 6 or 8, and my requirement is at once fulfilled. In describing these lenses, as with those of the old scale, it is customary to indicate convexity by the *plus* sign, and concavity by the *minus* sign. Thus, + 2·0 is a convex of two dioptrics; — 3·0 is a concave of three dioptrics.

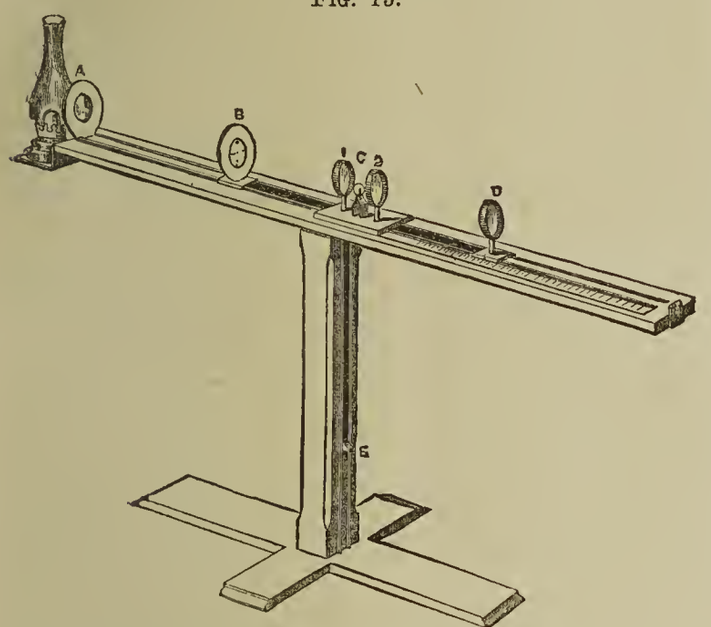
We have been so much accustomed to think of the degrees of ametropia in inches, that a little practice is required before we are quite at home with the new nomenclature; and, in hearing of a myopia of five dioptrics, one is tempted at first to ask how much that means on the old scale. It will greatly facilitate the necessary translation of the thoughts, if we consider that a metre is equal to 39·337 English inches; that is, for all practical purposes, it is equal to forty inches. This means, using English instead of Paris inches, that the dioptric is the old $\frac{1}{40}$; the No. 2 is the old $\frac{1}{20}$; the No. 4 is the old $\frac{1}{10}$. At the extreme end of the scale we have the lens of a quarter dioptric, equal to one of 160 inches, and only half the strength of the weakest of the inch series. Next, we have the half dioptric, equal to a lens of 80 inches. Next, we have the three-quarters of a dioptric, equal to a lens of 53 inches. Coming to the higher powers, we find many coincidences, the chief of which are indicated in Fig. 12, where the line represents a metre. One dioptric coincides with 40 inches; 2 dioptrics coincide with 20 inches; 3 dioptrics coincide, nearly

Fig. 12.

with 13 inches; 4, with 10 inches; 5, with 8 inches; 8, with 5 inches; 10, with 4 inches; and so on throughout. If we wish to translate dioptrics into Paris inches, we must consider the metre equal to 36 inches instead of to 40. The coincidences obtained by either method are important, as showing that the difficulties raised by manufacturers were almost entirely imaginary, because every glass ground on the old tools has its proper value on the dioptric scale, and all that is necessary is to define and register this value. In order to facilitate such determinations, Dr. Snellen has invented a very ingenious instrument, to which he gave the name of "phakometer," or lens-measurer, and which is shown in Fig. 13. It is based upon the principle that, when an object and its image formed by a convex lens are of equal size, object and image are equidistant from the lens, and are both separated from it by an interval equal to twice its focal length. The instrument consists of a foot, supporting an upright pedestal, which carries a horizontal bar eighty-six centimetres in length. At one end of this bar is a small shelf, which supports a lamp; and the flame of this lamp is in the principal focus of a lens (A), which therefore transmits parallel rays. The luminous object is a black metal

screen (B), pierced with several holes, and covered with ground glass. The holes are arranged in the form of a cross, and are illuminated by the parallel rays already mentioned. The screen (D) on which the image is received consists of ground glass, and has on it black dots, which correspond accurately with the little openings on the screen, but are reversed in position. The luminous object and the screen are moved by the same mechanism, so that they can be made to approach or to recede from a lens placed between them, at the centre of the bar, at an equal rate. Each is affixed to one extremity of a thin very flexible steel ribbon, which runs along the track on which object and screen move, and which descends into the upright on which this track is supported. The centre of the ribbon is secured to a movable button (E), so that pushing the button upwards causes the distal extremities of the steel band to pass in opposite directions along the track; while pulling it down brings them nearly together in the centre, followed, of course, by the object and by the screen.

Fig. 13.



The lens to be examined is held in a clip (C), consisting of two metallic rings placed in the centre of the apparatus, midway between the luminous object and the screen. One of these rings has an upright spur, designed to point out the true centre of the lens under examination. Two auxiliary convex lenses, each of 2·75 dioptrics (1 and 2), are placed one on either side of the clip, fifty millimetres apart, in order to shorten the focal distances equally on both sides, and thus to diminish the length of the instrument. The luminous object and the screen can be separated from each other 777·94 millimetres, at which distance a sharp image of the luminous points is formed upon the screen, and the zero point of the scale is situated. This scale is engraved on a strip of metal which runs parallel to the track on which the screen moves; and its divisions correspond with the metric lenses from 0·25 up to 20. A small pointer projects from the screen for the purpose of denoting the division of the scale opposite to which it stops.

The lens which is to be tested is placed in the central clip, and the object and screen are moved from or brought towards each other until a sharp image of the luminous points is formed upon the screen. The division of the scale opposite the point of arrest of the screen shows the value of the lens in dioptrics. If the luminous points do not coincide with the dots on the screen already described, the lens is improperly centred, and must be moved until correspondence is secured. The true centre of the lens is then indicated by the pointer attached to the clip.

The use of this phakometer requires only a few seconds, and it enables the optician to determine the value in dioptrics of every lens in his possession. It is not less valuable to the surgeon, who can accurately test the lenses supplied to his patient, and can discover whether they are properly centred in their settings. It is the custom of manufacturers to assume that all lenses ground upon the same tool are of the same focal length, and to number them accordingly; although it is manifest that differences in the refracting power of different pieces of glass may occasion corresponding differences in the results. It is therefore desirable that every lens should be separately tested before it is taken into stock, as in no other way can occasional errors be prevented. The phakometer is being made by Mr. Browning, of 63, Strand, from whom it will shortly be procurable.

Having thus secured a series of testing lenses arranged upon a sound principle, they are used as measures for the degrees of ametropia. The accommodation being paralysed, if necessary, by atropine, and the patient placed opposite to a scale of test-types, at a convenient distance, we find, if he is ametropic, that his vision is below the normal standard of acuteness, and that it is improved by a lens of some description. Assuming that we are unacquainted with the form of his ametropia, we take a concave and a convex lens, each of one dioptric, and place them alternately before the eye under examination, the other eye being closed or covered. If the concave lens improves vision, there is myopia; if the convex lens improves vision, or does not impair it, there is hypermetropia. The existence and the form of ametropia being thus ascertained, the next point is to arrive, by successive trials, at the lens which gives the best vision, which raises it to the natural standard or nearly so, or, at all events, which does better than any other. This lens at the same time corrects and measures the ocular defect. If it is a convex of five dioptrics, we say that the hypermetropia is equal to five dioptrics, or more shortly, to 5. If it is a concave of three dioptrics, we say that there is a myopia equal to 3. Excepting in moderate degrees of ametropia, we must not expect to obtain, by any lens, vision fully of the normal standard; for in the hypermetropic eye there is something which approaches very nearly to arrest of development, often with corresponding defect of functional activity; and in the myopic eye there are often morbid changes in the deeper tissues of the organ. We may expect, however, to obtain from the patient a decided preference for one glass over all others; and, if we do not find this decided preference—if the patient sees little difference between the effects of two or three adjacent members of the series,—we must suspect the existence of astigmatism. To such matters of detail I must return on a future occasion, my object in this preliminary lecture being to define the general principles by which the varieties and degrees of ametropia are recognised and expressed.

In the foregoing method of examination with lenses and test-types we have to deal only with subjective phenomena; and, except for the check afforded by repeating the examination at a different distance, we are almost entirely dependent upon the statements made to us by the patient. It follows, of course, that we are also dependent upon his good faith and his accuracy of observation; and there are many conditions in which these cannot command our implicit trust. In young children, or in persons of defective intelligence, we may be deceived by the patient without intention; and in other cases, as by soldiers seeking to be discharged, or perhaps sometimes by railway plaintiffs, we may be deceived with full intention. It is therefore important to be able to test ametropia objectively, and independently of the statements which are made to us; and this can to some extent be accomplished by the aid of the ophthalmoscope. The course of the rays which enter an eye, to form or not to form a picture upon the retina, and the course of the rays which leave it, are strictly correlated phenomena; and, when a glass is required to afford the patient a clear view of outward objects, a similar glass is also needed in order to afford a clear view of the retina of such a patient to the surgeon. The glass used with the ophthalmoscope is therefore a measure of ametropia. But a more complete account of this method of examination, and of the limitations of its usefulness, will be most suitably entered upon after accommodation has been described, and when the special varieties of ametropia are themselves under consideration.

Another contrivance which promises to be useful in the measurement of refraction, and which at the same time affords a certain amount of control over the statements of the patient, is an optometer which has recently been suggested by Dr. Hirschberg, of Berlin. This instrument, which is now being made at my request by Mr. Browning, superficially resembles a binocular opera-glass. The distance apart of its two tubes can be regulated to suit different distances between the pupils; and one of the tubes can be closed by a metal cap when only one eye is under examination. Each tube contains two biconvex lenses of rather high power; an ocular of say two and a half, and an object-lens of four centimetres of

focal length. The precise power is not material, but the two must be different. When the patient looks through this optometer at test-types placed at their full legible distance, the object-lens receives rays which are approximately parallel; and when the two lenses are separated precisely by the sum of their focal lengths, the rays which leave the ocular lens are also approximately parallel, so that they afford a perfect image to an emmetropic eye. The image is, of course, inverted; but this disadvantage may be overcome by inverting the test-types to begin with. If the lenses are brought nearer together, the rays which leave the ocular will be divergent, so that they will afford a clear image to a myopic eye; and if the lenses are separated by a longer interval than the sum of their focal lengths, the rays which leave the ocular will be convergent, so that they will afford a clear image to a hypermetropic eye. In either case, the degree of divergence or of convergence of the rays depends upon the amount of approximation or of separation of the lenses; and one of the tubes is marked with two scales, each having its zero at the point where the lenses are separated by the sum of their focal lengths, and where the issuing rays are parallel. One of these scales shows the distance between the object-lens and the ocular in millimetres, the other indicates dioptrics of ametropia for each distance of separation. We have only to desire the patient to look through the instrument, and to adjust it so as to obtain the best view of the distant test-types, in order to read off the degree of his myopia or hypermetropia, as the case may be. In order to test his accuracy, we next reverse the instrument, telling him to look through the object-lenses instead of through the oculars, and to adjust it again. If the scale is at the zero point, no other difference than a diminution of the size of the image will be produced by the reversal; but for any other distance between the lenses a change in the amount of divergence or of convergence will be produced, and a corresponding change of adjustment will be required. This amount of change is a known quantity in each ease, and may be marked upon a third scale, which will then show whether the patient has made the amount of readjustment which his former statement would require. Should he have done so, it may fairly be inferred that he was accurate on both occasions. A full account of Hirschberg's optometer, with the necessary formulæ for calculating the degrees of divergence or convergence of the emerging rays, will be found in tho second part of the inventor's "Beiträge zur Praktischen Augenheilkunde." Of the several uses of this optometer I shall have to speak again in subsequent lectures.

THE HEALTH OF BRADFORD.—In noticing the report on the health of the borough of Bradford for the year 1876, by Mr. Harris Butterfield, the Medical Officer of Health, we find that the vital statistics of the district for that period show a considerable improvement in the health of the locality. The death-rate is lower than in previous years, and does not compare unfavourably with that of other large manufacturing towns. The epidemic of scarlet fever which proved so fatal in 1875 passed away towards the end of that year, but 143 deaths were, nevertheless, attributed to it in 1876. Mr. Butterfield remarks that this is a disease which is very frequently imported, and is consequently difficult to deal with, owing to the natural disinclination of parents to send their children into hospital. Without sending children to the Fever Hospital at the outset of the fever, the spread of infection would be limited if parents would use this institution as a house of recovery, where children could be isolated and cared for during the time that the skin was desquamating. A very large proportion of the fatal cases registered at Bradford were from the effects of cold during convalescence, none of which, however, occurred in the Fever Hospital, from the superior care and nursing which the patients there enjoy. It is also at this period that the danger of infecting others is at its highest, although this consideration is often lost sight of by those in attendance on the case. Only one death from small-pox occurred during the year, and this was in the workhouse, in the person of an unvaccinated child, who acquired the disease while tramping with its mother through Lancashire. Several cases were imported into the borough, but by prompt measures of isolation and disinfection any serious outbreak was averted. Had it not been for the facilities afforded for isolation by the Fever Hospital, Mr. Butterfield thinks it would have been almost impossible to have prevented an epidemic.

ORIGINAL COMMUNICATIONS.

A CRITICAL REVIEW OF THE

PREVAILING THEORIES CONCERNING THE PHYSIOLOGY AND THE PATHOLOGY OF THE BRAIN:

LOCALISATION OF FUNCTIONS, AND MODE OF PRODUCTION OF SYMPTOMS.

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PART I.

(*Continued from page* 13.)

I HAVE to examine now the functions of every cerebral organ taken individually. The optic lobes, or corpora quadrigemina, come first. It is unnecessary to draw conclusions based upon facts of comparative anatomy. Dr. Ferrier says "that with the view of breaking up these ganglia in the monkey he passed a wire cautery in a horizontal direction through the anterior occipital fissure, so as to traverse the nates or anterior tubercles of the corpora quadrigemina. The result of the procedure was that the nates were ploughed up and disorganised by the cautery." Dr. Ferrier thinks that the concomitant lesions of the hemisphere had nothing to do with the causation of the following phenomena. The animal was rendered *completely blind.*(a) The tests applied, however, leave room for some doubt in my mind as to the completeness of the loss of sight; for Dr. Ferrier adds, "The pupils were *dilated* and *inactive*, the left somewhat more than the right." I am of opinion that the dilatation of the pupils beyond the normal limit of dilatation is sufficient to prevent the animal from distinguishing objects. I am careful not to say that it *destroys sight.* The sense of sight may be, or may not be, lost in the experiment reported above. All I know is this: that I have seen a person unable to write, to read, to distinguish anything upon a table covered with books and instruments beyond a mass, all because he had taken by mistake a toxic dose of belladonna, and suffered consequently with dilatation of the pupil. Oculists have frequent occasion of treating persons who cannot see, not through loss of the sense of sight, but through paralysis of the ciliary muscle. I have seen also cats, on which I had performed the operation of tying the ends of very fine and long copper-wire conductors of a faradic machine to both first cervical sympathetic ganglia, become unable to distinguish objects, their pupils being excessively dilated by the operation. These cats could not find their way in the room; they struck at every piece of furniture. I do not desire to be understood to say that the optic ganglia and their ganglionic appendages have no relation with the sense of sight; I wish only to show that, at the very least, the inability to see for the animals operated upon by Dr. Ferrier can be explained by another cause than the one he urges; that there was no incapacity through destruction of a *centre*, but through perversion of the external organs of sight. The reasons for this view of mine are obvious. It should have been proved first that the sense of sight is localised in the parts destroyed by the wire cautery, because, as matters stand now, there is begging the question. Nor are other experiments of Dr. Ferrier's more conclusive. When he irritated with electricity the exposed optic thalami and corpora quadrigemina, he observed, besides the dilatation of the pupils, movements also. If this experiment proves anything, it proves that the parts acted upon are centres for general movements of the body, as well as for other functions. We know that the corpora quadrigemina when irritated have a powerful effect on the viscera. Pathological cases up to this time throw a very dim light on the obscurity which still exists concerning the special function or functions of the thalami optici. We know nothing more certain on that subject now than when Vulpian wrote ten years ago that we knew nothing certain concerning them.

I suppose that the functions of the cerebellum are investigated next because of the relation which exists in the mind of Dr. Ferrier between the sensory centres, the optic bodies, and the corpora quadrigemina, and the cerebellum as co-ordinating centre. I shall say little concerning the cerebellum. Experiments very carefully conducted have shown that it can be

(a) The italics throughout are mine, except when otherwise indicated.

removed entirely, and yet the animals *spontaneously execute all the movements of the eyeballs*, which, Dr. Ferrier thinks, are incited from that organ. Ollivier and Leven(b) have shown that pricks in any part of the cerebellum will give rise to a variety of motor symptoms in the eyeballs—a variety of such a kind, that it is impossible to associate any special order of motor phenomena with a particular lesion. Diseases have given us cases of all kinds, but none are more obscure than those of the cerebellum. I have also seen that irritation of the dura mater in the neighbourhood of the pons, in an animal deprived of the greater part of the cerebrum and cerebellum, and which has not lost too much blood, will give rise to motor phenomena of the eyeballs identical with those observed by Dr. Ferrier after irritating the cerebellum. Luys(c) has reported two cases, with autopsy, of deafness of long standing. He saw at the autopsy that the acoustic nerves, in each of the two cases, were destroyed on both sides. He followed the degeneration through the posterior portion of the optic thalami up to the fourth ventricle, and also the cuneiform convolutions of the *occipital lobule*. But he writes, "Sections of the cerebellum and of the protuberance, examined in the same manner [microscopically, for he speaks of the neuroglia being diseased ?], showed no particularity to mention." He believes, therefore, that the centres of these nerves are in the occipital lobules. His testimony, on account of the eminence which he has gained as an advocate of localisation, is of value, but it seems to me to be right against Dr. Ferrier's theories, as will be made still more apparent further on. What I have said above, and the experiments of Cyon, impel me to reject altogether Dr. Ferrier's theory of the functions of the cerebellum. There is another hypothesis in science concerning the cerebellum. Rolando wrote in the beginning of this century that he considered the cerebellum to be an organ of "reinforcement"; that it played the part of an "electro-motor." Luys has propounded the same view; so has Weir Mitchell. I entertained the same notion some years ago; I thought, as my predecessors did, that I had even demonstrated the truth of that theory. I am compelled to change my opinion now. Animals deprived of their cerebellum are not weaker than they ought to be after such a severe traumatism; and if they appear weaker just after the cerebellum is extirpated than after the cerebrum is removed, it is simply because in the first case the blood-supply of the medulla oblongata is more diminished and altered than in the second instance, although the vessels destroyed are smaller. Besides, the cerebellar peduncles have very powerful inhibitory effects on the spinal system. Far from me the idea of being hypercritical. I believe that nothing helps more to lead to discovery than the judicious use of hypotheses. But we must consider an hypothesis to be nothing more. In that disposition, when we come to discover that what we thought true is not true, we have made a great progress already. This is the kind of progress which has been made up to this time; it will no doubt be conducive to progress of a more positive nature. For these considerations I think Dr. Ferrier is again begging the question when he writes "that though the faculty of co-ordinated progression may be retained notwithstanding the destruction of the cerebellum, yet the loss of equilibrium practically renders it impossible; but if the faculty of locomotor co-ordination is destroyed by lesion of the optic lobes and pons, equilibration must necessarily be rendered impossible. The centre may remain intact, but its afferent and efferent factors are either wholly or partially interrupted or annihilated." I say that there is begging the question, because Dr. Ferrier has first laboured to show that the senses of sight and of tact are less essential than the *sense* of equilibrium, of which the organ is in the labyrinth; and this being taken for granted, he shows now that they all have one common superior centre—the cerebellum. By that theory we can understand how lesions of either of the senses of tact and of sight, or of the one which has its seat in the labyrinth, can bring on incoördination; for the connexions between them and the centre (cerebellum) are broken (in cases of destruction of the corpora quadrigemina or optic lobes, for instance), which is practically equivalent to destruction of the centre. as he very clearly puts it in the quotation given above. But before testing the value of that ingenious and captivating theory—so simple, too,—may I not ask what are the proofs given that the cerebellum is the centre of co-ordination; and what are the proofs that the connexions of the senses of sight and tact, and of the sense (so called) of equilibrium, which has its seat in the labyrinth, with the cerebellum—if they happen to have any—by means of direct fibres, are for the purpose of co-ordination? It will be seen that as soon as the first postulate is not taken for granted on sheer assertion, the whole fabric falls to the ground. I will not refer to the phrenological hypothesis concerning the cerebellum, because it is absurd. My object is only to show that Dr. Ferrier's theory must be considered to be only identical in value with those which were propounded by his predecessors.

By far the most important of the subjects treated by Dr. Ferrier are those which comprise the functions of the cerebrum. I read here a well-deserved homage paid by Dr. Ferrier to Fritzsch and Hitzig for having been the first to demonstrate experimentally the fact of "definite localisation"; and at the same time the statement that vital differences exist between him and Hitzig "in regard to the extent of the localisation, and with respect to the true character and significance of the phenomena." These discrepancies do not arise from the methods of exploring the brain used by the authors named. Hitzig has used the faradic current quite as extensively as Dr. Ferrier, besides the galvanic current. There is a difference between the effects of the two currents; but practically, and in the point under consideration, there is not: both have the same results. Hitzig and Ferrier maintain that they have, each by his special method of exploring, proved that the *cortex cerebri is excitable*, and that the contractions in various groups of muscles which they have observed on irritating the *cortex cerebri* are the results of *excitation of the grey matter* of the hemispheres.

I, for one, take exception here. I do not believe that the movements which are observed to follow electrical irritation of the cortex cerebri are due to discharge of the cells then irritated. When Dr. Ferrier published his first researches, three years and a half ago, I wrote a little pamphlet in which I examined the validity of the theories advanced by Hitzig and by himself, and also by Dr. Hughlings-Jackson. I tried at the time to control by experiment the experimental data of Hitzig and Ferrier. I urged several objections against those new theories. Of all the objections, pathological and experimental, which I brought forward, Dr. Ferrier has only recalled one; and that one, although not without importance, is not the most important. By placing the sciatic nerve of the frog, prepared after the manner of Matteucci, on the posterior part of the hemispheres, I found that active contractions of the gastrocnemius muscle of the frog resulted when I irritated the anterior convolutions of the brain, thus showing that the current had passed along the whole extent of the hemisphere. That fact is undoubted. It has been ascertained by several other experimenters by different methods. I said that the fact permitted us to think that the electricity was conducted to the basal ganglia, and there excited *these ganglia and the nerves which spring from them.*(d) Ferrier does not accept this view. He writes—"The effects of irritation of the basal ganglia are capable of exact estimation. Irritation of the corpus striatum is followed by general contraction of the muscles of the opposite side of the body; and it is impossible, by applying the electrodes directly to the surface of this ganglion, to produce localised contraction in any one muscle or group of muscles."

In the winter of 1874 I showed to several distinguished physiologists in London that the impossibility to which Dr. Ferrier refers is no impossibility. Professor J. Burdon-Sanderson, in a paper published in the *Proceedings of the Royal Society*,(e) says, "Dr. Dupuy found that after ablation of those parts of the hemispheres which contain the supposed centres, movements, similar to those described by Dr. Ferrier, can still be produced by electrical excitation of the cut surface." Dr. Burdon-Sanderson, in order to settle the difference between Dr. Ferrier and myself as to the identity of the phenomena observed by us both individually, repeated the original experiments of Dr. Ferrier, and my own also. He investigated the most characteristic of the combined movements so accurately described by Dr. Ferrier, as produced by excitation of particular spots on the anterior part of either hemisphere, by comparing them with those produced by excitation of deeper parts, as I had done. The results of his experiments are exactly what I had myself seen. He exposed the anterior portion of the hemispheres, which comprises the several spots by the excitation of which

(b) Ollivier and Leven (reprint 1864, Paris), "Recherches Expérimentales sur le Cervelet."

(c) Luys, "Annales des Maladies de l'Oreille et du Larynx," tome i. pages 318-19.

(d) Dupuy, "Examen de quelques Points de la Physiologie, etc.," page 26, con. 3. 1873. Delahaye.

(e) *Proceedings of the Royal Society of London.* June, 1874. No. IV.

the following characteristic movements could be produced:—1. Retraction of the left forepaw, with flexion of the carpus, accompanied by similar movements of the hind leg. 2. Closure of the left eye, and elevation of the upper lip. 3. Retraction of the left ear. 4. Rotation of the head to the left side. The active spots for these several movements are as follows:—For (1), a point immediately behind the outer end of the crucial sulcus; for (2), the surface about the outer end of a sulcus which lies immediately behind (1); for (3), the surface behind the sulcus last mentioned; for (4), a spot a centimetre further back on the same convolution. These active spots are well defined; their limits and relations are in exact accordance with the statements of Dr. Ferrier. Now (as I had done), Dr. Sanderson severed from the deeper parts (by a nearly horizontal incision, made with a thin-bladed knife, and the instrument withdrawn without dislocation of the severed parts), the area of the surface of the right hemisphere which comprises the active spots above mentioned; and the excitation of the active spots thereupon repeated, the result is the same as when the surface of the uninjured organ is acted upon. Moreover, if a similar incision is made in a parallel plane, but at a lower level, this is not the case;(f) but on removing the flap, and applying the electrodes to the cut surface, it is found that there are on it active spots which, as regards the effect of excitation, have the same topographical relation to each other as the former. If, further, a surface of brain is cut away, so as to expose the outer and upper part of the corpus striatum, and the electrodes are applied to this surface, the movements (1), (2), (3) are produced in the same way as before, but more distinctly; the active spots are quite as strictly localised, and their relations to each other are the same as at the natural surface.

Professor Burdon-Sanderson, from these facts, believes that it is not in the convolutions, but (according to the old doctrine) in the floor and outer walls of each lateral ventricle, that the centres for such movements are to be found.

For aught I know, the old doctrine is as good as the new one. Both are substantiated by the same series of experimental data. The experiments related above, therefore, do not seem to me to warrant this conclusion drawn by Dr. Ferrier, that his "positive results (like which Dr. Burdon-Sanderson's and mine are as positive, being identical), determined by exact experiment, effectually dispose of vague statements respecting the supposed influence of currents conducted to the basal ganglia."

The counter-experimental results just adduced above, therefore, still leave open the question of knowing (1) whether the cortex cerebri *is* or is *not* excitable by electricity;(g) and (2) whether certain convolutions contain organs which are essential to the production of the muscular movements of the character described by Hitzig and Ferrier.

Let us see how Dr. Ferrier has disposed of the arguments which are so contrary to the doctrine of localisation. He says that as the cortical centres act downward on the muscles, necessarily through the basal ganglia and motor tracts, the application of electrodes to the medullary fibres (which connect each centre with the corpus striatum) is essentially equivalent to the stimulus caused by the functional activity of the centre itself. There is here a *petition de prineipe*. It is known that fibres will convey impressions when irritated; but that fact does not disclose the functions of the parts with which the fibres are connected. For instance, tickling the sole of the foot induces laughter; this does not imply (at least, I never heard) that the centre for the innervation of the muscles which are concerned in the act of laughing is in the sole of the foot. If I argued like Dr. Ferrier, however, I think I ought to believe that the sole of the foot contains centres which innervate the muscles concerned in the act of laughing! His postulate and mine are identical.

But he writes very excellently, "The mere fact of motion following stimulation of a given area does not necessarily signify a motor origin. The movements may be the result of conscious modification, incapable of being expressed in physiological terms, or they may be reflex, or they may be truly motor in the sense of being caused by excitation of a region in direct connexion with the motor parts of the crus cerebri. The method of stimulation by itself is incompetent to decide these questions, and requires to be supplemented by localised destruction of those areas, stimulation of which is followed by definite motor manifestations."

There are experimental facts of that order which have been adduced by Hitzig, Gudden, Carville and Duret, together with similar ones found by himself, which Dr. Ferrier brings forward to prove his postulate.

Localised destructions of those areas, in the hands of all those who have performed that experiment, have resulted in slight paralysis (*paresis*), which some have called "paralysis of muscular sense" (Carville and Duret, Gudden, Brown-Séquard; Schiff called it "paralysis of tactile sensation," Hitzig, "paralysis of muscle-consciousness"). I have found in 1873(h) that destruction (scrubbing) of the whole surface of one cerebral hemisphere does not prevent the animal from using his legs. The paresis which results from removal of the centres is not *permanent*. After a few days the animal uses his leg as well as before. He can, in some instances, use it in a normal manner a few hours after he has recovered from the effects of the ether administered, and before inflammation has set in; as in the case of the dog of which I have just spoken. It is good to take notice, also, that although *all the centres* of one hemisphere are destroyed, the anterior leg only shows signs of paresis, and only in the carpal articulation. Goltz(i) has since shown that by washing away the cortex cerebri of a dog, that kind of paresis ensued (as described under different names as above), which disappeared to such a degree that the dog—which had been taught to give the paw on command before the operation, and who could not give the right paw now (the cortex of the left hemisphere being washed away)—after the lapse of some eight days began to give that right paw when asked, and in about four weeks he could do it as well and as readily as before the operation.

This would be the place to examine the question of supplementation of one centre by another—but I shall do it further on.

(To be continued.)

(f) Putnam, of Boston, has found the same thing. He has concluded that the movements produced in the first case really came from the cortex, as he thought that his negative results proved. What follows disposes of his theory.

(g) I do not speak of other modes of irritating the cortex; for mechanical, chemical, and physical (except electricity) have never given results. There is one exception, however. Nothnägel has defined a spot in the cortex of the brain of rabbits, which, on being pricked with a needle, drives the animals into a variety of movements. He calls that *centre*—"*nodus cursorius*." Unless the rabbits used by that experimenter differ from those usually found in the markets of France, England, and America, I cannot account for the results he has obtained. It is more than likely that he has pricked also the underlying ganglia.

(h) "Examen, etc.," *loc. cit.*, page 24.

(i) Goltz, *Pflüger's Archiv*, B. xiii. S. 31.

IS LEPROSY CONTAGIOUS?

By GAVIN MILROY, M.D., F.R.C.P.

No. VI.

Since the publication of my last paper in this journal for July 22, 1876, some very instructive fresh information on this question has been made known to the profession from various trustworthy official sources, and specially (1) from the "Reports on Leprosy (second series), comprising Notices of the Disease as it now exists in North Italy, the Greek Archipelago, Palestine, and parts of the Bombay Presidency," by Dr. V. Carter, published under the sanction of Her Majesty's Secretary of State for India; (2) from the "Report on Leprosy in the North-Western Provinces of India," by Mr. Planck, the Sanitary Commissioner of those provinces, dated October 19, 1876; and (3) from the Report, by Dr. Lewis and Dr. Cunningham, on Leprosy in India, forming Appendix (B) in the Twelfth Annual Report of the Sanitary Commissioner with the Government of India.

Recent medical experience in those places in North Italy which were visited by Dr. Carter leads to some valuable suggestions respecting the natural history of the disease in that portion of Europe. The most important of these is that which shows that, while the malady has not yet entirely disappeared from the region, it has undoubtedly within the last thirty years very sensibly diminished, and is still manifestly on the decline in point of frequency among the indigenous poor population. This gratifying change appears to have occurred *sponte sud*, or, at least, quite independently of any attempt being made anywhere to arrest or control the continuance of the malady by compulsory isolation, or any coercive restraint of the sufferers. Professor Bo, of Genoa, one of the most enlightened of Italian sanitarians, and who has for many years been well acquainted with the state of the leprous poor in the Western Riviera,

considers that "segregation of lepers, with separation of the sexes, is the only rational means of checking the spread of the disease"; and in respect of treatment, that "hygienic measures are most useful." Dr. Carter says that the Professor "speaks doubtfully of contagion." At Varazze, where, in 1841, Dr. Boeck met with fifteen cases, "leprosy has now almost, if not quite, ceased in this locality. There is no accommodation for any lepers now." Dr. Rambaldi, the physician in charge of the Leper Hospital near to San Remo, informed Dr. Carter that of late years patients afflicted with other diseases besides leprosy, such as cancer and other chronic maladies, have been admitted into the institution, and without any ill effects to any of the inmates. Dr. Rambaldi does not regard leprosy to be communicable by contact with the sick.

There is no record, as far as I know, of the present state of Central or of Southern Italy in respect of the existence, or otherwise, of leprous disease among any portion of the inhabitants. Dr. Carter did not visit that part of the peninsula. From the mere want of exact information on the question, it would be, it may be reasonably feared, a too hopeful and encouraging conclusion to infer an entire absence of the malady in a population whose health condition is well known to be, in many districts of the country, far from being what is desirable in respect alike of food and of general sanitation. Happily, from a recent communication in Virchow and Hirsch's journal, we obtain some valuable matter on the subject of our inquiry in regard of Sicily, furnished by the researches of Dr. Profeta in the island. The following summary of his paper is derived from the Report on Leprosy in India by Drs. Lewis and Cunningham:—

"Since the year 1867, the author has collected information regarding 114 cases of leprosy in Sicily—eighty men and thirty-four women. In three-fourths of the cases he was able to trace the disease to inheritance; in a few instances he had to trace the malady in relatives four times removed. In no instance was there any evidence of contagion, although twenty-two of the lepers had lived with their families for many years.

"Children, who had been suckled by leprous women, had not apparently been infected thereby, nor had revaccination with lymph obtained from leprous persons been shown to transmit the disease. (It is not mentioned how long a period has since elapsed.) The inference that leprosy may be dependent in some way on a fish diet is not supported by experience in Sicily, seeing that the disease prevails among the inland population to a greater extent than along the coast; nor do poverty, want, or filth seem to exercise important influence as factors, for the disease is even more prevalent among the well-to-do classes; and least of all could the disease be attributed to malarial influences. So that the author has come to the conclusion that heredity is the only ascertained etiological agent in its propagation.

"Of the 114 persons, 9 were affected at ages ranging from seven to ten years; 26 at from eleven to twenty years; 30 at from twenty-one to thirty years; 22 at from thirty-one to forty years; 11 at from forty-one to fifty years; and in 7 cases the disease was not manifested until the persons had reached ages ranging from fifty-one to sixty-five years.

"The duration of the disease, taking the average of all the cases, was thirteen years, the minimum being three years, and the maximum forty.

"Both the tuberculated and anæsthetic forms of leprosy occur in Sicily, the latter form being somewhat more common than the former."(a)

From Sicily we may now proceed eastward to Crete, which continues to afford many instructive and trustworthy data respecting the natural history of leprosy among a poverty-stricken population under Mohammedan rule. Dr. V. Carter visited the island in November, 1874. The Report of the College of Physicians contains some interesting matter derived from the writings of a resident physician, Dr. Brunelli, who, it is pleasing to find, communicated to Dr. Carter the results of his subsequent experience, which has served to confirm his former conclusion. "He is of opinion that, as a rule, the disease is certainly not contagious, although individual instances that it may exceptionally be so are not unknown." He is also of opinion that "the disease can be eradicated only by advancing civilisation. . . . Civilisation alone will be the efficient means of eradicating the evil, for it tends to remove those occasional causes which operate in eliciting the malady in subjects predisposed to it; and if these be removed, the predisposition will wear out, and with it all traces of the disease."

In the large leper village of Candia—with a population of about 1000 inhabitants, of whom ninety are afflicted with the malady, and who freely mix with the rest without restraint—"many intelligent lepers assured us (Dr. Carter and Dr. Ittar, a resident physician) that not one instance is known here of leprosy being propagated to a healthy person from a diseased."

From Crete we pass on northwards to Scio, one of the islands in the Ægean Archipelago, situated nearly opposite to Smyrna. Dr. Carter found here an asylum which then contained twenty-three leprous patients, but formerly used to have many more.(b) There is a chapel attached to it, and a resident priest of the Greek Church. "The crowding and mingling with the sick, however patriarchal, time-honoured, or profitable to the establishment, seems to be objectionable; but no one appears to demur to the practice." The lepers are allowed to beg in the town every Saturday.

Before proceeding to Palestine, I may remind the reader of the experience of Dr. Wortabet of recent years in Syria, quoted in my paper (No. 4) in the *Medical Times and Gazette* for January, 1876. On the authority of the Rev. Mr. Tappe, the manager of the Home for Lepers in Jerusalam, Dr. Carter states that "there is now no fear of catching the disease: and for the last seven years there has not been an instance of any communication of leprosy to a sound person connected with the establishment." And the instructive fact is added by Dr. Carter:—"Great difficulty was experienced at Jerusalem in procuring suitable attendants for the sick; the natives of the country refused to wash soiled linen and superintend the necessary baths ordered for lepers. Happily, this difficulty was removed by the spontaneous devotion of a German missionary and his wife, who have for some years conducted the Leper Home in an admirable manner, only to be looked for amongst earnest people. This example is not without its interest for India, where supervision by trustworthy agents is equally desirable as in Syria." Dr. Chaplin, the physician to the Home, stated his opinion that "the disease may undoubtedly be derived *de novo;* possibly it may be transmitted, but it is not contagious."

Since the publication of the evidence by the Civil Surgeon at Umballa, cited in my paper (No. 4) in the *Medical Times and Gazette* for January 29, 1876, I am not aware of any further trustworthy information on the subject from Bengal, until the appearance of the official report by Mr. Planck, the Sanitary Commissioner of the North-West Provinces, from which the following instructive extract will be read with interest:—

"Altogether, I think the conclusion probably well founded that at least the majority of those cases in which both husband and wife suffered were cases of intermarriages between members of leprous families, the hereditary taint existing both in husband and wife. But granting that this conclusion may not be warrantable, still the fact remains that in 855 cases of cohabitation, only eleven, or 1·3 per cent., are discoverable in which suspicion of the communication of the disease from the husband to the wife, or from the wife to the husband, arises. Gauged by this test, the probability of any contagious origin of leprosy, arising out of the ordinary intercourse of lepers with the general public, becomes infinitesimal—a view further strengthened by the fact that, in some of the 885 cases above mentioned, it is recorded that a leprous husband had married two or three wives, who cohabited with him without in any such instance any wife being affected with leprosy."

Mr. Planck cautiously adds this remark:—

"Yet, although infinitesimal, it cannot be declared non-existent, as viewed by the light thrown on this point in the histories under consideration. For, in addition to the perhaps doubtful cases recorded above, one leper at Cawnpore attributed the disease to contagion, in that he lived next door to a shopkeeper who was a leper. And, most important of all, Dr. Fitzgerald records the case of a colonel in the Indian service, who some years ago became a leper, and could account for his misfortune only by the fact that he had continued to cohabit

(a) *Jahresbericht über die gesammten Medicin.*, X. Jahrgang, Band i., Abth. 2, S. 431. Berlin, 1876.

(b) Howard, in his account of Lazaretto, page 65, says:—"The only hospital I have seen for lepers is in the island of Scio, near the city bearing that name. It contained about 120 lepers, consisting of men and women, lodged in separate apartments, in a long range of rooms elevated above the ground. The situation is airy and pleasant, and most of the lepers are accommodated with little gardens, which supply them with almonds, pot-herbs, and delicious figs and grapes. Water has lately been conducted within from the mountains in streams, one supplying those in health, and the other the lepers."

with a native woman after she had been attacked with leprosy."

The Report by Drs. Lewis and Cunningham is the first instalment of the results of the investigation recently undertaken by the Government into the whole subject of leprosy as it exists in our Indian Empire, and which promises to be of the utmost value to science and to humanity. The present Report is confined mainly to the examination of the patients in the Asylum at Almorah in Kumaun, founded by General Sir Henry Ramsay more than thirty years ago, and supported by his generosity.

"The history of the Asylum gives no support to the doctrine that leprosy is a contagious disease, but strong evidence to the contrary. The reverse has been stated with regard to the history of the Asylum, but it will be seen, from the information elicited, that not the slightest foundation existed for such a statement.

"The theory that leprosy is a contagious disease has in recent years been revived in some quarters, and a careful inquiry was therefore made for any evidence bearing on the point. The means which most naturally suggested itself for doing so was an examination of the history of all the married lepers; for were the result of this to show that the wives or husbands (as the case might be) of lepers suffer frequently from the disease, this would be some evidence in favour of contagion, except in cases in which the marriage was demonstrated to be one contracted between lepers, or in which there was a family history of leprosy for both the contracting parties. Even with these limitations, evidence of this nature, collected in a district in which leprosy is endemic, would be by no means conclusive, as the possibility of remote hereditary taint, or even of *de novo* development of the disease, would remain. In the present instance, as will be seen, we are fortunately not obliged to enter into such considerations." . . . "Of the fifty-two lepers married, eighteen had leprous wives or husbands, but as seventeen of these marriages were contracted between lepers in the Asylum, there remains only one case in which the possibility of contagion is to be considered; and certainly this isolated instance cannot be regarded as affording any trustworthy evidence, as in an endemic area the possibility of the occasional occurrence of marriages between predisposed parties must always exist. The history of the Asylum furnishes no other evidence in favour of contagion; there is no evidence of attendants or others employed about the institution, or of those in any way connected with it, having suffered from the discharge of their duties in any way."(c)

OBSERVATIONS ON SCARLET FEVER,

TOO OFTEN DANGEROUSLY CALLED "SCARLATINA."

By ARTHUR E. T. LONGHURST, M.D., etc.

Small-pox excepted, there is perhaps no single disease that the physician is called to encounter, which, from its subtleness, the intensity of the poison, and the frequently very high death-rate, causes him more anxiety, or the public greater perplexity, than scarlet fever. Here and there mild sporadic cases occur, but more frequently the affection is epidemic in this or that locality, in families, schools, barracks, board ship, or elsewhere, to the alarm and consternation of all.

"The Cyclopædia of the Practice of Medicine for 1875," vol. ii., gives a very interesting review of the disease; and though, as there stated, it is now two centuries since Sydenham succeeded in laying the foundation of our present more exact knowledge of the disease, even yet, on many points, opinions are diverse, and its very nomenclature cannot be considered universal, either by the profession or by the general public.

For some years past my attention has been directed to the disease. But without entering at length into its history, etiology, pathology, or treatment, my observations will be especially directed towards establishing greater uniformity of professional opinion on the following points:—

1. The proper nomenclature.
2. The period of the disease in which infection is most active.
3. The main channels through which it is propagated.
4. The proper preventive measures to be adopted on the appearance of the affection.
5. The time at which all danger of infection from the sufferer may be considered at an end.
6. The same as to the sick-chamber, and house, school, or other locality in which the affection first appeared.

Referring to the nomenclature of the disease, though designated "scarlet fever" in the recognised classification of diseases (its synonym being scarlatina), it is curious that, not only in the treatise alluded to, but also in many medical works, it is styled "scarlatina," and is too often so designated both by medical men and the general public. The term "scarlatina" is, I think, open to very serious objection, both in the profession and out of it, for its use frequently occasions much misunderstanding between doctor and patient, or family. Very often we hear it said, in reference to this or that case, "Oh! it is only scarlatina, and such and such precautions are not at all necessary"; whilst the neglect of them is followed by the occurrence of fresh cases, and the extension of the disease far and wide. It is, then, evident that the use of the word "scarlatina" is liable to much misapprehension, and even danger; and I feel sure that it should be discontinued. Whilst the general establishment of such belief, and its uniform observance, will be the first and a very important step towards preventing the disease from assuming an epidemic form.

Intimately associated with the nomenclature is a proper understanding and use of the words "contagion" and "infection." And I think it most desirable that here also there should be uniformity of practice; for the use of both terms occasions much confusion, particularly amongst the uneducated, who think that if not in actual contact with the sufferer they need not fear infection, and will say, though they have imprudently entered the house, or even the chamber of the sick person, "Oh! there is no fear, for I never even touched him." There can be little doubt that the word "infection" is best, as conveying the impression that the fever-poison may be absorbed from the atmosphere or surroundings of the patient without actual contact with his person; and in dealing with the general public we should always strive to impress the real meaning of the words used, and their seriousness, in order that immediately on the appearance of the disease the necessary precautions to prevent its extension may be at once enforced.

Now, as regards the exact stage in which infection is most active, uniformity of professional opinion is very necessary; but without occupying space by reference to the many views on this particular point, and to which I am anxious that the observation of the profession should be directed, I will merely say that my own observation forces me to the conviction that the early period of the disease is that in which infection is most active, and in support thereof I will enumerate the following reasons:—

1. That the early intensity of the symptoms on all parts and tissues favours belief of the special communicability of the early stage of the disease, and also that though the first case may prove fatal in a few days, or even hours, before desquamation has been reached, it is often followed by others.
2. That in instances of extension of the disease I have observed more fresh cases prior to desquamation of the first than after it.
3. That, as instanced in my own person during an epidemic a few years ago, the infection is frequently conveyed from cases not having a rash or desquamation at all.
4. That attempts at inoculation of the disease, by introducing scales of the epidermis under the skin of healthy persons, have failed.
5. There is no evidence to prove that the infection is contained in the scales of the epidermis separated during desquamation; nor do I believe, viewing them as effete dead particles of the skin, that they can be infection-carriers.

Other reasons might be adduced, but they are unnecessary. And without confining myself to the limit of this or that so-called stage of the disease, careful observation forces me to the conclusion that within an hour, possibly even less, of having imbibed the poison, a person may communicate it; and that the period in which the infection is most active is the

(c) "Among the cases reported to the College of Physicians in support of the contagious nature of the disease, there is one quoted on the authority of a native sub-assistant-surgeon, in which it is stated that two men, who acted as gatekeepers at the Almorah Asylum, were attacked with leprosy whilst so employed. ('Report on Leprosy,' London, 1867, page 141.) On referring to the Superintendent of the institution, the Rev. Mr. Budden, for information on the point, we have been informed that the sub-assistant-surgeon in question 'knew nothing about the Asylum; and the statement has no foundation whatever. Nothing of the kind has ever occurred in the Asylum since I took charge of it in 1851."

stage of inflammatory fever up to the full development of the eruption, that the intensity subsides with the subsidence of the fever, and that it is not during the desquamation stage.

Referring to the main channels through which the disease is propagated, a concurrence of professional opinion is also very desirable, and would set aside many needless and irksome restrictions in the management of a case, and tend to limit the disease. Doubtless the channels or media of communication are numerous; amongst them are the exhalations from the mucous membrane of the throat and tonsils, the bodily excretions, urine, etc., but I feel satisfied that the chief sources of infection are the breath, the vaporous exhalations from the skin during the inflammatory stage, and the clothes, which contaminate the atmosphere of the building and its locality, and thus spread the disease by direct absorption of the poison through the lungs into the blood during respiration. Instances of contamination through a morbid atmosphere alone are very numerous; and the shortest contact therewith—a few minutes, if not seconds,—is sufficient to originate the disease in an unaffected person. That, as in cholera, so in scarlet fever, the clothes worn by a patient prior to the appearance of the disease in his person possess the same activity for the spread of the infection is proved by the frequent instances of a reappearance of the disease after weeks, or even months, in persons who have accidentally come into contact with the overcoat or other article of wearing apparel or bedding which had not been thoroughly disinfected. In the same way, a person sleeping in a room long vacated, but not thoroughly disinfected and cleaned, absorbs the subtle poison from the walls during respiration, as he might do arsenic from a green paper. The conveyance of infection through a letter by post is, I think, very doubtful, and I incline to the belief that in the instances so recorded, the postman rather than the letter, has been the means of communication.

If, then, we accept the proposals that the period of greatest activity of the infection is the inflammatory stage, and that the vaporous exhalations of the skin and breath and the clothes themselves are the main channels through which the disease is communicated, we shall be in a better position to consider the preventive and other measures which should be adopted on the first appearance of the disease, during its progress, and on the recovery or death of the sufferer.

Accepting the fact that the disease cannot be cut short, and that it naturally tends to recovery, what are the effective prophylactic measures to be at once put into operation on being called to a case of scarlet fever with a view to prevent its extension? Undoubtedly our first objects must be to trace if possible the source of the infection, to establish as far as practicable a temporary quarantine about the building and locality until certain sanitary measures have been enforced, to isolate the sufferer, and completely to disinfect or to destroy at once all articles of clothing recently worn or in use by the patient; avoiding at the same time all needless expense and perplexity in the family or community attacked.

For isolation, the first point will be, wherever practicable, to set apart two rooms (at the top of the house, if possible), one for the patient, the other for the nurses or those in immediate attendance on the sick; to empty both rooms of all needless furniture, curtains, carpets, etc.; then put the bedstead of the patient in the middle of the room, hang up an old blanket or sheet (wet with a solution of carbolic acid and water, strength two ounces to one gallon, with which the sheet should be kept sprinkled) in the doorway of the room, and perhaps before that of the attendant's also, during the inflammatory stage of the disease. Select, if possible, some person who has already had the fever to take up all articles of food or nursing required, to put them on a table outside the sick-room, and to bring away all articles requiring removal. To open at once all doors and windows of the house or dwelling, that, by a thorough ventilation for an hour or so, all infection may as far as possible be removed; and then, having shut them, further to disinfect the house by burning off some sulphur on an open tin or dish, by placing chloride of lime in open plates or dishes about the halls or passages, and then adding a little water to liberate the chlorine, or by sprinkling a solution of carbolic acid and water (half an ounce to a pint) about the floors, the doors and windows being again thrown open. The constant ventilation of the sick-chamber must be insured by an inch or so of the top sash of the window being frequently, if not constantly, open both by day and night, according to the state of the weather, with a fire in the grate, if necessary, to regulate the temperature at about 60°, or higher if the sufferer complains of chilliness, or if there be any lung complication. A basin of carbolic acid and water (strength as above) should be in the room, into which the pocket-handkerchiefs, or, better still, the old rags used by the patient should be instantly plunged; and a tub containing a like solution should be outside the bedroom door for the reception of all soiled articles of clothing or bedding. The spitting-cups, chambers, or other vessels used by the patient should also contain some of the disinfecting liquid, and their contents should be instantly removed. The attendants should wash their hands frequently in water containing a little carbolic acid; their clothes should be of some washing material, and be frequently changed. The glass, china, etc., in use by the patient and attendants should, if possible, be kept upstairs ready for use, and in order to lessen so far as possible the communication with other inmates of the house. The clothes, bedding, etc., having been subjected to the precautions named, to be marked "infected," and sent in separate bundles to be washed. And though some have doubted the efficacy of vaporous fumigation of the sick-chamber to such an extent as would leave the air still respirable, experience satisfies me of its utility, and I am sure that it should be done at intervals during the disease.

In the event of fatal cases, it is hardly necessary to add that the burial should take place as early as possible, and that all needless display at the funeral should be avoided; the bedding, etc., should be burned, and the thorough disinfection and cleansing of the sick-room must be carried out as will be detailed below. By an efficient carrying out of the measures above advocated we may, I feel sure, very often prevent an extension of the disease, and save needless expense and perplexity, in families, schools, and other communities. And I may here state that the practice of breaking up families and schools on the appearance of the disease has always appeared to me very questionable, both as regards the trouble and expense which such a measure involves, and on account of the fresh probability that the disease is thereby very seriously extended.

With regard to the medicinal treatment, there is no specific which will cut short the affection, and, as stated, I shall not enter at length into that question or occupy space in support of this or that remedy. Doubtless the treatment best calculated to lead to favourable results will be that which has regard to local conditions and peculiarities, climate, season of the year, the special features, if any, of the outbreak itself, the age, temperament, habits, and constitutional peculiarity of those attacked. Should there be any doubt as to the nature of the affection at first, the thermometer, or a hot bath, temperature 100° to 104°, will decide the question.

We have now to consider the time or stage of the disease when all danger of infection from the person of the sufferer may safely be considered at an end. The present conflicting views or opinions of the profession as to the stage in which infection is most active, will not, I fear, allow of a positive decision on this point. For myself, believing that the intensity of the infecting power of the disease is comprised within the time before specified, and disbelieving in the supposed infective power of the separated and effete cuticle, I think that our decision must be determined by other conditions than those which attend desquamation. My impression is that we cannot fix any exact date, but I incline to the belief that, when the pulse and temperature have resumed their healthy standard and the symptoms of general health are re-established, allowing the sufferer to be up and about, we may consider all danger of infection from his person has passed, even though the process of desquamation may not be entirely completed. Allowing, then, a fulfilment of the above conditions, that the sufferer had taken a bath in another room, and then had dressed himself in a completely new set of clothing, I think that he might safely mix with his family. I feel, however, that further evidence on this point is desirable, and I am anxious that the observation of the profession be directed to it.

With regard to the time at which the sick-chamber, house, schoolroom, or other dwelling, may be considered safe for re-occupation, we cannot fix any exact period, for all will depend on the efficiency of the protective measures adopted. So soon as the chamber is vacated the floor should be sprinkled with disinfectants, Condy's fluid or permanganate of potass liquor, and then, the doors, windows, and fire-grates being closed, it should be subjected for twelve hours to a most complete vaporous fumigation by some of the substances named. The bedding should be destroyed; but if for pecuniary or other reasons this is not thought desirable, it may be exposed to a

very high temperature in an oven, or should be spread about the room, and after twelve hours' fumigation the mattresses should be opened, and the contents, together with the blankets, etc., be soaked for two or three days in a solution of Condy's fluid and water (two ounces to one gallon), then washed in cold water, and allowed to dry in the open air. The complete vaporous disinfection of the room will diminish very much the liability of infection for those who are to be employed in carrying out the necessary cleaning and repairs. After thorough disinfection the room should be left open day and night for forty-eight hours, a fire being kept up in the daytime; then the walls should be rubbed over with a damp cloth, the paint and floors scrubbed, left to dry, and then the room may be safely given over for whitewashing and other repairs of re-papering, painting, etc. So soon as these precautions have been effectively carried out, the room may safely be re-occupied, without reference to the time which may have elapsed since the patient left it. The house itself will, of course, in the meanwhile have participated in the thorough ventilation and general precautionary measures, particularly with regard to all clothing or woollen material that could possibly have become infected prior to the disease having shown itself.

The preventive measures advocated against a spread of the disease in a house or given family will apply equally to a school or other similar institution, and by attention to them, if my views as to the infecting period of the disease be at all correct, I think many needless restrictions as to family and patient may be set aside. It may not be thought necessary on the appearance of the disease to break up at once a home or a school, and the members of a family need not be entirely shut up from their friends and the outside world, but be allowed to meet them in open-air exercise and occupations. Such freedom cannot, however, be safely enjoyed without the strictest observance of the sanitary measures detailed; and should the disease, notwithstanding such precautions, become epidemic, then schools, etc., must be broken up, and a more rigid quarantine insisted on.

Wilton-street, S.W.

Slow Pulse.—M. Rendu brought a labouring man, aged thirty-eight, before the Lyons Medical Society, as exhibiting a remarkably slow pulse—viz., 41 to 42 per minute, no difference being, however, notable whether he was in the erect, recumbent, or sitting posture. The man, who was robust and in perfect health, had applied for some trifling ailment. Not only is the case interesting on account of the slow pulse, but because it proves an exception to the rule laid down by Graves, that whenever there is no appreciable difference in the pulse in the different positions of the body, there is always hypertrophy of the heart accompanied by dilatation. Graves only met with six cases in which the difference was not observable, and in all these this lesion was present. However, in the present case there is no sign whatever of disease of the heart.—*Lyon Méd.*, July 1.

Composition and Quality of the Metropolitan Waters in June.—The following are the returns (by Dr. Meymott Tidy) of the Society of Medical Officers of Health:—

Names of Water Companies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, etc.	Nitrogen: As Nitrates, etc.	Ammonia.		Hardness. (Clarke's Scale).	
				Saline.	Organic.	Before Boiling.	After Boiling.
Thames Water Companies.	Grs.	Grs.	Grs.	Grs.	Grs.	Degs.	Degs.
Grand Junction .	18·40	0·050	0·129	0·001	0·008	11·0	4·2
West Middlesex .	17·70	0·054	0·129	0·000	0·007	12·6	3·3
Southwark and Vauxhall . .	18·90	0·064	0·108	0·001	0·009	12·6	3·0
Chelsea . .	18·80	0·076	0·090	0·002	0·009	13·2	3·3
Lambeth . .	19·90	0·074	0·150	0·000	0·008	13·2	3·7
Other Companies.							
Kent . . .	28·70	0·003	0·450	0·000	0·002	19·4	7·0
New River . .	18·20	0·033	0·150	0·000	0·006	12·6	3·3
East London .	17·80	0·047	0·090	0·000	0·007	12·0	3·0

Note.—The amount of oxygen required to oxidise the organic matter, nitrites, etc., is determined by a standard solution of permanganate of potash acting for three hours; and in the case of the metropolitan waters the quantity of organic matter is about eight times the amount of oxygen required by it.

The water was found to be clear and nearly colourless in all cases but the following, when it was slightly turbid—namely, in that of the Grand Junction, Southwark and Vauxhall, and the Lambeth Companies.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

LEEDS GENERAL INFIRMARY.

CASES OF PARALYSIS TREATED BY ELECTRICITY.

(Under the care of Dr. HEATON.)

[Reported by Dr. E. H. Jacob, Resident Physician.]

Case 1.—Hemiplegia—Rapid Recovery under Faradism.

P. S., aged fifty-two, was admitted into the Infirmary on March 13, 1877, under the care of Dr. Heaton. He was of intemperate habits, but had never been laid up before, except once—viz., with abscess in the axilla. Four days before admission, one evening, while taking food, he was seized with pain in his left foot, extending up the leg. He then found himself unable to move it, and in a few minutes his arm also became affected. There was no paralysis of face or loss of speech, and he did not lose consciousness.

On Admission.—There is complete loss of power over the left leg, and partial paralysis of the arm; none of the face. Sensibility intact. The patient seems rather dull, and talks a good deal at night. Heart-sounds are loud; no murmur. Arteries rather hard, but the radial pulse small; lungs healthy; appetite good; bowels regular; urine 1020, no albumen.

March 19.—Feels pretty well. Cannot move leg at all, but can hold pretty well with the hand.

April 12.—The patient has now been in hospital a month, taking a grain of quinine three times a day. His arm has gained considerable power, but he can barely move his leg. Faradism ordered to be applied daily.

17th.—He can move his leg much better, and bear some little weight upon it.

19th.—He can walk with the help of a stick.

20th.—The patient can now walk without a stick, but drags his leg somewhat. Discharged; to attend to be faradised three times a week.

Case 2.—Multiple Paralysis.—Treatment by Iodide of Potassium and the Constant Current.

J. T., aged thirty-four, a collier, was admitted on January 16, 1877, under the care of Dr. Heaton. His family history was good. He was a moderate drinker, had worked hard and in very damp places for the last six years, being generally in a stooping position. He had had gonorrhœa, but no chancre or other signs of syphilis. In May, 1876, while at his work, he had a sudden attack of vertigo. This continued, but was not severe until the end of a week, when it suddenly became worse in the middle of the night. The giddiness continued, and in about two months the right side of his face became paralysed. This lasted a week, and then suddenly disappeared. He still went on working, although suffering slightly from vertigo, till the latter part of December, when he began to suffer from diplopia, and the vertigo increased. He then gave up work. He observed then some numbness in the third, fourth, and fifth fingers of his right hand, and in the front of his left foot and leg. He was also rather deaf in the right ear. He never had any pain in his head.

State on Admission.—He is a tall thin man; feels very weak, and fell down this morning on getting out of bed; face anæmic. There is slight ptosis of the left eye and external strabismus; the left pupil is rather larger and less sensible to light. He can fix either eye and see well with it, but sees multiple images with both together. Tongue is protruded slightly to the left. He has constant vertigo while walking, but none if he lies still. There is slight cloudiness of the edges of the optic disc on the right. The right hand is much weaker than the left, and the extensor muscles especially are wasted. There is wasting also of the extensors and peronei on the left leg, which feels cold and numb. He hears a watch at one inch on left side, close to ear on right. Tuning-fork is heard on the left side of forehead, not on the right; with ears closed it is heard with both, more with the left. Tested with the dynamometer, he can grasp twenty-seven pounds with his right hand, thirty-eight with his left. He has to strain to pass urine, and his bowels are confined. Appetite good; tongue clean; urine 1015, no albumen. He was ordered pot. iod. gr. v., liq. strychniæ ℥ iv., ter die.

January 23.—Dose of iodide of potassium raised to ten grains.

24th.—Ptosis of left eye increased.

30th.—Ptosis of left eye complete. Patient says his right hand is getting stronger and warmer.

February 5.—He still complains of vertigo, and coldness of left leg. Constant current applied from sacrum to foot.

9th.—Left leg warmer and stronger (under constant current). Ptosis continues, and the movements of the left eye are sluggish. There is tenderness over the right ulnar nerve as it passes the condyle of the humerus, and numbness along its course and distribution. This was much relieved by application of galvanism.

March 2.—The extensors of right arm and left leg answer to twenty cells of battery, slowly interrupted, but not to faradism. The muscles were separately worked every day with a slowly interrupted galvanic current. The limbs always feel warmer after the galvanism. Iodide of potassium increased to twenty grains thrice daily; and on February 13 to thirty grains thrice daily.

3rd.—Extensor muscles act more strongly to galvanism, and faradism now produces slight contraction. The arm and leg were now treated daily with both faradic and interrupted galvanic current. Galvanism was also applied daily to the left eye.

15th.—He passed nearly two pints of dark blood from rectum. The ptosis is much improved.

16th.—Medicine omitted on account of sickness, and some stomachic mixture ordered.

18th.—Has had much difficulty in passing water since leaving off the medicine. He was ordered liq. strychniæ ℳv. ter die. Galvanism continued.

April 4.—He now walks pretty well. The extensors of the left leg and right hand are rather weak, but answer to faradism. The ptosis has entirely disappeared, but there is still some external strabismus. He feels in good health. The diplopia was corrected by prismatic spectacles.

Discharged on April 7.

Case 3.—Spinal Meningitis—Treatment by Constant Current.

D. M., aged fifty-seven, a labourer, was admitted on February 6, 1877, under the care of Dr. Heaton. For the last twelve months he has suffered severe pain in his legs, with great loss of power. His legs used to give way under him as he walked, and he suffered much from pain in the head, and general tremor of limbs. The patient was fairly nourished, of fresh complexion, and intemperate habits.

State on Admission.—He can stand for a few minutes, and walks with difficulty, dragging his legs. His feet feel very numb, and he can barely stand with closed eyes. There is occasionally slight tremor of the hands in repose, but on the slightest movement of his limbs or body he is seized with violent sharp pain in his limbs and general tremors. He has pain of the same character at uncertain intervals, even without moving. His legs are not wasted; sensibility in them not materially affected, though he says they frequently feel cold and numb. He can flex and extend them with difficulty. Reflex motion normal. The tongue is protruded straight, but not very far. The left pupil is rather larger than the right. There is occasional slight difficulty in swallowing. Speech is rather thick, and has been so since June last. He speaks slowly; occasionally sees double. He hears a watch against ears equally on both sides; hears tuning-fork best on his right temple. He sleeps badly. Appetite fair; bowels constipated. Urine, specific gravity 1010; no albumen; he has some difficulty of micturition. Slight cough with scanty mucous expectoration. Heart healthy.

He was kept in bed with no medical treatment till February 12, when galvanism was ordered—a continuous current of fifteen Muirhead cells from the nape of neck to the feet being applied; the current was strong enough to cause a tingling, but no pain. The positive pole with a large flat sponge was applied to the neck; the feet placed in salt and water connected with the negative pole. The current was allowed to run for about ten minutes.

February 15.—Has been galvanised for three days. He expresses himself as much more comfortable, the pains being lighter in severity and less frequent.

21st.—He still has occasional pains, especially pain of an aching character from the right leg up to the right side of the head, which becomes sharp if he moves. The trembling is very rare now. He has occasional vertigo, but much less than before. His legs feel stronger. The galvanism was continued, the period of application being somewhat longer.

March 10.—Improving. Had one sharp pain in the last twenty-four hours.

27th.—He can now walk a considerable distance. Very rarely has any pain, and only occasionally slight vertigo. Discharged March 28.

Remarks by Dr. Jacob.—The above cases illustrate the principal uses of the various kinds of electric current at the disposal of the therapeutist. In the first case, muscles healthy in themselves, but paralysed by a central lesion, were roused into increased activity by a faradic current. In the second the lesions appeared peripheral, the muscles gave the "reaction of degeneration," and answered only to the slowly interrupted battery current, though after this had been employed for some time faradic irritability returned. In the third case the constant battery current was used to relieve a subacute inflammatory attack in the central nervous organs. In this case, no doubt, rest in bed was of some service in the treatment, but during the week subsequent to admission, when no treatment but a placebo was adopted, there appeared to be no material improvement.

MIDDLESEX HOSPITAL.

HÆMATOCELE—TUNICA VAGINALIS LAID OPEN, AND BLOOD-CLOTS TURNED OUT—RECOVERY.

(Under the care of Mr. LAWSON.)

George F., aged sixty-two, was admitted into Forbes ward February 8, 1877, under Mr. Lawson, suffering from great distension and discoloration of the left side of the scrotum.

He stated that seven weeks previously he had accidentally squeezed his testicles between his thighs. This produced great pain, and was followed immediately by swelling and discoloration of the skin. On the following day the swelling had increased, and the scrotum and penis had a dark, bruised appearance.

On his admission, a tumour the size of a large cocoanut occupied the left side of the scrotum; it was very tense, with a distinct sense of fluctuation. The skin was very dark coloured. It was clearly a case of hæmatocele. There was no pain in the tumour, and it only occasioned inconvenience from its size and weight. A lotion of ammon. hydrochlorat. ʒij., sp. vini. rectificat. ʒiv., aquæ ℥xij., was ordered to be constantly applied.

Under this treatment the size of the tumour and its tension diminished. But as after the first fortnight no further progress towards recovery took place, Mr. Lawson decided to open the tunica vaginalis and turn out the blood-clots, and secure any bleeding vessels he might find.

On February 28, the patient having been put under ether, Mr. Lawson made a long incision through the scrotum, which completely laid open the tunica vaginalis. A large quantity of blood-clot and fluid blood was removed, and all bleeding vessels tied. A fold of lint soaked in carbolised oil was placed in the wound and covered with wet dressing.

From this time the patient progressed very favourably; the wound granulated from the bottom, and in a month's time he left the hospital quite well.

A Shameless Hoaxer.—Some of our contemporaries have announced the receipt by some of the metropolitan hospitals of very handsome donations from a Major Moriarty; and it is true that a cheque for £500 on the Provincial Bank of Ireland (Parsonstown Branch), and signed Denis Moriarty, was sent, with a letter from "Major Moriarty," to the Great Northern Hospital; and one for £1000, similarly signed, to the University College Hospital. Two or three other medical charities also participated to a smaller degree in "Major Moriarty's" benevolence, so far as the receipt of cheques goes. But we regret to add that the cheques sent to the Great Northern and the University College Hospitals were returned from Ireland endorsed, "No account at Parsonstown Branch"; and the letters of acknowledgment from the secretaries of the hospitals to Major Moriarty came again to them through the Dead-Letter Office. We fear the other charities honoured by the Major's approbation have also found his cheques equally worthless.

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The Medical Times and Gazette *is published on Friday morning, Advertisements must therefore be sent to the Publishing Office not later than One o'clock on Thursday.*

Medical Times and Gazette.

SATURDAY, JULY 14, 1877.

THE FUTURE OF SANITARY SCIENCE.

At the commencement of the able address which Dr. Richardson delivered, on the 5th inst., to the members of the "Sanitary Institute of Great Britain," he lamented that the occasion did not seem a fitting one for the production of "one of those essays which appeal to the imagination, while they prepare the mind for the reception of sanitary principles and practice." We venture to think that his labour and time were more usefully employed in dwelling, as he did, on the directions in which the Institute should work, the aids they may have to call on, and the powers they may have to consult and to propitiate. Dr. Richardson has on former occasions indulged his fertile powers of imagination in picturing for us a "City of Health," and in constructing ideally perfect dwelling-houses; but if the Sanitary Institute is to be of use, its members must have more immediately practicable objects set before them. The "whole natural scope" of the Institute is, Dr. Richardson says, "to sow the seed of sanitation; to think out plans of projects for working methods; to lend its many minds, as if they made up the minds of one man, for devising from the past the best for the present; and respectfully to declare their conclusions." This is surely work enough; and the best help, perhaps, that could have been given to its members on the present occasion was to point out "the lines on which they would have to move—viz., the political, the medical, and the social,"—and to indicate "certain points in which they are most likely to come in contact with these powers, and the changes they may expect to work in and through them."

Dr. Richardson declared that our legislators have, by a long precedence, taken the lead in sanitary affairs over those of other nations; and that by comparison with all other nations in the world we have obtained legislative measures which are splendidly comprehensive. He considers that no other country in the world can present an approach to the Public Health Act of 1875. "Its constitution of sanitary authorities throughout the kingdom; the power it vests in those authorities to appoint learned medical officers of health; the provisions it makes for securing to each locality better sewerage, freedom from nuisances, improved water-supply, regulation of cellar dwellings, governance over offensive trades, and removal of unsound foods; the provisions for prevention of spread of infection, and for the erection of hospitals and mortuaries; and the provisions for the regulation of streets and highways, lighting of streets, establishment of pleasure-grounds, and regulation of slaughter-houses; these, as well as the general provisions for the carrying out of the Act, are most commendable as practical plans, by the working of which the nation may be tempered into sanitary mould of thought and character." Dr. Richardson did not point out the very imperfect and blundering manner in which the Act has so far been administered; but he may be said, perhaps, to have implied this, when he observed that much of it is, "by the necessities of the constitution of our country," of a permissive nature; and that sanitary science is still far in advance of sanitary legislation; and when he urged the necessity for a State Department of Health, presided over by a Health Minister. To this we must undoubtedly come sooner or later, and the Health Department must be freed entirely from the administration of the Poor-law, and many other matters which, as well as that of sanitation, are at present administered by the Local Government Board. And Dr. Richardson was in the right, we think, in asserting that Vaccination Acts and all measures concerning the national health would be much more effectively and easily administered by a Health Department than by a Local Government Board, or by any central authority, the title of which fails to convey the meaning of its functions. The people would probably then much more fully and generally recognise such Acts as general health measures, and be by so much the less inclined to look on any of them as legal tyrannies and restraints, or as productions of party politics. And had we a State Department exclusively devoted to the health of the people, "men, whose lives have been devoted to the study of life and health, would be prepared," he said, and we may hope, "by their devotion for the accepted service of their country in public form, and the Houses of Parliament would become, at last, congenial spheres for their labours. The Houses would be strengthened by such adhesions; the men would be more honoured and useful."

To insist upon, and work for the establishment of, a State department exclusively devoted to the health of the people, should be one of the first, if not the first, of the objects of the new Institute. Another great and crying need of the day, Dr. Richardson pointed out, is a digest of all our practical sanitary laws, so prepared that every person of intelligence can read and understand what may be legally enforced for the maintenance of health. And even of greater importance than this is the "systematic enumeration, week by week, of the diseases of the kingdom through the length and breadth of the kingdom." We have no need to enlarge to our readers on the value of this. If the Sanitary Institute will constantly persist in demanding from the Government the systematic registration of disease, and devote itself to the consideration of "the best means of collecting the facts on which the weekly reports of disease will have to be based," it may, in that direction alone even, do a work that will more than justify its existence. Then Dr. Richardson dwelt forcibly on the need that the politician should come forward, more determinedly than he has yet done, in order to secure for those he governs three great requisites—pure water, pure food, pure air. He, in common with large and increasingly great numbers, holds that it is hopeless to trust to companies in a matter of such vital moment as the supply of water, and equally hopeless to trust to the undirected action of local authorities. Government must do one of two things in this political part

of sanitation—"It must either produce a process or processes for pure water supply, and insist on every local authority carrying out the proper method; or it must—and this would be far better—take the whole matter in its own hands, so that under its supreme direction every living centre should, without fail, receive the first necessity of healthy life in the condition fitted for the necessities of all who live." Dr. Richardson insisted, at some length, on the want of legislation for supplying pure air, and on the vital necessity of this; and he insisted also on the need of political aid in "quenching the drunkenness of our land." It may almost be said that at present he is nothing if not teetotal; but we, in common with the medical profession at large, are so fully and deeply conscious of the frightful evils caused by intemperance, that we do not care, now at any rate, to criticise his insistance on "abstaining temperance," but will only say that we quite agree with him in regarding the battle against intemperance as a great sanitary question. We do not believe that legislation can directly make people temperate, but indirectly, by providing pure water, pure food, pure air, and healthy homes, legislation can bring invaluable help to the cause of national temperance.

Passing on from the political to the medical aspect of his subject, Dr. Richardson gave great praise to the medical profession for the part they have taken in urging—as may be thought, against their own interests—that prevention must take the place of cure. Of the great future of preventive medicine he spoke at considerable length, and with much enthusiasm, and concluded this part of his subject with a few words deprecating the fear of over-population. "It is felt by some," he observed, "that the medical sanitarian of the future will have his best efforts thwarted by the forcible excess of life beyond the means that can be found for the support of life, as if life were a mere secondary principle in the universal order. I see no such cause for fear. That in the progress of life on the earth the day will ever come when the earth will not supply food for its people, is, to my mind, pessimism carried to an insane vulgarity. It is clear that man can always reduce to his wants the lives of all animals except man. The question rests therefore on the abnormal increase of man alone. Nature knows that, and rules accordingly. . . . I think it my duty to deal plainly with a question which affects so closely the future of sanitation, and to express, from an experience which is confirmed, as I know, by some of the highest ornaments of my learned profession, that nothing is wanted to correct the danger of over-population but improvement of mental process; nearer communion with the Eternal Mind in His works; purer artistic education, healthier homes, more rational amusements, and the ennobling influence of a holier life amongst those who assume to be the cynosures of the nation." Then treating, finally, of the future of sanitary science in relation to social life generally, Dr. Richardson dwelt on the importance of teaching sanitary science "so as to carry the sympathies of the learner and his more refined tastes along with his reason, so as to attract and charm his senses as well as his intellect." He declared his desire strongly to enforce that "it is the section of the nation which Dr. Farr classes as the domestic, the six million of women of the nation, on whom full sanitary light requires first to fall." Health in the home, he said, is health everywhere. Elsewhere it has no abiding-place; and the woman is the presiding genius of the home. "The men of the house come and go; know little of the ins-and-outs of anything domestic; are guided by what they are told, and are practically of no assistance whatever. The women are conversant with every nook of the dwelling, from basement to roof, and on their knowledge, wisdom, patience, and skill, the physician rests his hopes. How important, then, how vital that they shall learn as a part of the earliest duties, the choicest sanitary code." And the address closed with an eloquent expression of the surpassing value of the help sanitarians will obtain if they can win the matchless generosity of women, and "their overpowering love for every device tending to promote the happiness of all things of life," to the cause of sanitary science.

THE NEW ARMY MEDICAL ORGANISATION.

Few but those behind the scenes would believe that until a month or two ago a great country like our own had no regular organisation for the management of the sick and wounded in war. Certain old traditions, it is true, existed, but even the experience of a campaign like that of the Crimea, which exposed our shortcomings in this respect, had failed to impress upon the authorities the necessity for instituting and publishing an improved system for the treatment of the wounded soldier. The Franco-Prussian War of 1870, with its terrible list of casualties, first called attention to our own want of organisation, and in 1872 a committee was appointed to report upon a system of Field Hospital Equipment. The present complications abroad, however, may be considered responsible for the definite and complete arrangements which have been formulated. In the new organisation the first help is intended to be given to the wounded soldier by the surgeon attached to his regiment, who will be accompanied in the field by an orderly, carrying slung over his shoulder a Medical Field Companion, which contains all that is necessary for the first dressing of wounds. The surgeon with a regiment, however, is not to remain behind, but to keep moving on with his corps, and each company is to have a stretcher carried on its company cart, two men per company being trained and told off as stretcher-bearers; when the battalion comes into action these bearers will leave their rifles and knapsacks in the cart, take out the stretcher, and pass at once under the orders of the surgeon. The second step in the assistance of the wounded is the establishment of "bearer companies," which are a combination of the old ambulance and sanitary detachments. For an army corps there will be four "bearer companies," each containing within itself the means of giving first help on the field, of removing the wounded from the field, of establishing dressing stations, and of transporting the wounded to the field hospitals, which will be established in the rear. Each bearer company, including its officers in charge of the bearers, its transport officers and men, is to be placed under the direct command of the senior medical officer. A bearer company will consist of eight surgeons (one of whom is to be in charge of the whole); a captain and two lieutenants of orderlies, a sergeant-major, ten sergeants, ten corporals, 110 privates as bearers and eleven privates as *bâtmen* (servants and grooms) for the officers; a transport officer, with eight non-commissioned officers and artificers, a *bâtman*, and forty-seven drivers. There will be fifteen riding-horses, and ninety-four draught-horses. The carriages (which are all two-horsed) are divided into a first and second line. In the first line are two surgery-waggons containing two operating-tents, and the equipment for the establishment of two dressing-stations, each waggon being complete in itself for setting up a dressing-station. Two other waggons carry blankets, kettles, cooking-pots, etc.; there are two water-carts, one cart with the current day's rations, and ten ambulance-waggons for the carriage of wounded men, each carrying several spare stretchers. In this first line of seventeen carriages is everything necessary for the establishment of two dressing-stations, and it is capable of division into two sections, each complete in itself. The second line consists of two general service waggons, carrying the tents and blankets of officers and men, and twenty-three ambulance-waggons for the carriage of the wounded. One bearer company is to be attached to each of the three divisions of an

army corps—half a bearer company to the cavalry brigade, and half to the corps of artillery. The bearer column with its first line of carriages is to march in the rear of the division; in action, the surgeon-major in charge selects the best positions, establishes dressing-stations, pitches the operating-tents, and sends forward bearers with stretchers to bring in the wounded.

The next arrangement is the field hospitals, and these are in the proportion of twenty-five per corps, each field hospital being arranged for 200 men. But only twelve of them are with the corps, the remainder being at the base of operations, or distributed along the line of communications. The detail of the *personnel* of a field hospital has not been changed; but the new field hospital—divisible into two half-hospitals, each complete in itself—is far more complete than of old. In the old one there was absolutely no provision made for carriage of tents, blankets, officers' baggage, or water. In the present plan there are two water-carts, and four waggons for tents, baggage, etc.; besides four hospital waggons carrying ward equipments and cooking utensils, and two pharmacy waggons of a pattern recently approved, containing medicines, splints, and every convenience for dispensing; and these latter are perhaps the most complete that can be found in any service in the world. The control of the twelve field hospitals with an army corps will be delegated to the principal medical officer of the corps, while the other thirteen will be under the officer in charge of the communications of the corps, who will have a medical officer of rank upon his staff to supervise their conduct, while another medical officer of high rank will superintend the despatch of stores, and the removal of wounded at the base of operations itself. Under the old arrangements it was contemplated that a single army corps would require 418 carriages for the medical department alone, of which 268 were to be ambulance-waggons. Under the new organisation the total number of carriages is reduced to 313, including all the additional carriages given to field hospitals; and of these 313 it is contemplated that 140 may be raised from local transports. The number of ambulance-waggons, including those to be locally obtained when required, is reduced from 268 to 132. The number to be provided from home, and to be permanently present with an army corps, is reduced from 268 to 40.

The space at our command is not sufficient to admit of our giving several of the minor details of the new organisation, but from the foregoing sketch it will be seen that for the first time in the history of this country the authorities have carefully considered and laid down a plain for the treatment of the wounded; and in the unfortunate event of active operations, we may fairly hope to escape the confusion in our medical arrangements which has characterised some of our former campaigns. Further, we believe that the new scheme does not exist only on paper, but that all the different departments are really at work, busily completing all the medical arrangements for at least one army corps of 30,000 men.

THE MADRAS FAMINE.

We are glad to be able to report that the Madras Government have put an end to Sir Richard Temple's policy of reducing the wages of famine labourers to a bare subsistence allowance, or an allowance which, as we have shown, was, on Dr. Cornish's authority, practically a starvation allowance. Our contemporary, the *Madras Weekly Mail*, of May 26, also says that "the Madras Government have received from the Secretary of State a telegram authorising them to depart from the Temple wage of 1 lb. of grain, *plus* 6 pies, and to pay adult male labourers 2 annas per head, and women and children in proportion." It was, indeed, high time to acknowledge that the "experiment" must be given up. The *Times'* correspondent in Southern India, from whose letters on this subject we have quoted before, says, in writing under date of May 26—"The reports from famine relief officers in all parts of the country during the last few weeks have been so unanimous in regard to the rapid deterioration of health and physique of the labourers on relief works, that the Madras Government have accepted the overwhelming evidence against the reduced wages, and have ordered that no more experiments 'on the limits of human endurance' shall be made—at least, in connexion with famine relief. Sir Richard Temple has always denied that there was any connexion between his reduced wages and the number of starving and starved people flocking into the feeding houses, but the famine official, only last week, in taking the statistics of one of those camps in which the people are gratuitously fed, found that upwards of 50 per cent. of the adults had been employed for various periods on relief works until their strength failed and they were driven to apply for food without work. This process, in fact, has been going on all over the country, and the gratuitous relief now includes nearly 400,000 persons, and before another month is over we shall, probably, have half a million on our hands who are so reduced as to be wholly unable to earn a livelihood." He draws attention to the very grave difficulties that the Madras Government will have to encounter in dealing with those "who have been so weakened by long-continued privation as to be unable to maintain themselves," and gives a terrible account of the state of things in some of the relief camps which he had himself visited. In the town of Madras also, he says, the mortality bills, "calculated on the population returns of the last census, showed something like 150 deaths per 1000 for the month of March, and for April and May there has been a slight decrease, but the rate is still over 130 per 1000. As I have said before, the population is abnormally large, owing to the influx of emigrants, so that these proportions are not so high as the figures would indicate, but there can be no doubt that the mortality is most distressingly high among the poorer residents, and especially so among the starved emigrants from other districts. Every hospital in the town and every relief camp is full to overflowing of sickly and diseased creatures who have been laid low by sheer want of the necessaries of life; and while this steady set of sickly and diseased objects towards Madras continues, your Registrar-General must not be surprised to find the mortality of Madras topping that of all other 'foreign cities' included in his weekly bills of health." But, he adds, the European troops, the prisoners in goal, and the European and native public who can afford to live in comfort, are not unhealthy. Nor is there any undue sickness and mortality among these classes in other localities where famine prevails. The *Times'* telegram from Calcutta, dated July 8, states that Dr. Cunningham, the Assistant Sanitary Commissioner, who was deputed to investigate the peculiar forms of disease among the famine-stricken people, says that "he was unable to discover any form of fever that could in any way be ascribed to the influence of want. In spite of the high degree of mortality among people in the relief camps, he found that fevers of any kind practically did not exist, death being almost entirely due to diarrhœa and dysentery. On the other hand, the general results of his researches confirm the belief that morbid conditions exist which may with propriety be termed famine diarrhœa, and famine dysentery." And he describes pathological changes which account "for the failure of curative measures in these diseases, as no diet can avail when the means are destroyed by which alone it can be appropriated to the necessities of the body." These are precisely the pathological changes and the diseases which we spoke of in our notice of Sir Richard Temple's "experiments" on May 19, as the results of a starvation allowance of food; and we pointed out that Dr. Cornish, in his second memorandum, dated April 6, had warned the authorities that

these diseases would appear, and that he showed they had been already described by medical officers as then causing the mortality in the relief camps; but the Supreme Government in India then refused to believe it. Our contemporary the *Times* says, "The evils of a famine are great, but the more permanent evils of an artifically induced pauperism may, to the eye of a statesman, be even greater and even more necessary to be guarded against. The question, after all, is one of fact." These are mere truisms which no one wishes to dispute, but we must regret that the facts were not recognised sooner. The *Times* asserts that "Sir Richard Temple's theory is the correct one," but it admits, happily, at last, that "there seems reason to suppose that it has been a little too austerely worked," and that "it may be well that the sternness of the Central Government has been somewhat tempered for the unfortunate Madras natives." Much credit is due to the Duke of Buckingham's Government for having at last insisted on such a tempering of the sternness of the Supreme Government; but we trust that no such sternness, no such "experiments," will ever again be allowed for even a much shorter period.

We are happy to add that rains have already fallen in some districts of the Madras Presidency, and that there is some reason to hope that the suffering will be rapidly reduced.

THE UNIVERSITY OF LONDON AND THE ADMISSION OF WOMEN TO DEGREES IN MEDICINE.

A SLIGHT change has taken place in the position of affairs at the University of London. The Senate at its last meeting accepted the report of its committee on the admission of women to degrees in medicine, which suggests, as we have before pointed out, some important modifications in the regulations as they are to apply to women. In the meantime the right of the Senate to act as they have done is being actively canvassed. At the suggestion of Mr. Goldsmid, the legal bearing of the question is being referred to the Law Officers of the Crown, and until their decision is given the matter is at a standstill. The Senate are, however, pressing for an early opinion, in order, it is pretty generally understood, that they may push on to a hasty conclusion this matter, which seems to us to have been hurriedly and unadvisedly taken in hand. There is from their point of view all the more reason for this, as the moral bearings of their recent action are to be brought before an extraordinary meeting of Convocation, if the chairman sees fit to call one in accordance with two influentially signed requisitions. One of these emanates from the Annual Committee, who decided upon this course, by a majority of fifteen to seven, at an extraordinary meeting held last week; the other comes from a number of independent graduates. The question for the lawyers to decide is twofold. Russell Gurney's Act empowers qualifying bodies to grant their qualifications to women: the qualifying body in question is the University of London. They must tell us what the University of London actually is—that is, whether it consists of the Senate alone, or whether it is not the Senate and Convocation as well. And then they must tell us whether or not the Senate, as the sole *executive* body in the University—which it undoubtedly is—has the legal right, by accepting a permissive Act of Parliament, to make such an alteration in the regulations and constitution of the University as it could not otherwise have done without obtaining a new charter, for which the consent of Convocation is necessary. We have little doubt that the second question must be answered in favour of the legality of the Senate's proceedings; but the first point appears to us to be more open to question. Neither of these lines of argument, however, touches the undoubted fact that, by adopting the course the Senate have thought advisable, they have gone directly in opposition to the spirit of the existing charter, which intends the decision of such questions to be one of the most important functions and prerogatives of Convocation. We cannot but hope that the majority in the Senate will be wise in time, and will seriously consider the opinion of the graduates. The subject involves matters much deeper than the mere admission of women to degrees; it touches the interests of all the Faculties in the University, and may possibly shake that harmony between the Senate and Convocation on which the satisfactory conduct of the University so largely depends.

THE WEEK.

TOPICS OF THE DAY.

IT is satisfactory to find that the Metropolitan Board of Works is beginning to take steps for enforcing the Infant Life Protection Act. A woman residing in Draper's-place, Burton-crescent, was last week summoned at the Clerkenwell Police-court, for retaining and receiving for hire more than one infant, for the purpose of nursing and maintaining them apart from their parents, she not being licensed so to do. Mr. Napier, who supported the summons, said that he had seen the house occupied by the defendant, and even if she had applied for a licence it would not have been granted, owing to the wretched condition of the place. Inspector Whiting deposed that on June 14 last he visited the house, and found two children under the age of one year; he visited the house again on the 18th ult., and saw the same two children. The kitchen was used as a nursery, and was wholly unfitted for the purpose. The defendant admitted to him that one of the children had been under her care from the age of three weeks, and the other child for the past three months; she received five shillings a week for each. The house was not registered under the Act. Mr. Sidney L. Smith, Medical Officer of St. Pancras, said that one of the children was brought to him on the 14th ult., and on a subsequent occasion; it had evidently been much neglected and imperfectly nourished. The magistrate, after looking at the Act, said that he had power to imprison the defendant for six months with or without hard labour; he had also power to inflict a fine not exceeding £5. Mr. Napier said that this was only the second case under the Act, and he did not press for a severe penalty. The defendant was then fined 40s. and 23s. costs.

The Waterworks Committee of the Manchester Corporation have just laid before the Council a scheme for the purchase of Thirlmere, one of the umberland lakes, and for the conveyance of water from it to the city by an aqueduct 100 miles long. The works are to occupy seven years in execution, and will cost £1,100,000, for which sum means will be provided for impounding 50,000,000 gallons of water per day. The water is stated to be even superior to that of Loch Katrine. It is proposed to raise the level of the lake so as to give it an area of 700 acres, and the reservoir will contain 800,000,000 cubic feet. A draining ground of about 11,000 acres is also to be purchased, and the Committee were advised that the water could be supplied by gravitation. The Council gave power to the Committee to carry out the scheme.

A case of the most perfect indifference for the healing art and its professors was recently exhibited at Bristol. Henry Griffin, a stoker, was committed to take his trial at the Assizes for a revolting outrage on a pensioner named Thomas Bowman. The parties lived at a common lodging-house, and the prisoner on coming home put his arm round Bowman's neck, saying he would kiss him, and bit a piece out of his lip. Prosecutor had not had the wound dressed, as he said that having gone through the Crimean war he had many wounds about his body, and he supposed the present one would heal like all the rest.

The Stafford House Committee has put forward another urgent appeal for further subscriptions to aid the Turkish sick and wounded. At the meeting of the Committee, held at the end of last week, four surgeons (Mr. T. L. Attwood, Mr. Hume, Mr. Sandwith, and Mr. Edmunds) were appointed to proceed at once to the seat of war, and it was arranged that they should start immediately.

The Hospital for Diseases of the Chest, City-road, which has recently been entirely renovated, refurnished, and virtually remodelled, was reopened last week. About £2700 has been expended in new buildings, and fourteen beds have been added by the charitable munificence of one lady; while another £1000 has been expended in the improvement of the old buildings. After a short religious ceremony, Lord Charles Bruce, who takes an active interest in the welfare of the charity, declared the buildings open, and in thanking the public for the assistance which had been rendered, expressed his hope that increased assistance would be forthcoming to aid in maintaining the usefulness of the institution.

In commenting on the recent outbreak of cholera at Bombay, the *Times of India* of June 15 observes—"We regret to say that cholera is still very prevalent in some parts of the native town, and also at Mazajou and Colaba. At both the latter places the Goanese Christians have held special services in their churches, while a body of natives, more or less disorderly, have paraded the streets to conciliate the cholera-god. The following return shows the number of cases, both in town and harbour, from the 8th to the 11th inst. inclusive:—June 8, 38 cases, 21 deaths; June 9, 36 cases, 21 deaths; June 10, 49 cases, 26 deaths; June 11, 52 cases, 26 deaths. The cholera is of a mild type, for the ordinary ratio of deaths to attacks is about 70 per cent. Neither has it any appearance of an epidemic, for the cases occur simply at scattered intervals, and have found no regular and infected centres. Perhaps the most reassuring fact to Bombay citizens is that the disease is almost entirely confined to strangers who have come into the town within the last few months, and whose wretched condition, and the inferior food on which they have to subsist, predisposes them to attack. For instance, out of the twenty-six deaths on the 11th inst., all but three occurred among the immigrants. Still this attack is another reason why we should desire an early and heavy monsoon, which will happily wash the last traces of the disease away. In the meantime the health officer and his assistants are doing all that lies in their power, by constant inspection and the free use of disinfectants. Cholera has unfortunately appeared amongst the shipping in the harbour. During the last three or four days a number of cases have occurred, some terminating fatally. We hear that on board one steamer there were no less than nine seizures, four of which proved fatal."

At a recent meeting of the Carlisle Urban Sanitary Authority, the Medical Officer of Health, Dr. Elliot, presented his annual report for the year 1876. This contained a comparison of the state of the public health during the years 1874, 1875, and 1876, and especially as regarded the prevalence of zymotic or preventable diseases. In 1874 the deaths from typhus and scarlatina were 275,—very nearly two-thirds of the deaths from zymotic diseases, and nearly one-fourth of the deaths from all causes in that really unfortunate year. In 1875 there were, from scarlet fever, 26 deaths, of which 18 were in the first quarter; and in 1876 the deaths from scarlatina were 2. Typhus numbered 97 in 1874, 29 in 1875, and 6 last year. The mortality from all causes has also largely diminished during the year 1876. The number of deaths from all causes was 1055 in 1874, 934 in 1875, and 800 in 1876—showing a diminution from each year to the next of more than 100 deaths; and this is most evident when referring to zymotic diseases, the numbers in each year respectively being 399, 222, and 131. The periodical improvement per quarter in the rates per 1000 is equally gratifying, the rates during the last three periods of 1876 being 19·6, 21, and 20, which is considerably better than the national average, and which must be considered especially good in an urban population.

Latest advices from Teheran state that a very general exodus is proceeding from Resht, in consequence of the prevalence of plague at that place. No official statistics have been issued, but the number of cases is believed to be from twenty to thirty daily. Some fears have been expressed that if this disease occurs in a bad form the large bodies of troops acting on the borders of Persia will not only become sufferers from it to a large extent, but may also be the means of conveying it to other and distant districts.

A rather important case was tried in the Crown Court at Newcastle last week. The master of a vessel that arrived in the Tyne from Carthagena was summoned by the chief officer of Customs at Shields, under the old Quarantine Act, for refusing to answer, or for answering falsely, certain routine questions put by the Customs authorities as to the health of those on board. The officer in this case, being satisfied at the time with the replies given, permitted the vessel to haul into dock, and the crew were discharged. The next morning, however, one of them was found in a lodging-house, suffering from a malignant form of small-pox, from which he died. It appeared in evidence that the man was observed to have "a rash" on him during the passage, but was, nevertheless, put into the same cabin with three other men. The jury found that the captain intentionally concealed the fact that the man was labouring under some eruptive disorder, that he had noticed it three days before, and that therefore the fact ought to have been reported. The defendant was thereupon fined £200 and costs. This conviction, as showing that the courts will not deal lightly with those who knowingly import epidemic diseases into this country, will be of the greatest importance. Too often the formal sanitary questions asked by the Customs authorities are evaded, or not correctly answered; and as the officers of the port sanitary authority have no power to stop a ship, except in cases of cholera, these latter officials are in a great measure dependent on the reports, true or false, communicated to them by the Customs officers.

The evils of what is known as the "sweating system" were brought prominently to light in a case which was heard on Monday last at the Marlborough-street Police-court. A journeyman tailor was summoned by his employer, under the provisions of the Employers and Workmen Act of 1875, for not completing some work, and was adjudged by the magistrate to pay a fine or be committed to prison in default. Mr. Lewis asked that the case, which had been heard behind the back of the defendant, might be reheard, as there was a question of vital importance to the public health involved. The defendant was summoned for not making a coat for which he had received payment in advance; and the answer was that at the time the coat was sent to him to be made up in a room occupied by himself and family, in the upper part of a house in Green's-court, he had two children lying dangerously ill with an infectious disease, one of whom had since died, while the other was still ill. Mr. Newton said the application came too late, and he could not rehear the case; it was true the case had been heard in the absence of the defendant, but that was because the defendant had failed to attend on the hearing of the summons. The "sweating system" undoubtedly requires a thorough supervision in the interests of sanitary reform.

The fatal cases of small-pox in London fell last week to 23, a lower number than in any week since the beginning of November last. The 23 cases included 14 recorded in the Metropolitan Asylum Hospitals, 1 in the St. Pancras Small-

pox Hospital, and 8 in private dwellings. The death from small-pox of the third unvaccinated child in a family living in Burdett-road, Mile-end, was registered. In the nineteen other English towns now included in the Registrar-General's weekly returns, only 6 deaths occurred from small-pox—viz., 5 in Liverpool, and 1 in Salford.

THE MEDICAL DEFENCE ASSOCIATION.

The first annual general meeting of this Association was held at the rooms of the Medical Society of London, on Friday, the 29th ult. Dr. B. W. Richardson, F.R.S., President of the Association, was in the chair, and there was a numerous attendance of members. The Honorary Secretary, Mr. George Brown, read the report of the Council, which, after giving a sketch of the origin and progress of the Association, proceeded to narrate the work which had been done since the foundation of the Association in 1875. It appeared that the Association had made satisfactory progress, and had been the means of performing much useful work. The following provincial branches have been formed, viz. :—The East Anglian Branch, of which Dr. Copeman, of Norwich, is President; the North of England Branch, Dr. Dennis Embleton, Newcastle-on-Tyne, President; the Sunderland Branch, Mr. J. Davis, President; the Nottingham Branch, Mr. Stanger, F.R.C.S., President; the Shropshire and Mid-Wales Branch; the West Cornwall, the Accrington, and the Forest of Dean Branches. These branches, together with the Central Association, contain nearly 400 members. Seven prosecutions have been conducted by the London organisation, all of which have been successful; many unqualified persons have been compelled to cease practising through the action of the Association; and in consequence of representations made to the district coroners by members of the Association, several inquests have been held on the bodies of persons who have died after having been attended by unqualified men. The provincial branches have also done some good work, having prosecuted successfully in several cases of unqualified practice, and other cases are now pending. The report also referred to the action which has been taken by the Chemists' Trade Association in support of the claim, which the chemists have now distinctly made, to the right to practise medicine, and expressed the belief that the Council would be successful in resisting these pretensions. The operations of the Council, however, have not been confined to the endeavour to check unqualified practice. Efforts have been made, both by memorial and personal interview with the President and members of the General Medical Council, to get this body to take immediate steps to effect a reform in the Medical Act of 1858. The report concluded by thanking the editors of the medical journals for their notices of the proceedings of the Association, and by recommending the organisation to the continued support of the profession. The report of the Treasurer, Mr. W. Spencer Watson, showed that the finances of the Association were in a satisfactory condition. The whole work of the Association had been done for less than £70, and at the end of the year there was a balance in hand of £22. Mr. J. Wallis Mason and Mr. W. B. Hemming having made a few remarks on the satisfactory position of the Council, and its claims to professional support, the President moved that the report and balance-sheet be adopted and printed for circulation among the members. In doing so, he remarked that he had never seen voluntary work done more earnestly or at such small expense as the work of this Council and Association. In selecting cases for prosecution, the Council had been obliged to exercise much care and discrimination; and as a result of this care, the Association was now able to say that it had done nothing which had not a successful issue; and as the report stated, the cases prosecuted did not by any means represent all that had been achieved. With respect to the General Medical Council, which had been referred to by Mr. Mason and Mr. Hemming, the President gave it as his opinion that the profession should have direct representation on that body. The report of the Medical Acts Amendment Committee was then read and adopted; and it was resolved on the motion of Dr. G. Danford Thomas, seconded by Dr. W. Beech Johnston—"That the President of the Medical Defence Association be requested to communicate with the President of the General Medical Council, with the view of bringing before him the various claims of the Medical Act as amended by the Council of the Medical Defence Association, and adopted at the annual meeting." A vote of thanks to the Council, the Hon. Treasurer, and Hon. Secretary was proposed by Mr. W. B. Hemming, seconded by Mr. H. W. Williams, and carried unanimously, after which the following officers were elected for the ensuing year, viz. :—*President :* Dr. B. W. Richardson, F.R.S. *Vice-Presidents :* Drs. Alfred Carpenter, Edward Copeman, Dennis Embleton, Andrew Clark, Messrs. W. Bowman, James Lane, Spencer Watson, Drs. Alfred Meadows, J. Hayball Paul, A. Ernest Sansom, and C. J. White. *Honorary Treasurer :* Mr. W. Spencer Watson. *Honorary Secretaries :* Messrs. George Brown and W. Douglas Hemming. *Council :* H. Adcock, L.R.C.P. Edin.; F. H. Alderson, M.R.C.S.; J. E. Brooks, L.R.C.P. Edin.; G. H. Blackmore, L.R.C.P. Lond.; H. Cuolahan, M.D.; T. Cooke, F.R.C.S.; W. H. Drew, M.R.C.P. Edin.; S. Gardner, M.R.C.S.; W. B. Hemming, M.R.C.S.; W. Beech Johnston, M.D.; C. Royston, M.D.; C. P. Langford, M.R.C.S.; N. C. Maclean, M.D.; J. W. Mason, M.R.C.S.; M. Reid, L.R.C.P. Edin.; W. S. Riding, M.D.; Walter Smith, L.R.C.P. Edin.; J. Stevenson, M.D.; G. Danford Thomas, M.D.; and H. W. Williams, M.D. A vote of thanks to the President having been carried by acclamation, the meeting terminated.

A ROYAL VISIT.

His Royal Highness the Prince of Wales again visited the Museum of the Royal College of Surgeons on Saturday last, and on this occasion was accompanied by her Royal Highness the Princess of Wales, and her brother the Prince Waldemar of Denmark and suite. The Royal party was received by Mr. Prescott Hewett, the President of the College, Serjeant-Surgeon Extraordinary to her Majesty; Professor Flower, F.R.S., Conservator of the Museum; and Mr. Trimmer, the Secretary,—by whom they were conducted over the institution, when the many interesting objects contained in the Museum were explained. The Princess appeared much pleased with the fine skeleton of the first tiger shot by the Prince in his recent tour in India, when his Royal Highness pointed out the fatal bullet preserved *in situ*. After prolonging their visit for nearly two hours, their Royal Highnesses on leaving expressed to Mr. Hewett the great pleasure they had derived in viewing the fine and admirably preserved collection, her Royal Highness saying she would pay another visit. A little incident, honourable alike to all parties, is worth recording, as showing the marked kindness of the excellent President of the College towards a deserving officer of the institution. When introducing Mr. Stone to their Royal Highnesses, he alluded to his "life-long devotion to the best interests of the College," adding that he had just entered on his forty-sixth year of faithful services to the College.

SOLDIERS' RATIONS IN MODERN TIMES.

Our contemporary *Nature* had last week an article on soldiers' rations which is of more than common interest. The army rations of several European countries are compared, not only as to the kind and weight of food supplied, but also as to their elementary components and actual nutritive worth. In this country a soldier's ration is three-quarters of a pound of meat, and one pound of bread, which in war time is supplemented by a quarter of a pound of cheese, together with cocoa, tea,

sugar, etc. The dietary of our troops in the Crimea yielded altogether 23·52 ounces of nutritive principle to each man per day. But according to our contemporary the fare of the German soldier yields a total nutriment of very nearly thirty-three ounces, even when the recently introduced pea-sausage is not the staple supply. Even the Turks, it is said, probably receive as much real nutriment as the British soldier—that is to say, on paper. The Turkish soldier, it is stated, rarely tastes meat, but will fight for any time upon rations of meal and bruised Indian corn. The nutritive value of Russian and Turkish rations seems to be about on a par, though the writer expresses some doubt as to what the Russian really does eat. The latter receives two pounds of black bread, and a quarter of a pound of fresh meat or bacon, with garlic, salt, and tea. It must, however, be remembered that these statistics are compiled from documents or published "regulations," and that the shortcomings on the score of rations, which more than once cropped up in relation to the Crimean war in our own service, have a wonderful knack of coming to the fore wherever active operations are in force; on such occasions the soldiers of nearly every country have in many instances to "take the will for the deed."

THE DERBYSHIRE COUNTY LUNATIC ASYLUM.

In presenting the twenty-fifth annual report on the Derbyshire County Lunatic Asylum for the year 1876, Dr. J. Murray Lindsay, the Superintendent Physician, states that of the 419 patients remaining in the Asylum on December 31st last, not more than 39 (19 males and 20 females), or 9·30 per cent., are deemed curable. The admissions of the past year, he states, have been of a more unfavourable class than usual, both as regards their physical condition, mental state, and duration of insanity; as many as 119, or about two-thirds of the entire number, had been insane upwards of three months before admission. For this reason Dr. Lindsay thinks it necessary again to call attention to the evil which results from delay in sending cases into the Asylum in the early stages of their malady. This delay, he adds, is mistaken kindness on the part of relatives and friends, and by no means wise economy on the part of parochial authorities, as it is unfavourable to recovery. Instead of the Asylum being looked upon as a hospital to which patients labouring under mental aberration should be sent in the earliest stages of the disease, there appears to be an increasing tendency to detain them at home, and to delay their despatch to the Asylum until every resource has failed. The aged, feeble, or paralysed may linger on a short time, whilst the maniacal and melancholic are frequently sent after the malady has lasted a considerable period, valuable time having been lost, and the patients are so prostrate and exhausted, from long-continued previous excitement and abstinence from food, that it is impossible to rally them. Of this latter class Dr. Lindsay complains that the Derby Asylum has received too many examples during the past year.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

On Monday, July 9, the Fellows of the College proceeded to vote for three members of Council to fill the vacancies caused by the recent deaths of Mr. Henry Wilson and Dr. John Cronyn, and by the resignation of Dr. Archibald Jacob. The voting was remarkably close, and resulted in the election of Dr. Anthony H. Corley, Surgeon to the Richmond Hospital; Dr. William Stokes, Junior Surgeon to the Richmond Hospital; and Mr. Benjamin F. McDowell, Surgeon to Mercer's Hospital. Dr. Jacob resigned his seat on the Council in order to qualify himself for the competition for the chair of Ophthalmic Surgery, vacant through tho death of Mr. Wilson. Among the other candidates for this chair are Mr. H. Rosborough Swanzy, Surgeon to the National Eye and Ear Infirmary; Mr. Loftie Stoney, Ophthalmic Surgeon to the City of Dublin Hospital; and Dr. R. Rainsford, Surgeon to St. Mark's Ophthalmic Hospital. The Professorship of Midwifery, rendered vacant by the death of Dr. Cronyn, will be filled up early in August. Several candidates have entered the field, among whom, we believe, are Dr. Rutherford Kirkpatrick, Dr. Arthur V. Macan, Dr. Roe, etc.

MEDICAL PARLIAMENTARY AFFAIRS.

Imbeciles in Ireland.—Lord O'Hagan moved the second reading of a Bill having the effect of providing means for the education and moral improvement of lunatics and imbeciles in Ireland. Admirable institutions of the kind had been established in England, but, with the single exception of Dr. Stewart's asylum, no attempt had been made to provide for this unfortunate class in Ireland. The blind, the deaf, and the lame are carefully provided for by the guardians of the poor, but the imbeciles are entirely neglected. The Act for ameliorating the condition of this class of society in England was passed in 1862. The Lunacy Commissioners, in their Report for 1868, strongly objected to the association of imbecile with lunatic children. Many of these children, as proved from statistics, could be carefully trained in industrial and other pursuits, and at the same time have their intellectual and moral culture attended to. He alluded to the beneficial results to imbecile children of such institutions as the Royal Albert Asylum. The Duke of Richmond, in his reply, reminded the noble lord that a committee is now sitting and taking evidence on the general question of the operation of the lunacy laws. The Government were prepared to take such steps as should secure a full inquiry into this important question. The Bill was thereupon withdrawn.

Public Health.—Directions for a memorandum have been prepared, showing the clauses to be taken from the Acts now in force in the metropolis for the public health, distinguishing between those which are from Acts not in force and those which are new. Mr. Sclater-Booth further explained that the Bill does not propose to transfer any power from the Secretary of State or Privy Council to himself, because all the powers under the consolidated Acts were so transferred by the Local Government Board Act, 1871. In January last, in the exercise of these powers, a circular letter was addressed to the district boards of the metropolis on the subject of providing hospital accommodation under one of the Acts now proposed to be consolidated, and no exception was taken by them in their replies to the Local Government Board. The only new powers proposed to be conferred on the Local Government Board are with respect to the provision of mortuaries and the approval of voluntary arrangements between two or more Authorities for providing joint hospital accommodation. Mr. Sclater-Booth added that some fresh powers are given to district boards. It was hoped the memorandum would be in the hands of members on July 7.

Broadmoor Lunatic Asylum.—In reply to the charge of mismanagement of this Asylum, Mr. Cross explained that the working of the institution had been carefully scrutinised by a committee of gentlemen, and their report was laid on the table. He agreed that the expense was at present enormous. He hoped before another year to be able to report that some satisfactory arrangement had been made. He had come to the conclusion that it was wrong to mix criminal and non-criminal lunatics together, so that ever since he had been in office he had ordered that no person convicted of crime should be sent to Broadmoor, notwithstanding his subsequent lunacy; but this rule only applied to men, because there was no other place for female lunatic convicts to be incarcerated. The lunatic criminals already sent would remain, but no more could be sent. It was fallacious to compare with other asylums the relative proportion of attendants, on account of the dangerous character of the lunatics at Broadmoor. It was difficult to discharge lunatics when they had no friends or relatives to whose care they could be committed.

The Nightingale Fund.—The annual report for the past year of the Nightingale Fund shows that there were at the commencement of the present year twenty-nine probationer nurses in the school at St. Thomas's Hospital. Thirty-six were admitted during the year. Of the total number (sixty-five), twenty-five had completed the course of training and received appointments, three had resigned, and six were discharged as not suitable for the work.

ANNUAL FESTIVAL OF THE ROYAL COLLEGE OF SURGEONS.

After the annual election of Fellows into the Council of this institution, a notice of which appeared in the *Medical Times and Gazette* last week, a large party of the Fellows dined together at the Albion Tavern, under the presidency of Mr. E. L. Hussey, the Senior Surgeon to the Radcliffe Infirmary, Oxford. In giving the toast of "Her Majesty the Queen," the chairman reminded the Fellows that it was by the power of the present sovereign that they received the charter under which they met year after year on such occasions as the Fellows' Dinner. And when proposing "The Health of the Prince of Wales and the rest of the Royal Family," he said that the present heir-apparent was for some time a resident in the city in which he himself practised; and, if it was not indecorous to refer to the personal life of a member of the Royal family, he would add that he had sufficient opportunity of witnessing the perfect correctness of his Royal Highness's conduct as a prince and a gentleman.

"The Army, Navy, and the Auxiliary Forces" was ably proposed by Mr. Timothy Holmes, and responded to by Sir Joseph Fayrer and Dr. Shepherd (of Middleton-square).

The toast of "The Medical Corporations" was proposed by Dr. Monckton, of Rugeley, who, in reference to the Apothecaries' Company, said he had not forgotten the time when his tremblings as a student were exchanged for the pride of licentiateship; and as a provincial medical practitioner he had not failed to observe that it was to the Hall that the thanks of the country and the profession were due for the improved education, character, and position of the general practitioner at a period when the two other Corporations took less interest in that personage than they now happily do. For the Royal College of Surgeons he professed the strongest personal attachment, remembering the days of old when within its portals he had worked, though in a humble capacity, with Owen and Quekett, under the eyes of a Grainger, a Green, an Arnott, and a South. And again, on a recent occasion, he seemed to think the glory of the College had culminated as he listened to the eloquent and stirring oration of Paget in the presence of the future sovereign of these realms. Dr. Monckton then spoke of the high degree of culture and dignity to which the College of Physicians had attained, and the noble hospitality dispensed within its walls; and, in leaving the toast of the three Corporations in the hands of the company, he would only further express his hopes that, in combining to promote the success of the Conjoint Scheme, time would show that they had worked together for the substantial good and well-being of the profession at large.

Dr. Bennett, the President, returned thanks for the Royal College of Physicians.

Mr. Luther Holden, in speaking for the Royal College of Surgeons, said that he could assure the Fellows and Members that the College was never more prosperous, and never stood higher in public estimation than at present. This was proved by the continually increasing number of students who sought its diploma, by a glance at the constantly increasing and most valuable additions to its Museum, which was the most complete of its kind in Europe, and by its financial position. Whatever changes might be produced in the profession by the probable "Conjoint Scheme" of examinations, Mr. Holden assured the Fellows and Members that the Council would leave no stone untouched to transmit to their successors the precious charge which had been entrusted to them, with its dignity, its prosperity, and its hold upon the profession unimpaired.

Mr. Bradford responded for the Society of Apothecaries.

Mr. Wood, in proposing "Health and Prosperity to the Provincial Schools of England," remarked that nothing showed more decidedly the tendency to decentralisation inherent in the Anglo-Saxon race, than the multiplicity of the centres of education, and markedly of medical education, which developed themselves all over the kingdom. Like the petty universities of Germany, the medical schools of England were both numerous and powerful in their struggle for existence. And although the tendency of this metropolis, as of all other chief cities, was to attract and absorb the conspicuous talent and enterprise of the country, in the medical profession it had by no means left the provinces denuded. The names of provincial surgeons and teachers eminent in the past would occur to everybody's recollection. Hey and Teale, of Leeds; Jordan, Hodgson, and Frere, of Birmingham; Heath, of Newcastle, etc., of a former era, are worthily represented by Bickersteth, Humphry, Cadge, and many others, among the living representatives of the provincial schools of surgery. It was on occasions like the present that the metropolitan teachers came more closely in contact with their provincial brethren. In the examination-room the power and results of the provincial teaching were best estimated, and none could better judge of the value of the provincial schools than the examiners of the College of Surgeons. But he must say that it was pleasanter to meet the representatives of the provincial schools at the festive board than at the examination board. He hoped that the provincial schools would long continue to help to redress the balance of metropolitan surgical opinion, when wavering to a decision, by their practical common sense and intelligence.

"The Metropolitan Schools" was ably and eloquently proposed by Mr. E. Lund, of Manchester, and responded to by Mr. Timothy Holmes, of St. George's Hospital.

Mr. Holden proposed "The Health of the Chairman.' He said: It is exceedingly grateful to me to be commissioned by our master of the ceremonies to lead you all into the sweetness of good-fellowship by proposing the health of our chairman. This pleasing duty has been assigned to me by reason of our long and intimate friendship. Dating from student's days at St. Bartholomew's, I never knew a more painstaking or truthful student. Such as he was as a student, so he is now—an honest, earnest worker, very little altered by time. I could say much about him, if he would leave the chair, which I hardly like to say to his face. You too might think that I was using the too flattering expressions so often used on these occasions. Long may we have the pleasure of seeing his features, so pregnant with intellect and decision of character, at our annual Fellows' Dinner.

The Chairman, in reply, said: It is, I believe, the established custom of the Festival that the chairman's chief duty shall be to propose what may be called the introductory toasts, and to return thanks for his own health, if you should pay him the compliment of receiving such a toast. The first part of this duty I have discharged; the other part remains, and it is by no means an easy one. It is a task requiring some skill, and more than an average amount of practice, to acknowledge in fit terms such a compliment as you have paid me, and paid too with a grace more due, I suspect, to the favourable opinion of my friend Mr. Holden, than to any merit of which I am conscious as arising from any services I have rendered to you or to the profession. I trust you will accept these few words as the expression of my grateful sense of the honour you have done me, and the kindness with which you have received my name. I hope I shall not start a subject of discussion. I wish to make a suggestion for the future occupation of this chair. You can see that there are around me many men, my seniors in professional standing, to say nothing of their right of precedence from reputation. I cannot help thinking that we might go on as smoothly hand-in-hand through the Register of Fellows, if we took the chairman of the Annual Festival from among the country Fellows every third year, instead of every other as we do now. There are, I believe, now on the Register, between the chairman of last year and myself, not less than twenty Fellows resident in London, who have claims which ought not, I think, to be lightly regarded, or set aside without sufficient reason in favour of a junior from the country. I merely throw out the suggestion for the consideration of future stewards. If the question has been considered, and the present *rota* established on principles which past stewards have thought best, I do not suggest that it should be reopened. And for the future, in this chair I hope you may long continue to have, after me, a succession of men as well able to fill the chair and do honour to the occasion as the many well-graced actors who have left the stage before me, and whose well-known voices have fallen in sweeter accents on your ears. The chairman of this year's Festival soon passes from your presence; but as he fades from your memory, believe me,—

> "He ne'er will forget the short vision that threw
> An enchantment around him while lingering with you."

After several other toasts,

The Chairman rose to propose the last toast, and said: As the last act of the chairman's life I have to give you a toast; it is, "The Health of our Hon. Secretary, Mr. Allingham."

He is the Executive Officer of the Committee of Stewards, without whom (I hope I may say it without offence, especially as they have all left the room) they could not be brought together, to act and to plan what is before us. I am one of those who remember all the enthusiasm and high feeling with which this Festival was established. Is it not due to the Secretary that it is not likely to drop? I don't wish to keep you long, but we ought not to part without this acknowledgment, and making the small return which our thanks can give for all the work he has so kindly done for us—an amount of labour which, to my knowledge, has extended each year over weeks, and even months. He has done his work so well, and he has held his office so long, that I am sure you will join with me when I add that I grieve to think it is Mr. Allingham's last year of office.

FROM ABROAD.

On Constipation.

Dr. William Thompson, Professor of Therapeutics in the University of the City of New York, publishes in the *New York Medical Record*, May 5, an interesting clinical lecture on constipation, of which the following is an abstract:—

The form of constipation treated of is perhaps met with in males as commonly as among females, and may be due either to deficient action of the small intestine, or to deficient action of some part of the large intestine. 1. *Deficient action of the small intestine* may be due either to deficient secretion or to a want of innervation and muscular action; but although these two causes are distinct, in many cases they are both in operation. *Deficient secretion* may be due to disturbance of the action of the liver, and therefore may date back to some prior disease disturbing the action of that organ. Thus, constipation from this cause is common in the Southern States as a sequel to diarrhœa, and is often met with in the Northern States as the result of malarial poisoning. There is in these cases no extraordinary accumulation and impaction, but a sluggish action of the bowels, medicine being required to produce stools in four or five days, which are even then moderate in amount and quite dry. In most cases there is present a dull pain, or rather an incomfortable sensation, at the back of the head, which is best relieved by a free discharge of bile. The tongue is not large and flabby, but usually small, with a little redness at the tip and along the edges. The secretions of the mouth are viscid, indicating the condition of defective secretion that prevails all along the canal. Mild cathartics in these cases are injurious, and active purgatives still more so. What is wanted is the presence in the intestine of a small increase of lubricating liquid, and this is obtained by causing the patient to take a great deal more water than customary—drinking on rising, for example, two tumblers full of water; and as a rule those who drink a considerable quantity of water are not constipated. Its laxative action may be insured by the addition of some saline, as carbonate of soda or salt—the water to which this is added not passing so readily through the mucous membrane into the general system, and thus more readily exciting peristaltic action. A half-drachm of sulphate magnesia dissolved in a pint of water will for this reason act sufficiently as a cathartic. A curious fact is that the addition of small doses of quinine to salines increases their power of acting on the intestinal canal. Thus, mag. sulph. ʒj., quin. sulph. gr.j., taken in a tumbler full of water every morning, rarely fails to produce all the laxative effect required in every form of deficient secretion—as, for instance, in constipation following fever—where we wish to obtain free evacuations. Patients should be told not to expect much effect for a week or two; but, if they can be induced to persist in the daily use of large quantities of water, great benefit will almost always follow. The popular belief in the laxative effect of fruit has some truth in it—as, for example, oranges; but to overcome constipation by these, many have to be eaten, and in warm climates they prove quite effectual. Figs are also useful, providing large quantities of water are taken with them—water, in fact, being one of the most important agents in this form of constipation. If there is flatulence, four grains of assafœtida may be given with nine grains of soap as a pill, while nux vomica may be added when there is *defective innervation*, which is usually the case when the constipation occurs in persons of sedentary habits and occupations. In such there is a tendency to headache, with deficiency in excretion of the colouring matters of the bile. They are usually of dull, sallow colour, with a tendency to greasy matters on the surface, the entire movements being sluggish, and the pulse usually slow. These persons, contrary to those mentioned above, do not bear much water, which weakens their digestive powers, and does not induce much peristaltic action. If such patients can be sent away from their occupations, the waters of a mineral spring may benefit them much; and where they cannot, water used externally in the form of a nightly very cold sitz-bath, followed by good reaction, is often of the greatest benefit. In other cases, the spine and abdomen may be sponged on rising every morning with cold salt water, rendered as irritant as possible; or cold water may be dashed on the abdomen while the patient is in the standing posture. In this class of cases nux vomica is a very efficient remedy, given in combination with any other suitable drug. It will increase the efficacy of small doses of the resinous cathartics, which are irritant and stimulant. Small doses of rhubarb, with nux vomica and soap, in a pill, may be given much more beneficially than when given alone. Faradisation—one pole being placed over the spine, and the other passed up and down over the abdominal walls—will in many cases be found beneficial.

2. *Deficient Action of the Large Intestine.*—This also may depend upon deficient secretion, or defective innervation; but far more frequently on the latter. One of the worst forms of this is when the constipation depends upon deficient nerve-power in the rectum alone, and which, if overlooked, may give rise to rectal abscess. The patients have little knowledge that they should have a movement, and when the sensation does occur they have little or no power of expelling the fæcal accumulation. One of the most common causes of this condition is chronic inflammation set up about hæmorrhoids. The relaxed condition which follows the defective innervation renders prolapsus of the rectum very probable. These patients are remarkable for being generally low-spirited, so that even insanity may be induced by such a state of the rectum, disappearing when this has been relieved. In treating these cases the first indication is to keep the rectum empty; and when accumulations do take place they are best removed by enemata. These, however, should never be prescribed as a regular treatment, for if the habit is acquired of emptying the bowels daily by their aid they can never be dispensed with. When the accumulation which has caused the enema to be employed has been thoroughly removed, other means should be resorted to for restoring the innervation of the bowel; and in these cases the injection of strychnia into the submucous tissue is an exceedingly valuable specific. If necessary, a fold of the mucous membrane may be drawn down, and the injection inserted. It will frequently cure the worst forms of prolapsus of the rectum, as well as that condition in which there is simple debility with hypertrophy of the mucous membrane. "I have relied upon this agent almost exclusively in this class of cases of constipation, whether the real cause was hypertrophy of the mucous membrane from long-standing hæmorrhoids, or there was simple deficiency of power in the rectum to expel its contents." In cases of cystitis dependent upon large prostate there is always accumulation in the rectum from deficient innervation; and whenever a patient complains of incomplete emptying the bowel, this should be thoroughly cleared out by an enema, and strychnia injected—often with material relief to both diseased conditions. In other forms of constipation there are accumulations of scybalous matters in the upper part of the rectum and in the transverse colon. When these last are dislodged they come down into the sigmoid flexure; and mineral waters, such as the Kissengen, are very useful in effecting such dislodgment, loosening the scybalæ without depressing the patient. The water may be taken in the morning; a suppository of stramonium or belladonna (sufficient to cause a little dryness of the throat and slight dilatation of the pupil) may be introduced in the evening. Constipation may be met with during the recovery from pneumonia and other febrile affections, arising from accumulations at various parts of the canal. Compound jalap powder is a very effective means for preventing such accumulations.

Specialising Midwifery in the Paris Hospitals.

A movement has been set on foot to bring about in Paris a practice which has long since prevailed in London. The faulty organisation of the Paris hospitals, it is observed in a recent number of the *Gazette Médicale*, consigns the midwifery

department of these to the physicians or surgeons of the hospitals, without their being possessed of any special competency. In order that a remedy may be provided for so abnormal a state of things, the following petition, signed by Dr. Bourneville, editor of the *Progrès Médical*, and fifteen of the rising young doctors of Paris, has been transmitted to the Municipal Council:—"The undersigned, considering that the practice of midwifery and the treatment of the accidents that often accompany it, which necessitate operations that are in general difficult and laborious, exact knowledge that is truly special; and considering that, in the present state of the organisation of the hospitals, the wards occupied by pregnant women, lying-in women, and nurses, form part of the ordinary medical services devoted to acute diseases, which take up nearly all the time of the visits of the physicians: we pray that the Assistance Publique do institute wards exclusively destined for pregnant and lying-in women and nurses, that these services may be exclusively confided to *médecins-accoucheurs*, just as the medical services are confided to physicians, and the surgical services to surgeons, and that the nomination of these *médecins-accoucheurs* be effected by canvass." The *Gazette Médicale* observes that, following the spirit dictating the above petition, the midwifery wards of the hospitals, or, what would be better, maternities substituted for them, should be exclusively reserved for women, who for some reason cannot avail themselves of assistance rendered *à domicile*.

REVIEWS.

A Systematic Handbook of Volumetric Analysis; or, the Quantitative Estimation of Chemical Substances by Measure applied to Liquids, Solids, and Gases. By Francis Sutton, F.C.S., Public Analyst for the County of Norfolk, etc. Third Edition. London: J. and A. Churchill. Pp. 430.

When a book like this reaches a third edition, not much requires to be said on its behalf. Since the book first appeared many improvements have been made in the art of volumetric analysis,—many new processes have been invented, many old ones perfected: with all of these the book keeps on its way, constantly up to the mark of the day. We should not have thought it necessary to say even this much for it were it not for one particular reason. We are often asked as to the best book on water analysis, and we can always reply with confidence that there is nothing better to be had than the section on the subject in this work. Smaller treatises are to be found, but perhaps the fairest is that now before us.

The Microscopist: a Manual of Microscopy and Compendium of the Microscopic Sciences. Third Edition, rewritten and greatly enlarged, with 205 illustrations. By J. H. Wythe, A.M., M.D., Professor of Microscopy and Biology in the Medical College of the Pacific, San Francisco. London: J. and A. Churchill. Pp. 259.

Though it cannot be said that we are at the present time greatly in want of books on the microscope, constructed on the plan of the present work, nevertheless many will be glad to receive it, for various reasons. It is, to begin with, a kind of encyclopædia of microscopic science, and though of by no means equal merit, gives a fair view of most of the departments of knowledge on which it treats. Where it seems to us most defective is when it deals with human physiology and pathology, but perhaps this is of the less importance, as the work, from its scope and purport, is suited rather to the amateur than to the practical student of medicine. It is illustrated by many beautiful plates and drawings, the former for the most part tinted and well executed. Coming as it does to us from the shores of the Pacific, from a city which, within easy recollection, could hardly be said to exist, it impresses us with a great idea of the energy and success of our Transatlantic brethren.

A Manual of Dental Anatomy, Human and Comparative. By Charles S. Tomes, M.A. London: J. and A. Churchill. Pp. 406.

We have carefully read and studied this little work, and we may at once say, have been highly gratified with its character and contents. There was no really good book on dental anatomy such as the medical or dental student requires. Such as existed were either far too strictly scientific or too flimsy. Students, working as medical and dental students have to work—that is to say, in a certain definite and prescribed course—require works specially constructed for their use, and in this way Mr. C. S. Tomes' book is likely to be most valuable. We would here refer more particularly to the earlier portion of the book, where the anatomy and physiology of the human teeth are considered. This we can safely say is a most useful and succinct account of all that relates to the structure and development of these important organs. The work is brought down to the latest date, and is in every way thoroughly reliable.

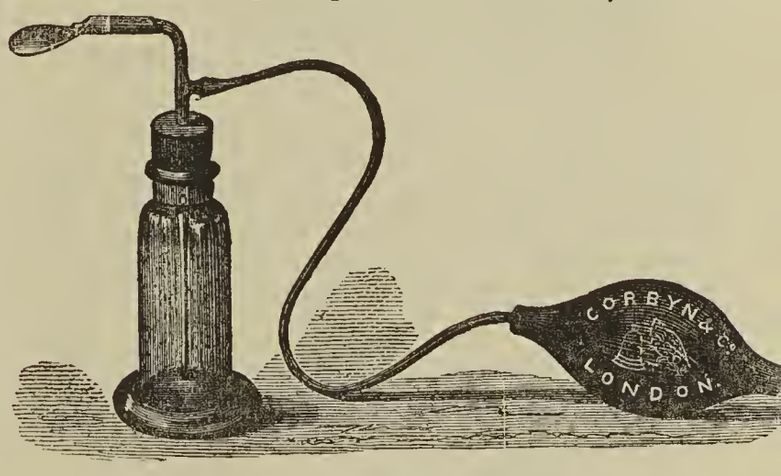
Elementary Text-Book of Physics. By J. D. Everett, M.A., D.C.L., F.R.S.E., Professor of Natural Philosophy in the Queen's College, Belfast. London: Blackie and Son. Pp. 314.

This seems to us to be an exceedingly useful and admirable little treatise, especially adapted for upper forms at schools; and we may be sure that in the hands of the accomplished translator of Deschanel's Physics the work will be well done. One useful feature is that it contains a number of examples for the pupil's working out.

NEW INVENTIONS AND IMPROVEMENTS.

"THE THROAT-SPRAY."

Messrs. Corbyn, Stacey, and Co., of 300, High Holborn, have introduced a neat and handy instrument for the application of remedies in the form of fine spray, especially to the throat and mouth. It is as simple as possible in construction, and not



likely to get out of order; and a small vulcanite *tongue depressor* is ingeniously adapted to it, which serves to keep down the tongue gently, and so to leave the way clear to the back of the throat, while at the same time it catches any condensed spray, and prevents its running over the tongue. The box for the apparatus contains also a measure-glass.

"LAXORA" LOZENGES.

The "Laxora Lozenges," introduced by P. Guyot, of 82, Southwark-street, may be commended as a mild and useful aperient. They consist of a core, or centre-part, composed of manna, cassia-pulp, and other like laxatives, we believe, enclosed in a crystalline chocolate crust; are not at all unpleasant to the taste, and will, we doubt not, be readily taken by children as well as by adults. The lozenges are a successful example of the many efforts that are being made in these days to disguise medicines and make them pleasant. They will be very acceptable in the nursery.

"SOLUTIO OPII PURIF."

From Messrs. C. J. Hewlett and Son, of Gracechurch-street, we have received a new form of opiate, to which they give the name "Solutio Opii Purif." It is meant, we suppose, to compete in public favour with our old and tried friend, Battley's "Liquor Opii Sedativus," and it is "guaranteed perfectly free from resinous matter and other impurities." We do not think that it is quite free from resinous matter, as in drying it leaves behind a gummy residue, so that if a bottle of it is left undisturbed for some time after use, the stopper becomes

very firmly fixed—gummed-up, in fact; but it is, we believe, a pure solution of opium, and is free from some of the objections that attend the use of the tincture. The dose of it is from five to forty minims.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed their primary examinations in Anatomy and Physiology at a meeting of the Board of Examiners on the 10th inst., and when eligible will be admitted to the pass examination, viz. :—

Bates, William R., student of the Liverpool School.
Benthall, Winford, B.A. Cantab., of the Cambridge School.
Beverley, Albert, of the Leeds School.
Brooke, Henry G., of the Manchester School.
Dale, Benjamin H., of the Bristol School.
Dennis, Frederic S., of the New York School.
Dixon, Harry A., of the Manchester School.
Harrison, Arthur, of the Sheffield School.
King, Henry W., of the Edinburgh School.
Kirker, Gilbert, of the Belfast School.
Luckman, Edward L., of the Manchester School.
Manners, Arthur, of the Liverpool School.
Milne, James K., of the Manchester School.
Oglesby, Henry N., of the Leeds School.
Rendall, Stanley M., of the Edinburgh School.
Robins, John J., of the Newcastle School.
Russell, James W. L., of the Sheffield School.

The following gentlemen passed on the 11th inst., viz. :—

Baker, William J., student of St. Bartholomew's Hospital.
Dester, William P., of the Bristol School.
Freeman, Edward J., of the Dublin School.
Gibbon, William, of the Manchester School.
Hamilton, Seton G., of St. George's Hospital.
Hayward, John D., of the Liverpool School.
Pickworth, Alfred J., of the Liverpool School.
Sankey, William A. C. O., of University College Hospital.
Taylor, William M., of the Newcastle School.
Todd, Octavius, of the Aberdeen School.

Twenty candidates having failed to acquit themselves to the satisfaction of the Board, were referred to their anatomical and physiological studies for three months. The Board adjourned to this day (Friday), when the examinations will be resumed, and not be brought to a conclusion until next week. At a meeting of the Council on Thursday, the recently elected members—Messrs. Erichsen, F.R.S., Savory, F.R.S., and Holmes—took their seats.

The following were the questions on Anatomy and Physiology submitted to the 137 candidates at the written portion of this examination on Saturday last, when they were required to answer at least four, including one of the first two out of the six questions, viz :—1. Describe the structure and function of a lymphatic gland. 2. Explain why a distant and a near object, lying before the eye, cannot be, at the same time, distinctly seen. What is the mechanism by which a sharply defined image of each in turn is formed on the retina? —3. What are the distinctive characters of the male and female pelvis? 4. Describe in order the parts brought into view in the back of the forearm by the removal of the superficial layer of muscles. 5. Describe the dissection required to expose the profunda femoris artery; and give its branches, their distribution and anastomoses. 6. Describe the course, relations, connexions, and distribution of the glosso-pharyngeal nerve.

APOTHECARIES' HALL.—The following gentleman passed his examination in the Science and Practice of Medicine, and received a certificate to practise, on Thursday, July 5 :—

Blomfield, Arthur George, Barton-le-Clay, Bedfordshire.

The following gentlemen also on the same day passed their primary professional examination :—

Butterworth, John Tyngle, Birmingham General Hospital.
Bennington, Robert Crewdson, St. Thomas's Hospital.
Campbell, William Frederick, St. Mary's Hospital.
Clowes, Joseph Smith, Guy's Hospital.
Green, Thomas Beaufoy, University College.
Leatham, Henry Blackburn, St. Thomas's Hospital.
Lloyd, John Jenkin, University College.
Powell, John James, St. Thomas's Hospital.
Temple, Thomas Cameron, Middlesex Hospital.
Weekes, Francis Henry, St. Thomas's Hospital.

APPOINTMENTS.

COLE, EDWARD F. J., M.R.C.S. Eng.—Colonial Surgeon to the Island of St. Helena.

SMITH, W. H., M.R.C.S., L.S.A.—House-Surgeon to the Beckett Hospital and Dispensary, Barnsley.

NAVAL, MILITARY, &c., APPOINTMENTS.

ADMIRALTY.—Staff Surgeon Duncan Hilston, M.D., has been promoted to the rank of Fleet Surgeon in her Majesty's Fleet, with seniority of May 3, 1877, and will stand on the list as senior to William George Ridings. Deputy Inspector-General of Hospitals and Fleets William Loney has been placed on the Retired List from the 3rd inst., with permission to assume the rank and title of Inspector-General of Hospitals and Fleets on the Retired List from the same date.

WAR OFFICE.—Surgeon-Major Alexander Peile Cahill, M.D., retires upon half-pay, with the honorary rank of Deputy Surgeon-General; Surgeon-Major Francis Henry Macfadin retires upon temporary half-pay; Surgeon-Major William Robert Burkitt retires upon half-pay. Assistant-Surgeon Richard John Magee (Kilkenny) to be Surgeon of Militia under the provisions of the Royal Warrant of July 12, 1876.

YEOMANRY CAVALRY.—Cheshire: William Charles Watson, gentleman, to be Surgeon. North Somerset: John James Saville, gentleman, to be Surgeon.

BIRTHS.

BADCOCK.—On July 5, at 58, Buckingham-place, Brighton, the wife of Lewis Carter Badcock, M.D., of a daughter.

CONRY.—On July 5, the wife of John Conry, L.K.Q.C.P. Ire., Surg. R.M.A., of a daughter.

CRAN.—On July 6, at Blackrie House, Aberdeenshire, the wife of John Cran, M.D., Canonbury, of a son.

DAY.—On June 25, at Clayton House. Chapel-street, Pentonville, N., th wife of W. H. Day, L.R.C.P., M.R.C.S., of a daughter.

EASBY.—On July 4, at March, Cambridgeshire, the wife of W. Easby, M.D., of a daughter.

GILCHRIST.—On June 28, at Edinburgh, the wife of James Gilchrist, M.D., Dumfries, of a son.

MAY.—On July 8, at Clinton House, Twickenham, the wife of Percy May, M.R.C.S., of a daughter.

NIX.—On July 7, at Upper Marylebone-street, W., the wife of Edward J. Nix, M.D., L.R.C.S. Edin., of a son.

SHAROOD.—On July 6, at 7, Headland-park, Plymouth, the wife of Edward Julian Sharood, M.D., Staff-Surgeon H.M.S. *Cambridge*, of a daughter.

SIMS.—On July 4, at 25, Halfmoon-street, W., the wife of F. Manley Sims, F.R.C.S., of a daughter.

MARRIAGES.

BLAKISTON—HARPER.—On July 10, at St. Stephen's, Lewisham, Arthur Alexander Blakiston, M.R.C.S., L.S.A., of Benenden, Kent, youngest son of the late Rev. Robert Blakiston, Rector of Ashington, Sussex, to Emiline Cotton, third daughter of E. Norton Harper, Esq., of Lee, Kent.

MACRAE—LAING.—On July 5, at St. Paul's, Knightsbridge, Charles Colin, barrister-at-law, only son of A. C. Macrae, M.D., of Westbourne-terrace, to Cecilia Mary Bruce, daughter of Samuel Laing, Esq., M.P., of 36, Wilton-crescent.

MCVAIL—ROWAT.—On July 7, at Clapton-park Congregational Chapel, John C. McVail, M.D., of Kilmarnock, to Jessie, eldest daughter of the late John Rowat, of Kilmarnock, N.B.

POWELL—CUMMINS.—On July 2, at the Church of the Holy Trinity, the Rev. Dacre Hamilton Powell, M.A., Curate of Holy Trinity Parish, to Edith Louisa, second daughter of W. Jackson Cummins, M.D., of Charlotte-quay, Cork.

ROBERTS—LINDFIELD.—On July 7, at Christ Church, Albany-street, Regent's-park, H. W. Roberts, M.R.C.S.E., L.S.A. Lond., of Lewisham High-road, to Eliza, daughter of the late Thomas Lindfield, Esq.

STACY—WEBBER.—On July 5, at St. Mary's, Abbey-road, Fitz Roy, son of J. E. Stacy, F.R.C.S., to Lizzie, daughter of the late Thomas Webber, Esq., of Edgware-road.

WATNEY—HALL.—On July 3, at St. George's, Hanover-square, Alfred Raby Watney, to Annie Elizabeth, youngest daughter of Alfred Hall, F.R.C.P., of Brighton.

DEATHS.

HEBERDEN, THOMAS, M.D., at 98, Park-street, Grosvenor-square, on July 8, aged 75.

KIDD, LEONARD ALEXANDER, second surviving son of Surgeon-Major Kidd, M.B., A.M.D., at Marley Villa, Simla, Punjaub, on June 10, aged 3 years and 6 months.

NICHOLAS, MARTHA, wife of George Edward Nicholas, M.D., of Wandsworth, at Wandsworth, Surrey, on July 6, aged 48.

STACPOOLE, ARTHUR PEMBERTON, second son of G. C. Stacpoole, M.D., in Philadelphia, U.S., on June 8, aged 27.

SCOTT, CHARLES, M.D., C.B., Inspector-General of Hospitals, Honorary Surgeon to her Majesty, late of the 32nd Light Infantry, at St. Edmund's Villa, South Lambeth-road, London, on July 9, aged 74.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

WEST LONDON HOSPITAL, HAMMERSMITH-ROAD, W.—House-Surgeon. Candidates are requested to attend the meeting of the House Committee with testimonials, on July 16, at 10 a.m.

WILTS COUNTY LUNATIC ASYLUM.—Assistant Medical Officer. Candidates must be duly qualified and registered medical practitioners. Applications, stating age, and accompanied by not more than six recent testimonials, to the Clerk to the Committee of Visitors, marked on the outside "Applications," on or before July 18.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

VACANCIES.

Bolton Union.—The Harwood District is vacant; area 4738; population 10,118; salary £50 per annum.

Faringdon Union.—Mr. Caleb Barrett has resigned the Shrivenham District; area 14,714; population 2721; salary £70 per annum.

Isle of Wight Union.—Mr. J. E. Beckingsale has resigned the Workhouse; salary £90 per annum.

Southmolton Union.—Mr. Richard Ley, jun., has resigned the Ninth District; area 11,650; population 1937; salary £33 10s. per annum.

APPOINTMENTS.

Alresford Union.—George R. Lawrence, M.R.C.S Eng., L.S.A., to the Second District.

Abingdon Union.—George Gossett, M.R.C.S. Eng., M.B. Camb., to the First District.

Blackburn Union.—Wm. Crawford, M.B. and C.M. Glasg., to the Witton District.

Greenwich Union.—Henry W. Roberts, M.R.C.S. Eng., L.S.A., to the South Deptford District.

Macclesfield.—Charles Estcourt, F.C.S., as Analyst for the Borough.

North Bierley Union.—Robert T. Bryden, L.R.C.P. Edin., L.R.C.S. Edin., to the Thirteenth District.

St. Thomas Union.—Thos. Markby, M.R.C.S. Eng., L.S.A., to the Woodbury District.

PRINCE MILAN has conferred the Gold Cross of the Takova Order upon Mr. William Collingridge, in acknowledgment of services rendered during the Turco-Servian war. Mr. Collingridge is said to have been the first English surgeon upon the Servian field.

MR. G. A. WRIGHT, B.A. Oxon., M.R.C.S. Eng., has just been appointed Anatomical Assistant in the Museum of the Royal College of Surgeons, in the vacancy occasioned by the removal of Mr. Doran, F.R.C.S., to the office formerly occupied by Dr. Goodhart.

NAVAL MEDICAL SUPPLEMENTAL FUND.—At the quarterly meeting of the directors of the Naval Medical Compassionate Fund, held on the 10th inst., Dr. J. W. Johnston in the chair, the sum of £85 was distributed among the various claimants.

NEW FUNCTION OF THE LIVER.—Under this title we recently (*Medical Times and Gazette*, June 9, page 621) gave a translation of Prof. Schiff's paper, published in the *Archives de Physique* of Geneva. In the *Philadelphia Medical Times* of May 26 will be found an elaborate account by Dr. Lautenbach of the results derivable from 283 experiments performed by him in Prof. Schiff's laboratory, and leading to these conclusions:—1. The liver has for one of its functions the office of destroying certain of the organic poisons. 2. A poison is being constantly formed in the system of every animal, which it is the office of the liver to destroy.

PHOSPHATE OF LIME IN RELATION TO FRACTURES.—In a recent thesis, M. Midrin, in reference to the question whether the administration of phosphate of lime hastens the consolidation of fractures, comes to the following conclusions:—1. Phosphate of lime cannot be relied upon for this purpose. 2. Introduced directly into the economy, it is not absorbed when it is insoluble. 3. When given in a soluble form, it is eliminated in the urine. 4. It is furnished in sufficient quantity by milk, bread, cereals, seeds, etc., and is assimilable only in this manner. 5. Its immediate action is only antacid and absorbent.—*Jour. de Thérap.*, June 10.

HARVEY TERCENTENARY MEMORIAL FUND.—A meeting of the subscribers to this Fund will, by the permission of the President of the Royal College of Physicians, be held at the College, Pall-mall East, on Wednesday next, July 18, at 5 p.m. The business of the meeting will be the following:—1. To elect Honorary Treasurers to the Fund; Sir G. Burrows, Bart., M.D., and Prescott Hewett, Esq., will be proposed for this office. 2. To receive the Honorary Secretaries' report of the progress of the Fund and a statement of accounts. 3. To elect two auditors. 4. To discuss and adopt measures for promoting the success of the object of the Fund. All subscribers are particularly requested to attend this meeting.

AN AGED OPIUM-EATER.—Dr. Mattison, of Brooklyn, gives (*New York Medical Record* for April 14) an account of a very extraordinary case occurring in the person of a Captain Lahrbush, a Londoner, now more than 111 years of age—a fact said to be well authenticated,—who, after some half-century of adventures in all parts of the world, settled down in New York. Becoming the subject of diarrhœa in India in 1807, on the relief of this by opium he took to the habit of eating this substance—a habit persisted in for *seventy years!* Beginning with only occasional half-grain doses, the amount he consumed up to the tenth year was only limited. From then the quantity taken was progressively increased until 1856, when the amount taken was *ninety grains per diem.* Placing himself then under medical care, the quantity was gradually decreased, so that by 1858 he took only thirty grains daily. Reduction was persevered in, so that for the last five years he has been content with a four-grain pill at bedtime. Alvine torpor has been a very constant accompaniment of the habit. Abstinence from opium has never been carried beyond forty-eight hours, and then has always been attended with diarrhœa and "profound malaise." No other ill effects have been produced by the opium, and up to quite lately the health of the Captain has been sufficiently good to allow of his passing several hours daily out of doors.

REPORT ON DIPHTHERIA IN FRANCE.—In his report to the Académie de Médecine on the epidemics which prevailed in France during 1875, M. Briquet arrived at the following conclusions respecting diphtheria:—1. Diphtheria was observed in 1875 in 100 communes of twenty-seven departments. 2. The localities in which it was observed were for the most part situated in the valleys of large rivers which were joined by numerous affluents. Still it was met with also in highly salubrious localities, and a commune adjoining one where an epidemic prevailed may remain intact during one visitation, and suffer severely during another. 3. Diphtheria attacks rural localities much oftener than towns—a fact proving the powerful effects of hygiene. But in large towns in which there is a large workman population—such as Abbeville, Havre, Rouen, and Paris,—and in which hygiene for certain classes is defective, diphtheria remains permanently established. As an exception to this rule, at Lyons, which is a very large and very populous city, situated in a deep valley traversed by large rivers, diphtheria is absent. Does it enjoy the same exemption from this disease as from cholera? 4. The epidemics, as a general rule, commence during the last three months of the year, after abundant rains, east winds, and a reduced temperature. 5. They have especially affected the poor, feeble, and lymphatic. 6. Children below twelve years of age are the ordinary victims, although in each epidemic adults and even some aged persons have been attacked. 7. In every locality females have furnished a much greater number of patients than males, the proportion being ten to six. This must be chiefly due to the more feeble condition of the former, and to the fact of their being more indoors and in contact with the sick. 8. In the epidemic at Bar there were 80 deaths in 833 cases; in another place 137 deaths among 569 patients; and in the Paris hospitals 416 deaths among 573 patients. 9. From one place it was reported that the children who contracted the disease at the end of the epidemic suffered as severely as those who took it at the beginning, so that the special miasm would seem to lose none of its power even at the end of a year, the epidemic only ceasing, in fact, when there are no longer any predisposed subjects.—*Union Méd.*, June 28.

NOTES, QUERIES, AND REPLIES.

"He that questioneth much shall learn much."—*Bacon.*

Dr. W. J. Branch, St. Kitts.—Received with thanks.

Mr. John Forster, Adelaide.—Received with thanks your favour of May 17; also that of December, 1876.

Dr. Henry Sorley, N.S.W.—Received with thanks.

S. B. E.—We suppose so.

W. Gregson L.—London covers within its jurisdiction 576 square miles; its area embraces 78,000 acres; it contains four millions of inhabitants, increasing at the rate of 75,000 a year.

Aubrey.—The so-called Turkish bath is no modern invention. Hot-air baths have been familiar for ages, in almost all the countries of the world. William Penn found them among the North American Indians. But it was the Greeks and Romans who brought the art of hot-air bathing to its perfection in their luxurious baths. The Romans introduced the practice as one of the fine arts into our country during their occupation of it. But it seems to have departed from our island with the conquerors. The so-called Turkish baths are in reality Roman baths; and their introduction in the nineteenth century is only a revival of a practice which prevailed 1800 years ago among our ancestors.

A TEMPERANCE COFFEE-HOUSE, NOTTING-HILL.

We are glad to notice that a new workmen's temperance club and coffee-house, known as the "Magdala Castle," was opened on Saturday evening by Lord Cairns. It is situate close to the Latimer-road Railway-station, Notting-hill. It may be observed that the "Magdala Castle" was originally intended to be used as a public-house, but a native of Notting-hill, having returned from Australia, after many years' absence, with a fortune, determined on applying some of it in benefiting his native place. With this view, and acting under the advice of a committee, he purchased the "Magdala Castle," and the house has been fitted out as a working-men's temperance club, reading-room, and coffee-saloon.

A Beer Drinker.—We have no historic account of the first brewer; but history tells us that brewing was practised more than 2000 years ago. Theophrastus, who was born nearly 400 years before Christ, described beer as the wine of barley. Egypt was the land in which it was first brewed.

AN UNWHOLESOME GOVERNMENT FACTORY.

The insanitary condition, from defective drainage or ventilation (especially), of our Government offices, buildings, and factories, has on several occasions lately been brought before the notice of the public, under circumstances involving, not only many cases of serious illness, but even of death. The following is another fatal instance from the like cause, and demands immediate action on the part of the Government authorities responsible for such a deplorable state of things. The coroner's inquiry into the death of an ironfounder in the Government employ at Keyham Factory, Devonport, after two days' sittings, has resulted in a verdict of "Accidental poisoning." It was shown that the deceased, without orders, went into a house where moulds are dried, and was there found dead. The medical evidence proved that death was caused by poisoning with noxious gases; and some of the jury who had, it seems, been in Admiralty employ, elicited from a witness that the ventilation of the whole factory was very defective, and that complaints had been made, but as yet with no result. The coroner was requested by the jury to direct the attention of the Admiralty to the necessity of improving the ventilation of the factory, which was dangerous to the health of the operatives.

COMMUNICATIONS have been received from—

Dr. JAMES RUSSELL, Birmingham; Dr. GAVIN MILROY, Richmond, Surrey; Dr. BARLOW, London; Dr. FRANCIS OOSTON, Aberdeen; Mr. JOHN CHATTO, London; Mr. T. M. STONE, London; Mr. G. HILL SMITH, Stevenage; Mr. W. COLLINGRIDGE, London; Mr. R. B. CARTER, London; Mr. GODLEE, London; Dr. PARKS, Homburg; Dr. BULKELEY, New York; Mr. WARRINGTON HAWARD, London; Dr. SEMPLE, London; Mr. J. FORSTER, Adelaide; S. B. L.; CARLSBAD WATER COMPANY; Dr. MORELL MACKENZIE, London; THE SECRETARY OF THE NAVAL SUPPLEMENTAL FUND.

BOOKS AND PAMPHLETS RECEIVED—

W. Wilberforce Smith, M.D., The Flat Roof as a Recreation Place in British Towns—S. O. Habershon, M.D. Lond., On the Pathology of the Pneumogastric Nerve—Thomas Hay, M.D., History of a Case of Recurring Sarcomatous Tumour of the Orbit in a Child—Herbert Tibbits, M.D., A Map of Ziemssen's Motor Points of the Human Body—Henry F. Campbell, M.D., Calculi found in the Bladder after the Cure of Vesico-Vaginal Fistula; Pneumatic Self-Replacement of the Gravid and Non-Gravid Uterus—T. Gallard, Clinique Médicale de la Pitié—Transactions of the Seventy-ninth Annual Session of the Medical and Chirurgical Faculty of Maryland—Charles Weber, M.D., Gout and its Treatment—E. Wyndham Cottle, The Hair in Health and Disease—Henry Heather Bigg, A. Inst. C.E., A Manual of Orthopraxy.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Archives Générales de Médecine—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—La Province Médicale—Practitioner—Home Chronicler—Trade Marks—Doctor—Analyst—Journal of the Statistical Society—Cincinnati Clinic—Westminster Review.

APPOINTMENTS FOR THE WEEK.

July 14. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

16. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

17. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

18. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

19. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

20. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, July 7, 1877.

BIRTHS.

Births of Boys, 1139; Girls, 1081; Total, 2220.
Average of 10 corresponding years 1867-76, 2112·3.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	707	615	1322
Average of the ten years 1867-76	672·9	629·9	1302·8
Average corrected to increased population ...	...	...	1394
Deaths of people aged 80 and upwards ...	...	...	42

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	2	4	3	...	8	...	...	1	13
North	751729	9	12	4	4	5	...	3	...	22
Central ...	334369	...	4	2	...	1	..	...	...	8
East	639111	4	19	4	3	9	4	1	...	32
South	967692	8	5	5	2	12	2	6	2	21
Total	3254260	23	44	18	9	35	6	10	3	96

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·819 in.
Mean temperature	58·2°
Highest point of thermometer	75·3°
Lowest point of thermometer	44·2°
Mean dew-point temperature	48·7°
General direction of wiud	W. & S.W.
Whole amount of raiu in the week...	0·63 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, July 7, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending July 7.	Deaths Registered during the week ending July 7.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2220	1322	75·3	44·2	58·2	14·55	0·63	1·60
Brighton	102264	43·4	57	18	70·1	47·2	58·2	14·55	0·11	0·28
Portsmouth ...	127144	28·3	89	34	70·8	47·8	57·7	14·28	0·49	1·24
Norwich	84023	11·2	52	22	70·5	46·8	57·1	13·95	1·19	3·02
Plymouth	72911	52·3	39	31	72·5	45·0	58·0	14·44	0·14	0·36
Bristol	202960	45·6	131	68	72·7	42·2	56·4	13·55	0·72	1·83
Wolverhampton ...	73389	21·6	49	28	74·2	43·7	55·1	12·84	0·57	1·45
Birmingham ...	377436	44·9	245	151	...	...	...	...	...	...
Leicester	117461	36·7	87	38	68·8	44·0	55·7	13·17	0·36	0·91
Nottingham ...	95025	47·6	61	31	75·8	42·2	56·9	13·83	0·17	0·43
Liverpool	527083	101·2	386	223	64·0	43·8	53·4	11·89	1·77	4·50
Manchester ...	359213	83·7	262	154	80·0	45·0	57·9	14·39	0·53	1·35
Salford	141184	27·3	133	68	67·6	42·2	52·8	11·56	0·63	1·60
Oldham	89796	19·2	100	40	...	...	...	...	...	...
Bradford	179315	24·8	129	61	70·8	45·2	55·3	12·95	0·28	0·71
Leeds	298189	13·8	241	110	73·0	44·0	56·1	13 39	0·33	0·84
Sheffield	282130	14·4	218	93	68·0	42·0	54·8	12·67	0·25	0·63
Hull	140002	38·5	102	53	70·0	44·0	55·5	13·06	0·56	1·42
Sunderland ...	110382	33·4	92	85	73·0	49·0	56·9	13·83	0·18	0·46
Newcastle-on-Tyne	142231	26·5	106	57	...	...	...	...	...	...
Edinburgh	218729	52·2	137	77	68·0	45·0	55·0	12·78	1·08	2·74
Glasgow	555933	92·1	435	230	64·0	46·5	54·7	12·61	0·72	1·83
Dublin	314666	31·3	135	120	69·6	40·4	55·3	12·95	0·55	1·40
Total of 23 Towns in United Kingdm	8144940	38·3	5506	3061	80·0	40·4	56·1	13·39	0·56	1·42

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·82 in. The lowest reading was 29·70 in. on Friday, and the highest 30·01 in. at the end of the week.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

THE HUNTERIAN LECTURES FOR 1877.

ON DEFECTS OF VISION WHICH ARE REMEDIABLE BY OPTICAL APPLIANCES.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

By ROBERT BRUDENELL CARTER, F.R.C.S.,
Late Professor of Surgery and Pathology to the College; and Ophthalmic Surgeon to St. George's Hospital.

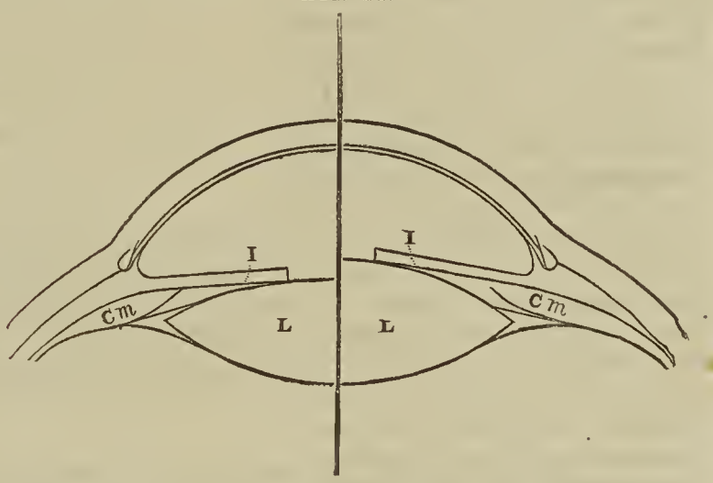
Lecture II.

Mr. President,—The two remaining factors of sustained clear vision, the accommodation and the convergence, require to be considered not only separately, but also in their relations to one another. The first of these two factors, the accommodation, was defined in my former lecture to be the power of adjusting the eye to see with equal clearness at distances within its far-point; and Mr. Hulke, when he held office as Arris and Gale Lecturer, fully described in this theatre the mechanism by which the function is performed. There is therefore no occasion for me to occupy ground which has already been so well covered; and I need only point out the necessity which there is for accommodation, and the nature of the change which produces it. Taking the emmetropic eye as a starting-point, with its capacity for uniting parallel rays upon its retina, it is obvious that rays coming from comparatively near objects will no longer be parallel, but divergent; and that the degree of their divergence will constantly increase as the object from which they proceed comes nearer and nearer. In order to overcome this constantly increasing divergence of the rays, and still to obtain clear images from near or from steadily approaching objects, the eye must possess the power of increasing its own action upon light. That it does possess such a power may be shown in many ways, among which that proposed by Donders is perhaps the most convenient. If we take a piece of net, and hold it between the eyes and a printed page, we may at pleasure see distinctly the fibres of the net, or the printed letters on the page through the interstices of the net; but we cannot clearly see both at once. When we are looking at the letters, we are only conscious of the net as a sort of intervening film of uncertain character; and when we are looking at the net, we are only conscious of the page as a greyish background. In order to see first one and then the other, we are quite conscious of a change which takes place in the adjustment of the eyes; and if the net is very near, and we look at it for any length of time, the maintenance of the effort of adjustment becomes fatiguing.

It has been thoroughly established, by the observations of Cramer, Helmholtz, Donders, and others, that the crystalline lens undergoes a change of shape in the act of accommodation; and there is abundant proof that this change of shape is brought about by contraction of the ciliary muscle. It appears, however, that the muscle does not act upon the lens directly, or alter its shape by virtue of any pressure or tension which it exercises, but that its action is to relax the capsule of the lens and the zonule of Zinn, and thus to allow the proper lens-tissue to undergo the necessary change by virtue of its own elasticity. When all parts are at rest, the capsule is believed to compress the lens, and to retain it in its state of greatest flatness; but when the ciliary muscle comes into play, it draws forward the ciliary body and makes tense the choroid, and so allows the lens to expand to the degree which the relaxation of its capsule will permit. The change of shape occurs chiefly in the anterior portion of the lens, although the posterior surface participates in a slight degree. Besides the principal alteration, that in the shape of the lens itself, there are other changes which accompany the act of accommodation, but which are not essential to its performance. The pupil contracts, and the iris-tissue is rendered more tense. The whole of these changes are represented in Fig. 14, in which L represents the lens, I the iris, and *Cm* the ciliary muscle. The left-hand half shows the parts at rest, and the right-hand half shows the changes which occur when accommodation is being exerted.

Putting aside the mechanism of accommodation, it may be broadly said that the effect of the effort is precisely that of placing an additional convex lens within the eye; and the amount of refracting power which can thus be added is very definite, and admits of easy and precise measurement. In every eye there is a point within which clear vision is no longer possible without optical assistance; and this, which is called the near-point, marks the limit of the power of accommodation. Still assuming the eye to be emmetropic, with its far-point at infinite distance, let us suppose that it can see small objects clearly at twenty centimetres, or one-fifth of a metre, but not at any shorter distance. The effort of accommodation, which is exercised in seeing at this near-point, produces precisely the same optical result which would be attained by placing within the eye a convex lens of the same focal length as the distance from the eye to the near-point. In the case supposed, therefore, the accommodation is equal to a lens of five dioptrics; and in the improved nomenclature it is expressed as being equal to five, and not, as would have been the case two years ago, by the focal length in inches, reduced to a fraction by placing unity as its numerator. The fifth of a metre being eight inches, the fraction would have been one-eighth; and in this distance, as in many others, the usefulness of the metric system in simplifying calculations becomes at once apparent.

Fig. 14.

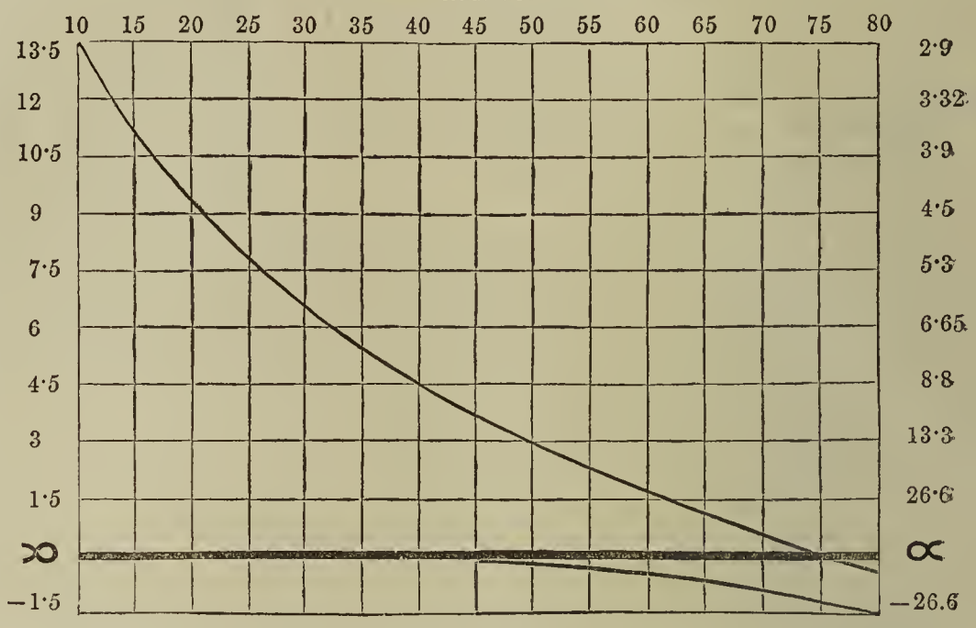


As life advances, probably on account of the regularly diminishing elasticity of the crystalline lens, the power of accommodation constantly diminishes, and the near-point consequently recedes farther and farther from the eye. The diagram in Fig. 15 is taken from Donders, and is only so far altered as to adapt it to the metric system, by expressing the accommodation in dioptrics, and the successive distances of the near-point in English instead of in Paris inches. It represents the ordinary course of the accommodation in an emmetropic eye from the age of ten years to the age of eighty. The figures at the top of the diagram show the years of life, and those at the sides the amount of accommodation, expressed to the left in dioptrics, and to the right in English inches. The larger curved line shows the course of the accommodation; and it is drawn as the mean of a great number of observations. We see that the emmetropic eye, at the age of 10, has a power of accommodation equal to $13\frac{1}{2}$ dioptrics; or, in other words, its near-point is a little nearer than the thirteenth part of a metre—a distance equal to 2·9 English inches. At 14—that is, before we reach the line marking the fifteenth year—the power of accommodation is reduced to 12 dioptrics, and the near-point has receded to 3·32 inches; at 18, the accommodation is 10·5 dioptrics, and the near-point is at 3·9 inches; at 21, the accommodation is at 9 dioptrics, and the near-point is at 4·5 inches; at 26, the accommodation is 7·5 dioptrics, and the near-point at 5·3 inches; at 32, the accommodation is 6 dioptrics, and the near-point at 6·65 inches; at 40, the accommodation is 4·5 dioptrics, and the near-point at 8·8 inches; at 50, a great change has taken place—the accommodation is only 3 dioptrics, and the near-point has receded to 13·3 inches; at 60, the accommodation is only 1·5, and the near-point is at 26·6 inches; at 75, accommodation is wholly lost, and the near point is at infinite distance; at 80, we have what Donders described as acquired hypermetropia, and, in the total absence of accommodation, a weak convex lens is required even for infinitely distant objects. It is probable that this phenomenon of acquired hypermetropia will be found to admit of a somewhat different explanation from that which Donders gave of it. The smaller curve on the diagram exhibits the course of the far-point during the same

succession of years, and shows that the hypermetropia which is said to be acquired is first traceable at about the forty-fifth year.

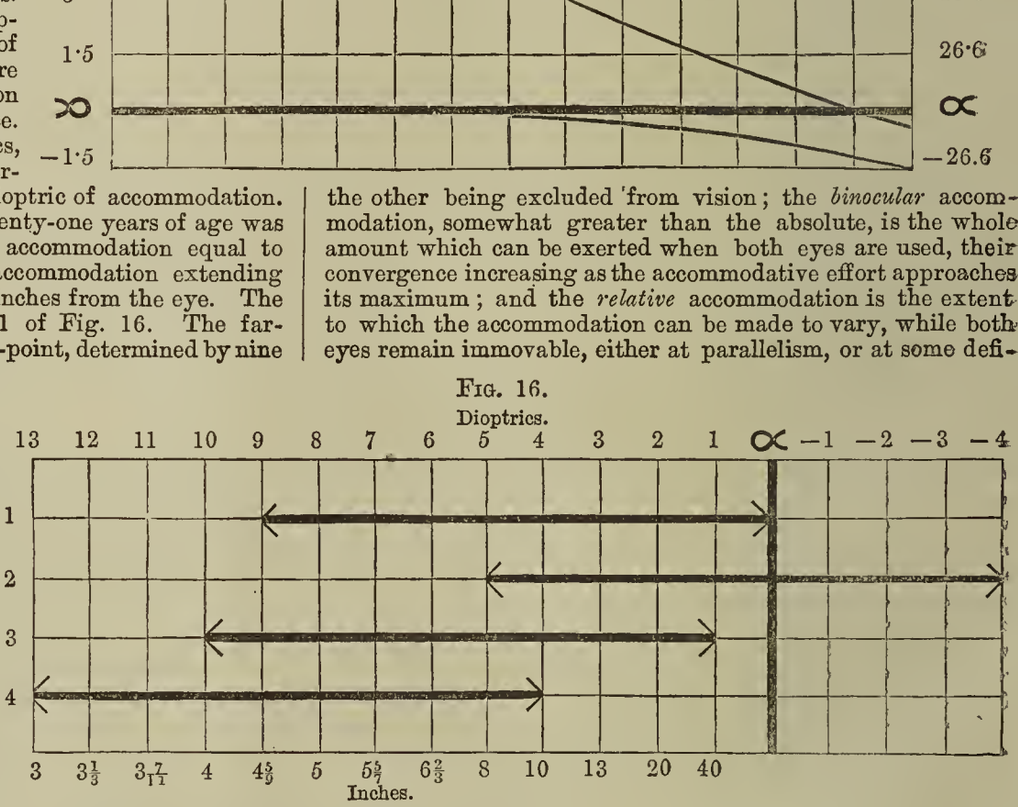
In speaking of the accommodation, there are two technical expressions in common use, which are somewhat liable to be misinterpreted, and about which it is very necessary to obtain perfectly clear notions. These are, respectively, the *range* and the *region* of accommodation. The range should be used as a synonym for the power of accommodation; that is, to express the number of dioptrics to which the power is equal. The region should be used to express the limits of space within which the power is exercised. In Fig. 16, the distinction is shown in a diagrammatic form. The horizontal lines, marked successively 1, 2, 3, and 4, exhibit, by their darker portions, the differences of region which will exist, with the same range of accommodation, in an emmetropic eye, an eye hypermetropic to four dioptrics, an eye myopic to one dioptric, and an eye myopic to four dioptrics. Each square is equivalent to one dioptric of added refraction—that is, of accommodation; and the squares are numbered both on the positive and on the negative side of infinite distance. The figures above indicate the dioptrics, and those below the position of the near-point, in English inches, for each dioptric of accommodation. In Fig. 15, the emmetropic eye at twenty-one years of age was shown to have a power or range of accommodation equal to nine dioptrics, and a region of accommodation extending from infinite distance to a point 4·5 inches from the eye. The same condition is exhibited by line 1 of Fig. 16. The far-point is at infinite distance; the near-point, determined by nine dioptrics of accommodation, is at 4·5 inches. On line No. 2 we have the same range of accommodation, but combined with four dioptrics of hypermetropia. Hence, the first four dioptrics of accommodation are required for parallel rays, or, in other words, to bring the far-point up to infinite distance; and only five dioptrics of accommodation remain for use in the ordinary way. The eye is in the position of an emmetropic eye which has only five dioptrics of accommodation; and the exercise of these five dioptrics places its near-point at eight inches. Moreover, as it is not generally practicable to employ more than half the accommodation continuously, the working near-point would be that given, at most, by five dioptrics of accommodation, and would therefore be forty inches away. On the third line, a myopia of one dioptric places the far-point at forty inches, and the nine dioptrics of accommodation must all be exercised within the limits thus imposed, that is, between a distance of forty inches and a distance of four inches, to which the near-point can be brought. The last example, an eye with four dioptrics of myopia, has its far-point at ten inches, and its near-point at three inches, the nine dioptrics of accommodation being all exercised on the nearer side of ten inches. As regards their near-points, the last two eyes are like emmetropic eyes which possess ten and thirteen dioptrics of accommodation respectively; and the four examples show that the same *range* of accommodation may be exercised in four widely different *regions*: In the first, the region extends from infinity to 4·5 inches; in the second, it is partly a mathematical negation, on the other side of infinite distance, and is partly between infinity and eight inches; in the third, it is between forty inches and four; in the fourth, it is between ten inches and three. The words "range" and "region" are not, I think, the best which could have been chosen for the purpose of expressing the ideas which they are intended to convey; and on this account it seemed desirable to explain them in some detail, and to endeavour to remove all ambiguity from their respective meanings.

Fig. 15.



We shall see hereafter that the power of accommodation is very much influenced by the convergence; and from this relation we derive other expressions, which hardly carry with them the senses in which they are used. The *absolute* accommodation is the whole amount which one eye can exert singly, the other being excluded from vision; the *binocular* accommodation, somewhat greater than the absolute, is the whole amount which can be exerted when both eyes are used, their convergence increasing as the accommodative effort approaches its maximum; and the *relative* accommodation is the extent to which the accommodation can be made to vary, while both eyes remain immovable, either at parallelism, or at some definite degree of convergence. Variations in the range, and in the region, of *relative* accommodation will be found to exercise a most important influence upon the power of sustained visual effort; but the consideration of this influence must be postponed until after the convergence function itself has been briefly described.

Fig. 16.

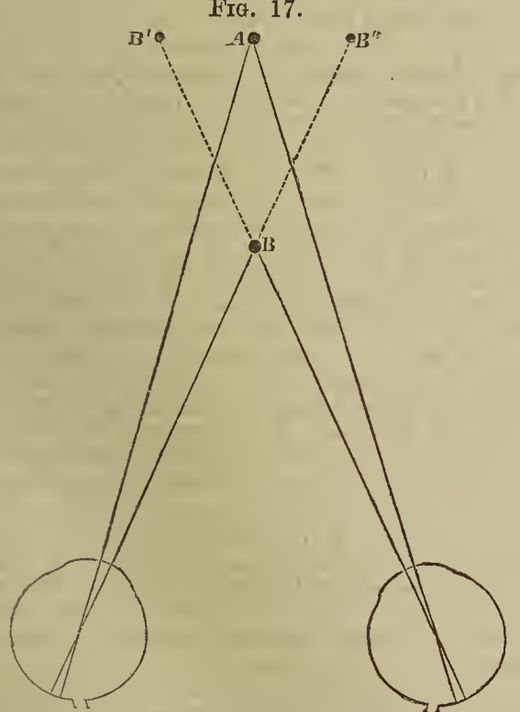


The convergence, the third factor of clear vision, is a term used to express the whole of that range of mobility by which the axes of vision are moved from parallelism, or even from a certain degree of divergence, to be directed towards some near point in space. The eyes may, of course, be directed convergently towards some lateral part of the field of vision; but such a direction is infrequent, and can scarcely ever require to be sustained. Practically, therefore, we mean by convergence the direction of the eyes to some point in a median plane between them, so that the muscles on the two sides are called into equal action for the maintenance of the effort. The conditions of human industry, moreover, generally require a downward direction of the gaze, so that the inferior recti muscles are brought into play; but convergence is mainly dependent upon the internal recti, and upon the state of equilibrium between these and their antagonists, the external recti. In a state of rest the optic axes, or rather the visual lines, which do not necessarily coincide with the optic axes, are at least approximately parallel, usually with a slight tendency towards convergence; and this must

be taken to be the state of equilibrium between the antagonistic muscles. The antagonism of these muscles, however, is of such a kind that it is constantly becoming co-operation; for, while each internal rectus, in convergence to the median plane, acts together with its fellow, and opposes, and is opposed by, its antagonist, yet in lateral vision, or in convergence towards any lateral portion of the field, each internal rectus acts in unison with the external rectus of the other eye. Dr. Broadbent has pointed out that the motor ganglia of any two or more muscles which are constantly called upon to act in unison have generally an intimate connexion; and we must assume, I think, that the stimulus to median and to lateral fixation must be derived from distinct centres. The actions themselves, although performed by the same muscles, are yet the results of combinations so entirely dissimilar in their character that no other hypothesis seems to meet the facts of the case.

As the perfection of accommodation for any object is shown by the clearness and sharpness of the vision, so the perfection of convergence for any object is shown by the singleness of vision, assuming it first to be ascertained that the person who is the subject of inquiry can see binocularly. If any object is in such a position as to be seen, and if the visual lines are not directed towards it, the images formed in the two eyes will not be on corresponding points of the retinæ, and double vision will be the result. A simple test of the possession of binocular vision is afforded by placing before one eye a prism with its base directed either upwards or downwards—an arrangement which, when both eyes are directed towards some moderately distant object, will produce diplopia if binocular vision exists. Another simple test is furnished by holding any slender object, such as a pencil or a knitting-needle, between the eyes and a printed page, nearly in the middle line. The observer should then read the print; and, if he has binocular vision, he will see two images of the intervening object, neither of which will shut out any letter from his view. He will be able to read as distinctly and as uninterruptedly as if the images were not there. If he has not binocular vision, or if he closes one eye experimentally, the intervening object will be seen single, and then it will shut out some portion of the page from his view. The reason of this is apparent from Fig. 17, in which

Fig. 17.



A represents the point on the page which is the object of vision, and B the intervening object. The rays from A fall upon the yellow spot of each eye; but those from B fall upon the outer side of the yellow spot of each eye, so that to the right eye B seems to be situated at B′, while to the left eye it seems to be at B″. An examination of the diagram will also render it obvious that, whether there be a printed page as background or not, the slender object will be seen double, with crossed images, if the eyes are directed to a point beyond it, and double, with direct or homonymous images, if the eyes are directed to a point nearer the observer. The purpose of convergence, it must be borne in mind, is the avoidance of double images, or the fusion of the images which are formed upon the two retinæ; and this can only be accomplished when the eyes are both directed to the same point. In estimating convergence, the apparent direction of the eyes is not always a perfectly safe guide, because this apparent direction will be governed by that of the axes of the eyeballs, and not by that of the axes of vision, which, as I have already said, do not always coincide with the former. The impulse to fusion, by which the convergence is governed or directed, can only be referred to the centres of visual sensation; and the urgency of the instinctive demand is shown by the giddiness and general disturbance of co-ordination which double images frequently produce. When single vision is maintained, and when it can be disturbed by means of a prism used in the manner already indicated, we have the best possible assurance that the demand for fusion exists in the nervous centres, and that the machinery for fulfilling the demaud is of natural strength and in full operation.

Having thus a test of the accuracy of the convergence for a given point, the power or range of the function may be estimated by two standards. The first of these is the distance of the nearest point for which convergence can be maintained, and the angle then contained between the visual lines. The average distance apart of the centres of the eyeballs is sixty-four millimetres, or nearly two inches and a half. The average reading distance may be stated at fifteen inches; and the nearest point at which I find it possible to maintain couvergence, even for a few moments, is twelve centimetres. The angle formed between the visual lines amounts only to 10° when the object is at fifteen inches, increases to 14° when the object approaches to ten inches; and becomes 28° at the distance of twelve centimetres, which I have mentioned as the limit of my own convergence. Mannhardt, in an interesting paper published a few years ago in the *Archiv für Ophthalmologie*, sought to attach great importance to this angle, and also to the increase of the angle which necessarily attends any increase of the normal width between the centres of the eyes. He endeavoured to show that people whose eyes were far apart must of necessity be more fatigued than others in using them for near objects; but he appears to have overlooked the obvious consideration that all such differences of original formation are likely to receive compensation from muscular attachments in harmony with them; and, as a matter of fact, I am not aware that Mannhardt's view has been confirmed by practical experience even in a single instance.

The other method of measuring the convergence-power, and certainly the most generally applicable, is by determining the capacity of the internal and external recti muscles for fusing together the double images produced by prisms. On a simple optical principle, which it is only necessary to mention, the rays of light which pass through a prism are deflected towards its base, so that any object seen through a prism is changed in apparent position, and seems to be displaced in the direction of the refracting angle. If the object is in the median line, and we look at it with one eye through a prism with its base turned towards the nose, the object appears to be displaced outwards towards the temple of the spectator; and if the base of the prism is turned towards the temple, the apparent displacement is in the opposite direction, or towards the median line. It follows, if we hold before each eye a prism with its base inwards, and look at a distant object in the middle line, we shall have to render our optic axes more divergent than the true position of the object requires, in order to see it singly; and the strength of the prisms which we can thus overcome by voluntary muscular effort is the measure of our power of voluntary divergence or abduction. In like manner, if we place the prisms with their bases outwards, we shall have to exert our converging power in order to see singly; and the strength of the prisms which we can overcome is in the same way the measure of the converging faculty. Taking as an object a flame at twelve feet distance, I find that I can overcome, for a short time at least, prisms of 22°—that is, two each of 11°, with their bases outwards, and two each of 6°, with their bases inwards. This is with fully relaxed accommodation, wearing convex spectacles of 0·75 to neutralise my hypermetropia. Great variations of power will be found in different persons, and I lately tested a gentleman who had no abduction or divergence power at all, so that he could not overcome two prisms each of 2° with their bases inwards, but who overcame all I could give him, amounting to an aggregate of 34°, when the bases were turned outwards, and his internal recti muscles came into play.

TABLE III.

	Overcame by adduction (bases outwards).	Overcame by abduction (bases inwards).
Case 1 . .	17° + 17° = 34°	3° + 4° = 7°
2 . .	17° + 17° = 34°	5° + 5° = 10°
3 . .	16° + 16° = 32°	5° + 4° = 9°
4 . .	15° + 15° = 30°	8° + 8° = 16°
5 . .	12° + 12° = 24°	4° + 4° = 8°
6 . .	10° + 10° = 20°	3° + 4° = 7°
7 . .	9° + 9° = 18°	3° + 4° = 7°

Table 3 shows the adduction and abduction powers of seven students at St. George's Hospital, taken at random. It will be seen that the adduction power ranges from a minimum of 18° to a maximum of 34°; the abduction from a minimum of 7° to a maximum of 10°. The object looked at was a flame eight feet away, and five of the students were presumably emmetropic. No. 3 was the subject of hypermetropia equal to 2·75 dioptrics; No. 7 of hypermetropia equal to 1·75 dioptrics.

(To be continued.)

CLINICAL LECTURE
ON A CASE OF
MULTIPLE ANEURYSMS IN THE HEART, THE LUNGS, AND CAVITY OF THE CRANIUM.

By HENRY THOMPSON, M.D., F.R.C.P.,
Physician to the Middlesex Hospital.

HENRY T., aged twenty, a draper's assistant, came under my care, in Cambridge Ward, January 12, 1876, with the following history, as recorded in the notes. The only serious illness he can recollect arose from the kick of a horse over the lower part of the chest, on the left side, between eight and nine years ago. Within half an hour of the accident he spat blood, but never afterwards. On this occasion he was confined to the house for six weeks. His present attack began about a month ago, with chest-pains and shortness of breath.

On Admission.—The cheeks were flushed purple; the general appearance was that of debility and emaciation. Complained chiefly of pain at the heart and across the loins. There was a loud blowing murmur of extreme intensity—loudest, indeed, over the upper and central regions of the præcordia, but loud everywhere in front, where it effaced the first sound altogether; and, again, well pronounced, although subdued by comparison, at the back. Coincidently with this murmur, a purring vibration, or thrill, could be felt at the base of the heart and over the whole of the right ventricle, but not beyond the boundary of the sternum; nor again, leftwards, so far as the outermost limits of the apex-beat. The second sound was unnaturally rough at the base, and both sounds obscurely expressed in the carotids. The murmur distinctly and entirely preceded the pulse at the wrist; it was synchronous with the pulse in the carotids, or in part antecedent to it. At the posterior base of the left lung the first sound could be heard, apparently prefaced by a brief tone or bruit. The superficial veins of the neck were enlarged, and beaded in places, but they presented no pulsation.

As the case progressed, the boy began to look gaunt, haggard, and extremely ill; he spat blood. He suffered for many days from pain in the upper part of the right chest; and, when that abated, from pain at the left posterior base, where the percussion-note was dull, the breathing tubular, and the voice-sound bronchophonic. All the while the original pain at the heart continued, and all the while he was losing flesh and strength. The urine contained a trace of albumen, with an admixture of blood, as shown by guaiacum.

Such is a summary of the case as far as February 11. From that date to February 17 the symptoms were chiefly those of dyspepsia—nausea, vomiting, and loss of appetite. On the 17th he coughed a good deal, spat blood, and suffered again from sharp pain near the right axilla. Temperature 104·4°—the highest on record. For many succeeding nights he required injections of morphia to procure sleep. The nausea, the vomiting, and the anorexia continued with interruptions; and it was not until the beginning of March that the pain subsided.

March 16.—A double murmur may be heard at mid-sternum; both sounds muffled, and murmur-like in carotids. Pulse jarring. Pain, aggravated by deep inspiration and by coughing, below left mamma.

April 8.—He has been wandering in the night, and even now seems confused. He speaks slowly, and with much thickness of utterance. His vocabulary is limited; for the most part he repeats a monotonous sound, which at times is clearly "Have mercy," and with this expression, plainly or indistinctly pronounced, he closes every sentence. The power of grasping is about the same in both hands, nor is there any want of symmetry in the lines of the forehead or face. The tongue, however, swerves in some measure to the right side.

9th.—Repeated the Lord's Prayer after the chaplain fairly well. On being asked how he was, he replied, with some hesitation, "I am first-rate." He cannot read audibly, however, nor could he repeat on dictation "A fine clear morning." Most of his sentences still relapse into the old "Have mercy." Wrote his Christian name, "Henry," quite well and legibly. When desired to write "morning" he failed altogether, but succeeded in copying a few letters of the word, presenting it under the form "mony."

20th.—Still there remain traces of aphasia, although, on the whole, he expresses himself with greater freedom and with a wider range of language.

27th.—Looks more and more ghastly, wan, and wasted.

May 18.—Seems in great distress, and complains of pain and tenderness in the left side of abdomen.

29th.—The physical signs have undergone a change. The original murmur is much softened, and the diastolic sound is clear everywhere over the chest and in the carotids. There is now pulsation in the cervical veins, and yesterday there was slight œdema in the right foot.

June 1.—After a long interval of clear, intelligible speech, he again miscalls many things. Looks deadly pale, and seems indifferent to life. Asked for a knife to cut his throat. From this time forth he sank, and died June 3.

Autopsy (abridged from the report of Dr. Sidney Coupland).—Beneath the arachnoid a large amount of fluid overspread the shrunken brain, the membrane itself here and there presenting patches of opacity with small plates of bony material. The left temporo-sphenoidal lobe, superficially orange-coloured, showed on section a cyst occupying the anterior half and containing a fluid like curds-and-whey. Seated on the middle cerebral artery, about half an inch from its origin, a saccular aneurysm, the size of a chesnut, blocked the entrance into the left Sylvian fissure. Internally, the aneurysm was found to consist of a compact mass of fibrine arranged concentrically in a laminated fashion, except in the innermost parts, where it was channelled and filled with soft black clot. The vessel was empty of blood. The heart weighed fourteen ounces and a half. On the right side the conus arteriosus was immensely enlarged; its walls were abruptly and inordinately thickened, and its cavity contained a mass of fleshy fragile vegetations, springing from the dense, irregular, milk-white endocardium, and spreading as far as the attached margins of the pulmonary valve. Half an inch below the attachment of the valve, the septum ventriculorum in its anterior part was the seat of two perforations—one circular, just admitting a crow-quill; the other triangular, measuring three-eighths of an inch in each direction. Both apertures were fringed with warty vegetations, but, in front and below, the margins of both were round, smooth, and continuous with the condensed endocardium of the conus. The foramen ovale was closed, and there were no traces of the ductus arteriosus. Projecting into the wide cavity of the left auricle, a group of vegetations arose from the adjoining borders of the two mitral curtains, close to the septum; and above, over the space of about a square inch, the opaque thickened endocardium was covered by vegetations. In laying open the left ventricle, a pouch was cut into, lined by a thick membrane, continuous with the endocardium through a smooth narrow orifice which occupied the interval between two diverging columnæ carneæ. The pouch was seated near the base of the heart, partly in the ventricular walls, but principally in the septum. The parietal portion was small; the septal division was oval-shaped, and measured an inch and a quarter in its long diameter from above downwards; its depth was half an inch; its smooth lining membrane was traversed by numerous folds marking the course of the muscular fasciculi which enclosed it on every side; it passed right through the septum, and opened into the conus arteriosus by the two foramina before described. All the valves except the tricuspid were competent to the water-test. The right lung was firmly adherent at the apex. Two cavities of large size

and long standing occupied respectively the upper and middle lobes. With these exceptions, the parenchyma of the lung presented no peculiarities of any moment. There were, however, five saccular pouches—true aneurysms—discovered on different branches of the pulmonary artery, all possessing walls of immense thickness, and all loosely attached to the tissues around. One was seated on the main artery supplying the middle lobe; it was of the size of a Barcelona nut, and lined by a layer of adherent fibrine. Four were found in the lower lobe, two as large as the last described, and two of smaller dimensions. They were nearly all engrafted on points of bifurcation in the artery, and, like the vessels, they were all empty of blood. No thrombi were found anywhere. On the left side, some recent lymph coated the lower lobe, which was in great measure solidified, showing numerous tracts of embolic pneumonia varying in size and appearance, some entire, some broken down into irregular cavities. Large firm fibrinous clots were seen to block the branches of the pulmonary artery in this lobe, and in one of these branches an aneurysm was situated—the only aneurysm discovered in the substance of the left lung. In the upper lobe, near the apex, was a recent infarction, of the size of a walnut, with a plug in the artery leading to it. The central third of the spleen was entirely composed of a large wedge-shaped buff-coloured mass, just beginning to soften in places. The remaining organs presented nothing that need be described.

Commentary.—Gentlemen,—Many a time and oft have I pointed attention to the foregoing case as a marvel and a mystery past all precise interpretation. During the lifetime of the patient I could only waver between two alternative hypotheses—congenital malformation with an unclosed interventricular septum; and aneurysm in some unwonted form or place. Strange to say, although the hypotheses in question together covered the main mischief in the heart, yet neither the one nor the other proved to be absolutely correct. In giving the diagnosis I never dreamt of aneurysm perforating the septum; still less could I foresee the discovery of eight disseminated aneurysms. There can be no manner of dispute as to the nature of the phenomena; the wonder is, how in the world they came into existence. As for the aneurysm in the septum, possibly it may owe its original development to the kick of the horse that occurred eight or nine years ago. Injury will cause laceration of the heart-fibres, and then, as you would naturally expect, it is the right ventricle which bears the brunt of the damage. Under these circumstances, let the heart-fibres be once torn, contused, or weakened on the right side of the septum, they will offer less resistance to the preponderating blood-pressure from the left heart. The blood bearing upon the intercolumnar spaces of the left surface will tell forcibly on the unresisting fibres of the septum; it will work its way into the substance of the partition-wall, and there excavate a chamber for itself, in close contiguity to the damaged structures on the right side. Given all these conditions, it is easy to imagine that the blood may break through the barrier altogether, and unite the two ventricles into one. Possibly the right ventricle may co-operate with the left, and excavations commenced at the same level on the two surfaces of the septum may in due course of time meet midway in its substance. On this view, or on any hypothesis implying time spent in development, the aneurysm in our own case, slowly tunnelling and at last perforating the septum, may have given origin to endocarditis, with its rank and exuberant overgrowth of vegetations. On another view the chain of causation may have been reversed, and endocarditis may have originated aneurysm in the acute form by a swifter process of disorganisation. The seat of the aneurysm might seem to bespeak an acute origin, but its characters conform expressly to the chronic type. A smooth, narrow mouth in the groove between two diverging fleshy columns, an expanded sac, a dense lining membrane continuous with the endocardium at the orifice, and plainly showing on the walls of the cavity the mouldings of the muscular fasciculi, which appeared to maintain their integrity unbroken, and simply to have given way before the advancing aneurysm: all these characters taken together present the very picture of an old formation. Moreover, the vegetations underneath the aortic valve, though, of course, near to the orifice of the sac, nowhere came into immediate contact with it—a circumstance almost, if not altogether, irreconcilable with the idea of acute ulceration of the myocardium beginning on the left side, where we commonly find the point of departure for the ulcerative process. In spite, then, of all plausible presumptions to the contrary, the intraseptal aneurysm must have been an old one, whether we derive the endocarditis from its rupture or not. As for the remaining aneurisms—the six that were discovered in the lungs, and the solitary one that existed on the brain-surface—we may fairly ascribe their genesis to embolism. *Primâ facie*, indeed, if we were to look at the lungs alone, we might demur to this opinion. The right lung, with its manifold aneurysms, offered no trace of plugging, infarction, or consolidation anywhere; the left lung, with its single aneurysm, displayed all these pathological changes on the amplest scale. Still, the drawbacks to the hypothesis are not insuperable. Emboli may give rise to aneurysms, exalting as they do the tension of the blood-pressure, and impairing the integrity of the vascular walls in their vicinity; and on a survey of all the circumstances the conclusion is irresistible that they have done so in the present case. Bear in mind the extreme rarity of aneurysm in one so young, the absence of any preceding flaw in the arterial system, the wide dissemination of the aneurysmal masses, coupled with the presence of a material at the heart, on the right side and on the left, ripe and ready for detachment and deposition anywhere at any moment—above all, bear in mind the preference shown for the bifurcations of the bloodvessels, the chosen sites of emboli—and you cannot fail to see in embolism the sole sufficient cause of all the phenomena under discussion. Gentlemen, you recollect well the mysterious murmur described in the notes. Are we in a position to interpret this murmur now, with the heart lying before us? I fear not. So multifarious are the sources of murmur that I find it impossible to recognise severally the part played by each in the production of the universal discord. Those who are familiar with malformations of the heart and its appendages may speak with authority on this point,—I dare not; I only venture, with many misgivings, to accord the foremost place to the pulmonary valve and the perforating aneurysm. In this connexion two circumstances deserve to be mentioned. There were undoubted evidences of aortic valvular incompetency, alike in the characteristic pulse and in the characteristic murmur. Now, both these characters vanished towards the close of life, about the time when the boy began to complain of pain in the left side of the abdomen. What is the inevitable inference? A considerable cluster of soft and fragile vegetations were found attached to the under surface of the aortic valve, which, however, was pronounced to be competent after death on the assurance of the water-test. The inference is this. There must have been a time when the valve put forth a more luxuriant growth of vegetations, large enough to encroach upon its free margins and to interfere with the due play of its mechanism. Soon the encroaching material lost its hold on the surface, drifted away in the current of the circulation, and became impacted in the spleen, thus restoring to the valve the competency it had destroyed. The overgrowth disappeared, the undergrowth remained. The second circumstance is the following:—The long loud murmur in part preceded the systole of the ventricle: this point was determined by comparison with the carotid pulse in front, where the first sound was inaudible. At the back it was ascertained by simple reference to the first sound, which was plainly distinguished at the left posterior base, and there only. The vegetations on the mitral valve and orifice, and on the adjacent surface of the left auricle, possibly explain the presystolic element in the murmur. Possibly, also, the blood streaming through the aneurysm may have developed sonorous vibrations there, even during the period of the auricular systole. I have spoken of the carotid pulse as a measure of time in the interpretation of a murmur; and this leads me to the lesson the case before us is pre-eminently calculated to teach. On applying the stethoscope to the præcordia with one hand, and placing the fingers of the other over the carotid, you at once recognised the rhythm of the murmur as systolic in the main. Again, when you laid your finger on the radial artery, the murmur seemed to fall within the diastolic or presystolic period. It concurred for the most part with the carotid pulse; it distinctly and entirely preceded the pulse at the wrist. You were enabled to verify this by determining the close coincidence of the apex-beat with the carotid pulse, in comparison with its marked priority in point of time to the radial beat. The radial pulse, you know, is a little later normally than the heart's impulse; but here the difference in time was abnormally great. You see, then, that in estimating the rhythm of any given murmur it is unsafe to rely on the pulse at the wrist. Whenever it comes to a fine point, and absolute precision is required, you should, as a rule, place your finger on the carotid while you are listening at the heart. Unfortunately, this is not always

an easy matter to accomplish, at least with the rigid stethoscope in common use. The attitude is awkward and embarrassing in the extreme, and cannot be endured for any length of time; the carotid itself is but feebly felt in many persons, and often the slightest movement of the neck may utterly derange the best concerted manœuvres. If, then, you are foiled in your manipulation of the carotid, try the subclavian, just where it is on the point of dipping beneath the clavicle. The interval between the pulses in the two arteries must be immeasurably small. The subclavian is the larger vessel, and presents a pulse less liable to change and less easily effaced by the movements of the muscles, while the clavicle offers a rest that steadies the hand and leaves the ear and the head at full liberty to pursue their investigations in peace and quietness, without let or hindrance. Enough of the heart: let us pass to the brain. I need not remind you that in the vast majority of cases of aphasia, understood in its widest sense, the lesion is on the left side, and that in the majority of such cases the seat of the morbid change is the convolution of Broca or its environment. Pathology, then, and, I may now add, direct experiment, would seem to mark this region as a great physiological speech-centre for the mass of mankind; in other words, as one of the main links in the long chain of succession, from the supreme centres downwards to the nerve-nuclei, that govern immediately the muscles engaged in the consummation of speech. Our own case is no exception to the rule in pathology. The Sylvian artery near its origin was blocked by an aneurysm, which lay embedded on the surrounding structures, among the rest, on the convolution of Broca. The branches to the corpus striatum ran clear of the block; they arose in front of it on the proximal side. The remaining ramifications encircled the aneurysm, and must have been submitted to strong pressure. The temporo-sphenoidal branch appears to have been absolutely closed in some part of its course. The branches distributed to the gyrus of Broca and the island of Reil would seem to have collapsed and expanded in a desultory manner by intermissions. In accordance with the varying fulness and force of the cerebral circulation, or with the changing bulk, form, and structure of the aneurysm itself, they were more or less open to the reception of blood flowing at times in a slender stream, at times in volume sufficient to maintain the normal activity of the speech-centre. Again, the pressure bearing upon the bloodvessels must have borne upon the brain-tissues around the aneurysm at the same time, in the same measure, and with the same variations. Hence it is easy to understand why the aphasia should appear, disappear, and finally reappear. I would willingly stop here, were it not that a distinguished professor—one of the foremost men of the day—by the mere ascendancy of his name has well-nigh thrown us back into chaos and confusion. Dr. Brown-Séquard denies to Broca's convolution and its surroundings all physiological power over the mechanism of speech. This doctrine is only part and parcel of a comprehensive scheme which aims at revolutionising the pathology of paralysis, as hitherto accepted—a scheme, indeed, which goes far to render impossible all localisation of brain-power. I am, however, only concerned with aphasia. Let us suppose, then, that our presumed speech-centre, now under controversy, is softened or otherwise damaged in its nutrition. You are called upon to believe that it is not the destruction of tissue, or the abolition of energy in the part diseased, that directly paralyses the apparatus of expression, but that the paralysis is owing to an irritation derived from the damaged spot, and conveyed away to nerve-cells in other regions, where it is empowered to put a veto on the operations essential to speech. The *modus agendi* is complex—first irritative, then inhibitory. Now, gentlemen, aphasia may last a man's lifetime without material change from beginning to end. Is it, then, conceivable that the processes described can go on for evermore without a break, and never let slip a single opportunity of silencing speech or circumscribing its scope? To my mind, unceasing, unchanging paralysis, the result of untiring excess or sustained perversion of energy in a nerve, is one of the hardest of all hard things to understand; harder by far than all the anomalies that beset the old belief in passive paralysis. Be that as it may,—concede, if you please, all the profound and enduring influences claimed for irritation and inhibition, operating intermediately upon nerve-cells scattered broadcast throughout the brain,—you are no nearer the mark practically. The region above defined is still in disease the main source of aphasia, whatever the nature and channel of communication may be. Even when robbed of all its authority over the utterances of health, it still remains a pathological centre—a centre of speechlessness, if not a centre of speech,—and for all practical purposes we are exactly where we were.

ORIGINAL COMMUNICATIONS.

REMARKS ON

UNUSUAL SLOWNESS OF THE PULSE,

FOUNDED UPON A CASE ILLUSTRATING THAT FORM OF DISEASE.

By JAMES RUSSELL, M.D., F.R.C.P.

In the *Medical Times and Gazette*, vol. i. 1864, page 7, is a very interesting paper from the pen of Dr. Peacock, on "Unusual Slowness of the Pulse." A case of this form of disease, which has lately occurred to myself, led me to examine other recorded instances; and, if I venture now to supplement Dr. Peacock's communication, it is not in the hope of strengthening his arguments, nor with the intention of amending his conclusion, with which my own examination of the subject leads me to coincide; but with the desire of offering such further illustration as the examples to which I am able to refer have placed within my reach.

It would appear that, just as abnormal depression in the temperature of the body is an occurrence much less frequent in disease than the opposite condition of elevated temperature, so the cases in which the frequency of the pulse is decidedly reduced below the normal standard bear an almost immeasurably small proportion to the number of those in which its rate is accelerated. I am, of course, not referring to a small reduction in frequency, with respect to which the analogy, drawn from the body-temperature, does not hold; but rather to such abnormal reduction as brings the rate of pulsation down below 50, or even below 30 per minute; and this reduction not presenting itself as a passing occurrence, but as a condition lasting through a protracted period. Cases of very slow pulse have, however, been mentioned or detailed in in some number, but unfortunately—so far, at least, as the printed records go—with too few particulars, in many of them, to render them available for practical use.

It is an interesting question, at the outset, how far slowness of pulse, such as that now contemplated, is compatible with health and activity. Dr. Peacock, in the paper already referred to, says that he never met with a case in which remarkable slowness of pulse had been ascertained to have been an original defect; but certain instances on record appear to intimate that marked slowness is not necessarily inconsistent with a considerable amount of mental and bodily energy. My patient had a pulse so slow as to have attracted the attention of a medical man, though its number was not stated, for seven or eight years before he came under the observation of Dr. Parkes, who sent him to me; and during that time he was not aware that he was in other than usual health; he worked as an engineer. Napoleon's pulse-rate of 40 has been frequently quoted, apparently on the authority of Rochoux; in the debate at the Clinical Society on Mr. Pugin Thornton's case (*Lancet*, vol. i. 1875, page 310), Dr. Southey referred to a man who lived to eighty years of age, his pulse having been only 20 for thirty years; and Mr. Hewan gave most striking testimony of a similar character from his own person. His pulse, he stated, had fallen in the course of eleven years from 72 to 24, and had remained at that rate for ten years, excepting for a brief rise to 64 during an attack of gout, yet he was capable of great physical exertion. At a meeting of the Harveian Society in 1864 (*Medical Times and Gazette*, vol. i. 1864, page 607), Mr. Adams mentioned that a hospital surgeon in London had habitually a pulse under 30, consequent on a fever caught in the Crimea (I presume ten years before); he suffered from cold, and was unable to take stimulants. Two cases are also quoted by Mr. Herbert Mayo in his well-known paper (*Medical Gazette*, vol. xxii., page 232)—one of a man in good health, aged thirty-five, who was aware of his pulse having been slow for fourteen years, and when counted, four years before the paper was written, it was found to be 40; another, of a man, aged thirty-two, whose pulse was 36,—his aortic valves were ossified, and he died of obstruction of the bowels, but his health is stated to have been excellent. Mr. Mayo adduces two other examples in men, aged respectively seventy-seven and seventy years: in the former of these the pulse had not exceeded 36 for ten years when it was first

counted, and generally was 28; in the second the rate was from 40 to 28, the reduction being apparently due to restricted diet five years before; the former of the two is expressly stated to have enjoyed good health. In what proportion of certain other cases which have been incidentally quoted on other occasions, and have been reported in the journals, the general health has been preserved, it is impossible to form an opinion on account of scantiness in the details; nor is any assurance afforded that the sensible beats at the wrist have not been supplemented by feebler contractions of the heart, insufficient to make an impression upon the finger placed over the artery. On the other hand, it may be added that in a large proportion of the cases, which will form the basis of the following remarks, the discovery of slowness of the pulse was made accidentally, attention having been called to the symptom through the occurrence of the sudden attacks which seem to be so general a concomitant of the condition, at least when existing in disease. How often the pulse may be morbidly reduced in frequency without producing a liability to these attacks, I have no means of judging.

Besides the examples I have already referred to, there are others mentioned incidentally (I have noted eleven), without information as to the circumstances under which the condition has occurred, whether in health or in disease. In the Index to the first fifteen volumes of the *Pathological Society's Transactions*, peculiarities of pulse are entered as having presented themselves in thirty-six of the cases: of these I have access to reports of twenty-five; unusual slowness was noted in two only (vol. vii., page 167; and vol. xv., page 87). It thus appears that slowness of pulse is one of the rarer accidents in pathology, yet is encountered with sufficient frequency to give it importance as a symptom of disease.

I have noted thirty-eight cases (including my own case) in which slowness of pulse appears to have been associated with disease, and in which sufficient details are afforded for the purpose of this communication. But in four of the thirty-eight the slowness was not so great as appeared at first sight, a weaker contraction of the heart, not marked by a sensible radial pulsation, supplementing the sensible pulse; in one of these four, however, the supplemental beats, when they occurred, merely raised the total number to 46, and in a second to 52; in a third the weaker beat occurred only every few seconds. Of these thirty-eight cases the highest rate of pulse recorded was 48—with one exception, a case of fat heart, with a pulse of 56. The number 40 was reached in four others; in the remainder the degree of frequency varied between 28 and 38, though in eleven of the patients a much lower rate was observed occasionally, falling to 20, 18, or even to 9 or 10; but it is to be specially remarked that this very great reduction of frequency took place exceptionally, and was not maintained in any instance. In five of the cases the former rate of the pulse is stated; it was from 60 to 70 or 80. I am unable to state the length of time during which this low rate of pulse was ascertained to have been present in several of the cases. In my own case the pulse had been discovered by a medical man to be "slow," without statement of number, seven years before my friend Dr. Parkes saw the patient; under our observation it has maintained a rate of 32 for the last eighteen months. In a case long watched by my colleague Dr. Fletcher, the man was under his observation for eight years, when the case ended in death; the pulse never exceeded 38, and sometimes was as low as 15. It is remarkable that this man became phthisical, and that when the symptoms of chest disease set in his pulse reached 120 or 130. A similar increase of frequency also occurred in another case—a case, probably, of fibroid degeneration of the heart,—in which, however, the reduction had been only of a few days' standing; the pulse had been at 10 in the night, but next day it ran up to 200, the patient dying two days afterwards without any further notice of the pulse-rate being made.

Besides the two cases just mentioned, the duration of the symptom in question was noted in seven others with greater or less exactitude during periods varying from two and a half to eleven years, or "several years," death closing the period in four. One only was a case of ascertained degeneration of the heart. In three of these cases there had been symptoms indicating a still longer duration of the symptoms with which the slowness of pulse had been associated—viz., from two to three years—making a total duration of four and a half, seven, and nine years respectively.

In six others (three of them cases of degeneration of the heart's walls) the known duration of the slowness of pulse was from four to eighteen months, three of the cases (those of degeneration of the heart) ending in death. Four of the patients, however, had suffered previously to examination of the pulse—for six months in two cases, for eighteen months in another, indefinitely in a fourth. I may yet add three other cases, two of them fatal, with degeneration of the heart, in which, although no indication as to the period during which the pulse had been slow was afforded, serious symptoms referable to the probable cause had been present for three, four, and seven years respectively.

Of the twenty remaining cases, of which ten were fatal from degeneration of the heart, and five others presented symptoms of "heart disease," many do not admit of any declaration as to the duration of the symptom of which I am now writing, nor indeed of the morbid state with which it was associated; but in four of them a limit is assigned, showing the symptom in question to have been acute in its production. The period was from five to eight days, the change of pulse being a precursor of death; symptoms had preceded for a short period, the longest term being six weeks.

Now, it is important to note how large a proportion of the cases of slow pulse, on which I am founding my remarks, have occurred in connexion with some kind of evidence proving the presence of organic disease of the heart; in fact, I can only point to seven cases in which no evidence of this kind existed. I may indeed add an eighth, in which the sole reason for inferring the presence of heart disease was the physical signs of "slight dilatation." The remaining thirty cases, with the exception of one, in which the details are defective, have all presented evidence of cardiac disease, either post-mortem or by a clinical history of that disease. It is at once granted that the different pathological conditions included under the common title of diseases of the heart stand in very different relations with reference to the peculiar change in the pulse which I am considering; still, it must be admitted that the very predominance of the cardiac element in these thirty-eight cases gives great significance to a diseased condition of the heart itself, as being an element of primary importance in our inquiry. This observation gains much additional force when it is added that in only four of the cases was there any evidence afforded of disease existing in connexion with the nervous system.

I may at once state what the evidence was in these four cases. In one (Mr. Holberton's) the antero-posterior diameter of the foramen magnum was much diminished, the odontoid process was pushed back, and its ligaments were thickened; the medulla oblongata was small and extremely firm; both pneumogastrics were large, and the right middle cervical ganglion of the sympathetic was unusually developed. The symptoms commenced two years after an injury to the neck. In the case of Dr. Fletcher's to which I have already referred, the cervical portion of the cord opposite the fourth, fifth, and sixth cervical vertebræ was uniformly atrophied and softened. The patient, aged fifty-eight, had suffered some injury to the occiput in early life; his kidneys were granular. In a case of fat heart, by Mr. Worthington, "the left branch of the basilar artery was dilated and thickened." And in a case of Dr. Spens', quoted by Mr. Richardson, about two ounces of watery fluid were found in the ventricles of the brain, and a gelatiniform appearance on some parts of the pia mater; "a small ossification also existed at the back of the pia mater;" there was nothing marked in the thorax. The author explains the cerebral changes—no doubt justly—by referring them to defective supply of blood to the brain. I may insert here a notice of a case of Dr. Chambers's, which is mentioned incidentally by Sir Thos. Watson in his Lectures (fourth edition, vol. i., page 132), in which the beats of the pulse were for some time as few as 9 in a minute; the gentleman, Sir Thomas was informed, had sustained some injury to the spinal cord, but no other particulars are given.

One very significant fact comes out in connexion with our present subject, from a further examination of the group of twenty-nine cases in which the heart was stated to have been diseased—namely, that in no less than seventeen had there been degeneration of the tissue of that organ. Of these seventeen cases, thirteen were cases of fatty degeneration or fatty growth, of which in one instance only had the diagnosis not been verified by a post-mortem examination; three were cases of fibroid degeneration, as ascertained by anatomical examination; and one was a case of aneurism of the septum of the ventricles.

Of the others, one patient is only reported to have had

granular kidney; two are stated to have suffered from "disease of the heart." In one case—that of Mr. Holberton's, referred to above (*Medico-Chirurgical Transactions*, vol. xxiv., page 77)—the heart was found after death to be large, the left ventricle rather thin, the auriculo-ventricular opening dilated; and in the discussion on the case more than one speaker expressed his conviction that degeneration of the heart-walls had existed. Still, it must be added that no proof of this having been the case is attainable, and that the case has been quoted by so high an authority as M. Charcot, in confirmation of the opinion that in certain instances of slow pulse that condition is due to the influence of the cervical spinal cord or medulla oblongata. Of the eight other cases, the proof of cardiac disease having been present, though decisive, was obtained from the symptoms or from the result of physical examination only.

With reference to the purpose for which I have adduced these cases, the group of degenerations of the walls of the heart has far more direct significance than any of the other forms of heart disease. Slowness of pulse is one of the recognised effects of degeneration of the heart. Dr. Quain speaks of irregularity being the change in the pulse most frequently observed, weakness a second, and slowness a third; and he adds that the slowness of pulse is sometimes quite remarkable. He further states that in his first two series of cases irregularity was noticed thirteen times, weakness fourteen, and slowness eight times. It thus appears that the mere fact of fatty degeneration being present does not render a complete account of the cause of slowness of the pulse, since it is by no means an invariable accompaniment; for it may be further noticed that through the three series of cases of cardiac degeneration given by Dr. Quain in his paper (*Medico-Chirurgical Transactions*, vol. xxxiii.), a number of the pulse as low as that which prevailed in the cases at present under consideration is given in four patients only. Dr. Peacock makes a remark to the same effect, and he adds that in the only case of slowness of pulse which he had examined after death the heart was in the opposite condition to degeneration—viz., that of great hypertrophy.

Dr. Quain observes that the mode in which the pulse is affected in fatty degeneration of the heart depends on the part of the heart affected, and on the degree and extent of the disease. Again, with respect to fibroid degeneration of the same organ, Dr. Ogle (*Pathological Transactions*, vol. xv., page 87), after reporting a case in which the pulse-rate averaged 38, refers to a report of other cases which he had drawn up in vol. viii. (which I do not possess), in which he "had suggested that the alteration of the heart's action, noticeable in many of these cases of fibrinous deposits in the heart's walls, might be explained on considering the acknowledged connexion which had been found by experiments on the lower animals to exist between the integrity of the great transverse fissure of the heart and the movement of the ventricles." Writing at a later period on the same subject, in the twenty-fifth volume of the same *Transactions*, Dr. Fagge concludes with these words:—"So far as I know, the only other suggestion that has been made for the recognition of this morbid condition (fibroid degeneration of the heart) is that the pulse is very slow in some cases. . . . My cases, however, do not at all support the opinion that a slow pulse is to be regarded as a constant or even a general result of fibroid disease."

A remark by Dr. Stokes (*Dublin Quarterly Journal*, vol. ii) has interest in connexion with the question as to the relation of cardiac degeneration to slowness of the pulse. Dr. Stokes refers incidentally to "typhoid softening of the heart" as co-existing with a pulse of 30 or 40. I need only add that a like degree of slowness has been noticed by other observers, specially by Dr. Murchison, as liable to occur in the course of that form of fever.

In this connexion I may notice one of Mr. Mayo's cases, which exhibits the direct effect of debilitating influences in retarding the action of the heart. The case was that of a young girl who had taken no food by the mouth for five weeks and three days, having been supported by enemata. Her pulse suddenly sank to 35, whence it slowly rose. But subsequently, having sat up for six nights successively, on the seventh the pulse fell to 30, and it was many years before it regained a frequency of 70.

On the whole, the conclusion respecting these cases of degeneration of the tissue of the heart must be, that although the degeneration does not offer of itself a full and complete explanation of the reduced frequency of the pulse met with in certain of the cases, yet that it constitutes a very important indication of the presence, in the heart itself, of some influence directly interfering with the irritability of its fibre; and thus these cases have much value in reference to the others already mentioned, in which evidence of other forms of heart disease was presented by the patient.

I may, however, select one of these last mentioned cases for special notice, as affording a transition from the cases of degeneration just referred to, so far as the apparently clear connexion goes between the state of the pulse and the condition of the heart. The patient is briefly stated to have presented embarrassed breathing, and was supposed to have water in his pericardium; his pulse was usually 29, and on some days was found to be as low as 14; in three months all his heart symptoms had disappeared, and the pulse had regained its natural standard.

(*To be continued.*)

NOTES OF A CASE OF

DIABETES MELLITUS IN AN INFANT.

By S. FULLOM CONOLLY, M.R.C.S. Eng., etc.

The following notes of a case of diabetes mellitus may possess some value, on account of the rarity of this affection among children, and the very early age at which symptoms of the complaint first discovered themselves. Two points of interest are, I think, suggested—one, the hereditary tendency of the child to the disease; and the second, the probability of this predisposition being developed into the actual disorder by the reflex irritation of teething.

J. H. P., a boy aged one year and nine months, had good health from his birth up to the date of the present seizure. When seven months old he cut his first tooth, and was weaned about the eleventh month, and appeared to thrive well upon the change of diet. Three months since (when the patient was about eighteen months old), his mother first noticed some failure in his previously healthy condition: that he suffered considerable thirst, passed water more frequently and in larger quantities, lost flesh and strength, and became irritable and capricious in temper. About this time, and during the following months, several teeth were cut at irregular intervals, and it was to their eruption the mother attributed the child's symptoms, so delayed obtaining advice until nearly three months after the first onset of the attack. His symptoms during this interval having got gradually worse—thirst more urgent, passage of urine more frequent and the amount greatly augmented, the wasting more decided,—his mother became alarmed, and first sought advice on December 30, 1876. His father and mother are healthy people, and have another child, a girl, in excellent health. There is no special feature in the family history, except the fact that a male cousin on the mother's side is at the present time suffering from diabetes, and his father was a diabetic, and died of that complaint.

Patient is fair, has grey eyes, and is very quick and intelligent; has a miserable expression, as if suffering from mesenteric disease; is pale, thin, and much reduced. One is struck immediately with the great thirst the child suffers, and his cry for "a drop of water" is almost incessant. His parents have measured the quantity of liquid he consumes in the twenty-four hours, and it varies between five and seven pints, but would be much more if they did not restrict the supply. Micturition is very frequent, the urine running away from him copiously as he stands, and drenching his mother when nursing him, notwithstanding her many precautions. It has not been possible to measure the amount of urine passed. The skin is not particularly dry or harsh. The appetite is very little altered—certainly never voracious. There is great muscular weakness and debility. The genitals are in a natural condition, but the nates, from the constant moisture, are reddened and covered with a lichenous eruption. The mouth is cool; tongue clean and moist; gums healthy. A bicuspid in the left lower jaw is just breaking the skin. The bowels have acted almost every day—sometimes natural motions; occasionally hard, dry, and scybalous. Rest disturbed at night by urgent thirst. Patient is irritable and capricious in temper; complains of pains in his limbs; the pressure of his mother's arms at times when nursing him appears to hurt him. His thoracic and abdominal organs are healthy. Pulse 80; temperature normal. Patient's urine exhibits all the usual characters of diabetes; it is of a pale

apple-green colour, faint sweet odour, no sediment or albumen, specific gravity 1032. On boiling with sulphate of copper and liquor potassæ a deep reddish-brown colour and deposit of the suboxide of copper are produced, indicating the presence of sugar. It readily undergoes fermentation when yeast is added to it. His mother's black clothes, after nursing him, show white powdery stains when dry.

On December 30 he was ordered a mixture composed of liq. sodæ, fer. ammon. cit., and syrup.

On January 8, three grains of an alterative powder, composed of hyd. c. cretâ, soda, and rhubarb, were ordered to be taken every other night. His diet was regulated to the exclusion of saccharine and amylaceous alimentaria; milk to be taken freely.

From December 30 to the next succeeding date his symptoms remained much the same; the specific gravity of the urine kept pretty constantly at 1032.

January 21.—Increased muscular weakness and debility. Thirst and micturition much the same. Was ordered a small quantity of cod-liver oil two or three times a day. Three grains of pot. bromid. with two grains of fer. ammon. cit. also exhibited. Drinks five pints of liquid in the twenty-four hours. Urine, specific gravity 1034.

25th.—Thirst and micturition less. Slept better since taking the pot. bromid.; evidently more reduced and weaker. Diet principally milk, eggs, and meat.

27th.—Was summoned to see the patient this evening. Had been very drowsy all day. Suffered less thirst; eaten nothing. Skin hot and dry; pulse 120, feeble; temperature 102·3°; mouth dry; lips cracked; tongue furred; breathing hurried; lungs healthy; bowels not moved for three days. Was ordered a purgative powder and a warm bath. Urine, specific gravity 1036, slightly opalescent, albumen a trace.

28th.—Bowels relieved; motion "like marbles." Pulse 90, very weak. Feverishness of yesterday abated. Mother has ceased giving him medicine. Patient is confined to cradle; too weak to sit up. Temperature 97°; urine, specific gravity 1032, albumen a trace.

30th.—Debility greater. Has a loathing for food, and his thirst is much less urgent; in fact, he often pushes necessary liquid nourishment away when offered him. Towards the evening his breathing became very hurried; was drowsy, intolerant of any movement, pale, and exhausted. Pulse 120, feeble and intermittent; extremities cold and slightly œdematous. Urine, specific gravity 1034, albumen increased. Was ordered warm milk, strong beef-tea, and wine negus.

31st.—When seen this morning he was comatose, surface of body very pale, extremities cold, legs œdematous as far as knees. Pupils strongly contracted; urine still passing from him, but in smaller quantities. Gradually sank, and died about 9 p.m. same day.

A post-mortem made thirty hours after death discovered the brain and its membranes very much congested only. The thoracic and abdominal organs healthy. The bladder contained about three ounces of urine of the specific gravity 1034.

Burford, Oxon.

The Meteorological Society has been placed under the management of a Council nominated by the Royal Society, and appointed by the Treasury. Its members are—Professor Henry J. Smith (chairman), Messrs. De la Rue, F. Galton, Professor Stokes, Lieutenant-General Strachey, with the Hydrographer to the Admiralty as *ex-officio* member.

The Lectures on Legal Medicine at the Morgue.—According to the *Gazette Hebdomadaire*, July 13, these lectures, to which we recently alluded, are fixed to commence when the Faculty opens in November next. It is to M. Devergie that their institution is chiefly owing, which is, in fact, a revival, for he instituted a kind of medico-legal clinic as long ago as 1834. His example was followed by M. Tourdes, of Strasburg, and such courses have since been instituted, and are well organised, in all the German medical faculties. Without any exactly known cause these lectures have been discontinued in Paris during the last fifteen years. They are in future to be delivered at the Morgue, where unclaimed bodies will be put at the disposal of the Professor of Legal Medicine. They will take place three times a week during the winter; but as the means of accommodation is very limited, only thirty advanced students will be admitted, and any practitioner who wishes to attend the lectures must apply to the Dean of the Faculty for permission.

REPORTS OF HOSPITAL PRACTICE
IN
MEDICINE AND SURGERY.

NORTHUMBERLAND HOUSE ASYLUM, STOKE NEWINGTON.

CASE OF HEMIPLEGIA AND UNILATERAL HYPERÆSTHESIA, WITH EPILEPSY, IN AN INSANE PATIENT.

(Under the care of Dr. WRIGHT.)
[Notes by Dr. Haggart.]

M. F., aged forty, a lady. Illness commenced June, 1874, with severe headaches, accompanied with epileptiform seizures. She became insane, and was placed under restraint in October, 1874, remaining under the same care till July 31, 1875, when she was transferred to Northumberland House. At this date the note of her appearance and condition is as follows:—She is a lady of clear complexion and fair hair, slightly built. She is somewhat feeble, and has a bedsore on the sacrum. She has left hemiplegia, with marked hyperæsthesia on the same side, so much so that she screams out, even at the slightest touch. She is alternately depressed and excited, her language is incoherent and irrational; at times she is violent. Her habits are wet and dirty. During the next few months after admission she slightly improved, her bedsore healed, and the epileptic attacks disappeared till January 21, 1876, when they returned in an exacerbated form, and with increased frequency. Just previous to this outbreak there had appeared on her face a small irritable ulcer, which, from the manner of its extension, was believed to be specific in its nature. From this time she gradually became weaker, both mentally and bodily, being at times so helpless that fears were entertained lest she should fall into the fire, or otherwise damage herself, during her aimless wanderings among the rooms. On this account she required constant attention. On the evening of November 10, 1876, she seemed more restless than usual, but not specially worse. She, however, became suddenly prostrate, and, notwithstanding the efforts which were made to sustain her, rapidly became worse and died. The immediate cause of her death was syncope.

Post-mortem Examination, twenty-four hours after death.—(Notes by W. H. Kesteven.)—Chest: Pleuritic adhesions at base of right lung; otherwise the lungs were healthy. Heart: Left auriculo-ventricular and aortic valves were thickened; there was a clot in the left ventricle, due to the slowness of the death, which was finally caused by syncope. Abdomen: Viscera generally healthy. Right kidney and supra-renal capsules larger than the left. On microscopical examination, however, the structure of each was found to be healthy. Cranial Cavity: Opacity of membranes all over cerebral surface. Right ventricle fuller of serum and more dilated than the left; the foramen of Monro was dilated. Right thalamus opticus was atrophied, and presented on its internal and posterior aspect a patch about the size of an acorn of greyish discoloration. On cutting into this it was found to be a cavity. The wall of this cavity which was towards the ventricle was about one-twelfth of an inch in thickness; it contained serum, and at its lower posterior border communicated by a small aperture with the ventricle. Internally its walls presented the appearance of broken-down and softened brain-tissue, of a brownish-grey tint. There was no pyogenic membrane. The corpus striatum on the right side had a cicatrix-like depression, just at the root of the narrow extremity which passes backwards external to the thalamus opticus. On cutting into this it was found to be the termination of a fistulous-like passage which led slightly downwards, inclining forwards and outwards into a cavity, situated partly in the substance of the lenticular nucleus of the corpus striatum, at its internal aspect partly in the island of Reil. This cavity presented a similar appearance to the cavity described in the thalamus opticus, with the exception that it presented from its reddish colouration the appearance of being of more recent origin than that in the thalamus opticus. Posteriorly, the right pair of the corpora quadrigemina were flattened, and had quite lost their natural contour, seeming like one soft square mass; these were blood-stained at the posterior aspect. The superior vermiform process of the cerebellum was softened. The ganglia in the

left ventricle were apparently healthy. Base of the Brain: The arteries seemed to be normal, nor could there be found any signs of rupture or occlusion of any of the larger branches of the arteries supplying the diseased parts. The right crus cerebri was discoloured and atrophied. On tracing it along its course beneath the thalamus opticus it was found to be implicated by the cavity of the corpus striatum above described. The softening and discoloration of the crus had evidently proceeded from this spot. The right side of the pons Varolii appeared slightly atrophied. The remaining parts of the brain appeared healthy so far as could be judged by the unaided eye.

Microscopical Examination of the Brain.—Superficial Convolutions, anterior and posterior: Throughout there was an atrophic condition of the nerve-cells, presenting itself in an increase of the size of the nuclei, with a shrinking, and in some cases a disappearance, of the cells in which they are normally embedded. Where the cell-substance had not disappeared it was seen to be of a different material from the nuclei, and also to differ from the same substance when healthy. This difference consists in its insusceptibility to the carmine dye with which the sections were stained, and which was readily absorbed by the nuclei. The result of this insusceptibility was a colourless appearance, contrasting strongly with the nuclei and the surrounding neuroglia. The bloodvessels of these convolutions were thickened as to their walls, and in many cases were lying loose in perivascular canals formed at the expense of the brain-tissue by their undue dilatation during life. On examining the parts lying in the neighbourhood of the cavities above described, the same appearances, so far as regarded the nerve-cells and the bloodvessels, were found. In addition to these changes, there were, more strongly marked in the white than in the grey substance, multitudes of spots of miliary degeneration. These seemed to increase in number as the walls of the cavity were approached. It appeared that these cavities, which were formed by the breaking down of the nervous tissue, acted as foci of degeneration. The medulla oblongata was too much damaged and softened to admit of examination, but it was evidently more affected on the right side than on the left. In the cerebellum the nerve-cells presented signs of degeneration. In this situation, however, it was the fuscous form of degeneration which presented itself. The walls of the bloodvessels also were thickened, and the vessels were lying in perivascular spaces. These appearances are all explicable by the condition of the bloodvessels, as they are all of them due to faulty nutrition. The origin of the whole disease, *fons et origo mali*, may, however, be attributed to the unstable condition of the nervous elements, giving rise to what Dr. Hughlings-Jackson has designated "nervous discharges." The evidence of these discharges was seen in the mania and convulsions of the patient. The more constant and the more powerful these discharges, the greater would be the inhibition exerted on the sympathetic or vaso-contractor nerves. The result of this inhibition would be dilatation of the vessels, followed by thickening of the coats, which might or might not be of an inflammatory nature. The effect produced on the nutrition of the nerve-cells by this atonicity of the vessels is not difficult of discernment, and fairly accounts for their degenerate condition. The cavities are also due to the condition of the vessels. There has evidently in each case been effusion. Some vessel, or vessels, under the continued abnormal pressure have given way, and the surrounding tissues have been destroyed. The point which strikes one most forcibly in this case is the connexion between the appearances found after death and the symptoms manifested during life. The patient had left hemiplegia and hyperæsthesia—hemiplegia on the left side on account of the extensive disease of the right corpus striatum and crus cerebri; left hyperæsthesia because of the disease found in the right thalamus opticus. The epilepsy, which, as we have seen, was, no doubt, the cause of all the mischief, might have been hereditary, or due to some cause connected, perhaps, with her time of life. The disease of the brain being in this case in the right hemisphere, and the paralysis and hyperæsthesia on the left side of the body, bear out the accepted teaching on these points.

RIGHT HEMIPLEGIA—EXTENSIVE LESIONS.

(Under the care of Dr. HUSBAND.)

X., female, aged sixty-seven. This patient had an attack of paralysis about seven years ago, of which there were no particulars obtainable. When first seen (about January, 1877) was just recovering from what was called a fainting fit, but which was accompanied by loss of power in the right hand. From this she recovered, but was attacked again in about six weeks in a similar manner. This also passed off, and six weeks later on she was prostrated by a serious attack, which deprived her of the power of speech and of swallowing, and entirely paralysed her right side. She died in about eight days of starvation; injections, etc., not being retained. Her mental powers had been impaired since her first attack.

Post-mortem Examination, twenty-four hours after death (made by W. H. Kesteven).—Lungs and heart healthy. Kidneys cystic and granular.(a) The contents of these cysts varied in consistency; some of them contained fluid resembling urine, others a brown pultaceous material. Microscopically, the semi-solid substance was found to consist of cholesterine, oily matter, and broken-down blood corpuscles. The fluid found in the other cysts contained blood corpuscles, epithelium, oil globules, uric acid, calcine oxalate, and cholesterine crystals. The striking peculiarities observed in microscopical examination of the kidney structure were frequent deposits of so-called "gouty" crystalline substance resembling calcine phosphate. The vessels did not appear altered, but the epithelium in the uriniferous tubes appeared to be detached. The remaining abdominal and thoracic organs were healthy. There were no coarse morbid appearances on the surface either of the brain or cord. On cutting down to the ventricles of the brain, they were found to contain blood. In the right lateral ventricle it would be more correctly described as bloody serum, and not in very large quantity. But in the left lateral ventricle there was found a large quantity of recent coagulum, which seemed to have burst open the sac of an old clot. This sac completely occupied the site of the thalamus opticus on the left side, to a large extent destroying the corpus striatum on the same side. The whole of the lower and lateral portion of the corona radiata was destroyed by this old standing lesion. The damage was found to travel downwards and backwards, implicating the left crus cerebri on its upper surface to within half an inch of the upper extremity of the fourth ventricle, and to a great extent destroying the left pair of the corpora quadrigemina. Anteriorly the lesion extended outwards, forwards, and slightly downwards, reaching as far as the island of Reil, which was itself to a large extent implicated. Where the brain-substance was attacked by this lesion it was utterly disintegrated; it was too soft for microscopical examination. On the right side the ganglia seemed to be atrophied, and were somewhat soft. They were not destroyed, but were deeply stained by the bloody serum which had penetrated the ventricle.

Microscopic examination of the spinal cord showed degeneration of the nerve-cells throughout, but only such as would be accounted for by the age of the patient. Some of the vessels were thickened, but not otherwise markedly diseased. There were large perivascular spaces round some of them, indicating undue dilatation. In the medulla, the floor of the fourth ventricle was found to have undergone degeneration on the surface, particularly that portion of it at which the nucleus of the vagus nerve comes to the surface. The nerve-cells of this nucleus were also very much degenerated, being in most cases nothing but conglomerations of pigment granules. The perivascular spaces as seen in the cord were also apparent in the medulla. There was also miliary degeneration. The brain showed, especially on the left side, large perivascular spaces, many of them containing hæmatin. There was also degeneration of the nerve-cells, and miliary degeneration. The symptoms observed during life, and the appearances found after death, in this case, seem to be well connected.

The history of the case shows that the patient had paralysis, and therefore cerebral lesion of old standing. The form of paralysis was that called hemiplegia. The lesion in the brain was found where such symptoms would have led one to anticipate them—that is, in the great motor ganglia on the opposite side of the body to that on which the hemiplegia appeared. The loss of power of swallowing would be accounted for by the condition discovered in the fourth ventricle, such lesion undoubtedly leading to paralysis of the glosso-pharyngeal nerve. Finally, the relaxed condition of the anal sphincter would be accounted for by the fact that the lesion in the brain would to a great extent cause unrestrained action of the inhibitory powers which the spinal cord possesses over the sympathetic nerves,

(a) For some years previous to her death she had complained of pain in the region of the left kidney. But this was the only evidence observed during life of the renal disease found post-mortem.

which nerves, normally, by their action, cause contraction of the involuntary muscular fibres; the result of such unrestrained action being to cause paralysis of the involuntary muscles.

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Medical Times and Gazette.

SATURDAY, JULY 21, 1877.

POST-MORTEM EXAMINATIONS IN WORKHOUSES.

It cannot be denied that the changes made during the last few years in Poor-law Medical Relief have been for the better. The sick poor used to be in ill-planned and overcrowded wards, nursed by aged paupers nearly as feeble as the patients themselves, and attended by a doctor overworked and so underpaid as to be sorely tempted to choose his means of cure (most of which he had himself to find) for their cheapness. Now all this is gone, or going. We have in many London parishes, and shall have in others, infirmaries built on the best sanitary lines, with trained nurses, and a medical superintendent living in the house, giving his whole time to it, and not called upon to pay for what he orders.

But there is one direction in which no step forward has been taken, and in which, if the field were tilled, large harvests might be reaped. We are thinking of the making use of these great *special hospitals* (for they are really such) in the interests of science, and therefore of the nation, and of the world. The workhouse infirmaries are, in fact, in very large measure at least, hospitals for the diseases of old age. The morbid changes in this class of diseases are, as a rule, incurable and so chronic that the rules of our great hospitals forbid their being watched from beginning to end in them, even if they can be admitted for a time. Hence many common diseases of this kind are not so well understood as other rarer maladies, which run a shorter course. In illustration of this, we may refer to Mr. Hutchinson's work, now in progress, on Clinical Surgery, in which he devotes a plate and some letter-press to the changes met with in "deforming rheumatism," and in doing so remarks on the scantiness of our information on the subject. Dozens of cases of this affection may be found in any large workhouse infirmary, and yet comment of this kind is simply true. We need hardly insist on the importance of a knowledge of such morbid processes. All diseased actions are more or less related to one another, and it is not possible that one class of them should be well studied without light being thrown on others. To the public, our knowledge of such diseases is a benefit directly proportional to their commonness.

This will be enough to show that there is in these workhouse infirmaries a vast collection of disease well worth study, and at present largely in want of it. Seeing, then, the great value of the work which might be done in these institutions, we ask, why can it not be done? At one time some hoped that to these great hospitals there might be appointed a staff of visiting physicians and surgeons, who should make them useful for scientific research, and perhaps for medical training; so that these infirmaries should become pathological workshops, places from which should issue facts of value to the nation and to the world, as well as places in which the sick poor should have the benefit of thorough knowledge, skill, and attention. Perhaps, in the present state of public opinion on subjects of this kind, it is a Utopian idea to expect a Government to propose to spend public money on any plan of this kind; though it may be that in years to come we shall see each parochial hospital with a staff able to do scientific work, and provided with all necessary means.

But if this is but an idle fancy, if it is out of the question that any provision should be made to get more than local and temporary good out of these infirmaries, it is at least possible that each medical officer who has charge of the numerous interesting cases which a workhouse infirmary contains should throw in his mite to swell the sum total of medical knowledge. It is, therefore, not too much to ask that the zeal of those medical officers who do try to be of use beyond their immediate locality shall not be put down. But it unfortunately is. Medical officers have been plainly told by the central authority that the workhouse infirmary is not the place for scientific research. They are not allowed to make post-mortem examinations except by order of the coroner, or the board of guardians, or at the request of the patient's friends. Therefore, post-mortem examinations, like the use for dissection of unclaimed bodies, are practically at the discretion of the guardians.

Whether or not all the circumstances which now surround workhouse infirmary appointments are favourable to scientific work, we have not space here to discuss. There are many changes which might with advantage be made; and possibly at a future time we may point out some. But it is obvious that a post-mortem can be made on the body of a person dying in an infirmary with much less inconvenience to others and loss of time to the investigator than in the case of a private patient; and therefore that in this respect the workhouse medical officer is in an advantageous position. What we here call attention to is, that any attempt at making use of these advantages is at present nipped in the bud. We deplore the line taken by the Local Government Board, because if a medical officer spends time and trouble in examining the body of a pauper who has no friends whose feelings might be hurt, and whose corpse, had he happened to die in another parish, might have been sent for dissection,—he injures no one, but does good, possibly to the world, certainly to himself, and therefore, indirectly, to every patient who consults him. We base our objection to the rule, not only on the possible scientific results which might follow if medical officers of workhouses were encouraged to use their great opportunities for scientific research, but on larger grounds. Pathology is the foundation of medicine, and morbid anatomy is the alphabet of pathology. Diagnosis and treatment alike spring from pathology. All treatment depends for success upon correct

diagnosis; and morbid anatomy is the teacher and critic of diagnosis. A man who wishes to advance in diagnosis can only do so by habitually confronting his notion of the case formed during life with the revelations of the dead-house. The workhouse medical officer, therefore, who tries to correct his ideas about disease by post-mortem evidence, is walking in the only sure road to accuracy of diagnosis, and through that to skill in treatment. Every autopsy he makes renders him the more valuable servant of the public.

If public opinion could be so advanced that an autopsy should follow *every* death, incompetence and quackery would be unmasked with a certainty which would be greatly to the public good. Among ourselves more surely would success be the reward of skill, and ignorance and carelessness receive their deserts, while medicine would advance with rapid strides.

Putting aside visions, however, we come back to the practical question. Workhouse medical officers who make post-mortem examinations deserve all praise, and not blame. It is to the interest of their patients, and also of the nation, that they should do so. If the feelings of the surviving relatives be not hurt, no one else can justly complain; and such a body as a board of guardians ought not to have the power to put a stop to so enlightened and enlightening a practice. Workhouse infirmaries might be, and ought to be, made places for scientific research; and for the Local Government Board, supporting the prejudices of the ignorant and suspicious, to lay it down that they shall not be thus made fruitful is a most short-sighted and mischievous policy.

CHINESE MATERIA MEDICA.

It cannot fail to be an interesting subject of inquiry to investigate the sources from which the Chinese, who constitute so many millions of the human race, derive their supply of medicinal drugs; and this difficult problem has received some attention from recent pharmacologists. In particular, the late Mr. Hanbury, an esteemed, and indeed eminent, member of the Pharmaceutical Society, collected together a series of "Notes on Chinese Materia Medica," which he illustrated by some well-executed plates, and rendered very valuable by his great botanical and general scientific acquirements, and by his knowledge of the Chinese language, which he studied expressly for the execution of his self-imposed task. It may well be imagined, however, that this learned and elaborate contribution to Materia Medica resulted in very little practical information available for the medical profession out of China, and the details so skilfully brought together by Mr. Hanbury are perhaps more amusing and curious than instructive. But it is remarkable that at least a few of the substances commonly used in British pharmacy are to be found in the Chinese Materia Medica, such as the preparations of iron and mercury (as peroxide of iron, calomel, nitric oxide of mercury, and cinnabar) among mineral substances, the blistering-fly among animal bodies; and amidst a great host of substances of doubtful value from the vegetable kingdom are to be found galls, benzoin, and a kind of camphor.

But a still more recent contribution to the knowledge of Chinese Materia Medica has been made in the present year by the transmission of a collection of medicinal substances from Shanghae to the Earl of Derby, the Secretary of State for Foreign Affairs, and by him forwarded for investigation to the Society of Apothecaries. The specimens were obtained in 1875-76, in the course of a mission to the part of China called Yünnan, and the collection was accompanied by a printed copy of a report by Mr. Davenport, "On the Trading Capabilities of the Country traversed by the Yünnan Mission." The specimens are found to consist chiefly of such of the vegetable products of Yünnan as are applied to medicinal purposes by the inhabitants of that part of China, which is a very temperate region, being much elevated, sometimes rising to 6000 or 8000 feet, and situated in about 25° N.

There are no mineral substances in this collection, and the articles consist almost entirely of roots, stems, leaves, barks, and woods; there are but few fruits or seeds; and there are no gums or resins. The specimens are neatly put up in paper parcels, each of which is inscribed with the name of the contents in Chinese and English characters, and their local prices are added. There are 105 parcels, distributed into four packets marked with the locality from which they have respectively been procured, and they have evidently been put up by a skilled herbalist. A fifth packet contains eight specimens of native opium, each likewise marked with the locality from which it was obtained.

The examination, verification, and arrangement of these specimens (which we need hardly say have been carried out gratuitously as a mere labour of love) have been conducted by the present Master of the Society, Deputy Inspector-General Bradford, himself a botanist of no mean pretensions, assisted by Mr. Thomas Moore, the Curator of the Society's Botanic Garden at Chelsea, who has been able to determine the genera of most of them; and the chemical examination of the specimens of native opium has been made by Mr. A. Stewart, the principal Chemical Operator of the Society.

The detailed results of these rather laborious investigations are perhaps appreciable by few persons except professed botanists, but a general *résumé* is not without interest as showing the different value placed upon certain vegetable products by the inhabitants of the Chinese Empire, as compared with other countries. We find, then, that the plants professedly valued as medicines by the Chinese pharmacologists are those which are esteemed of little value in European medicine, although they comprise some fragrant and ornamental members of the vegetable kingdom, such as dendrobium, a beautiful orchidaceous plant; angelica, an odoriferous member of the *Umbelliferæ;* the lonicera, or honeysuckle; the beautiful clematis, and the fragrant and juicy mandarin orange; and various plants, abounding in volatile oil, from the natural order of *Labiatæ*, such as the sage (*Salvia*), the mint (*Mentha*), and the balm (*Melissa*). A few are known to be endowed with rather active properties, as the smilax, which yields sarsaparilla, if indeed this plant really has the active properties which some attribute to it; the uncaria, which yields a kind of catechu; the elaterium, the active character of which is indubitable; and beans, cowage (*Dolichos*), and wheat, rye, rice, and maize are among the medicinal drugs. Although not belonging to the vegetable world, there is a parcel of a coleopterous insect, the mylabris, used by the Chinese as a blistering-fly; and there are some nutgalls, apparently the product of some hymenopterous insect.

The properties ascribed by the Chinese to the specimens have been detailed, in many instances, in the "Contributions to the Materia Medica of China," by F. Porter Smith, M.B., and in the "Notes on Chinese Materia Medica," to which we have already referred, by the late Daniel Hanbury. It is needless for us to allude particularly to these properties, because it is evident that they are, for the most part, entirely fanciful. It is also remarked by the botanical investigators of the specimens that the members of the natural orders growing in temperate climates, and which possess active properties, are almost absent in the collection. There are no *Cruciferæ* or *Solanaceæ*, and scarcely any *Compositæ* or *Umbelliferæ;* there are no *Scrofulariaceæ* or *Euphorbiaceæ*, and there is only one imperfect specimen of rhubarb.

The most important part of the collection, both in a scientific and commercial point of view, is the opium. Mr. Davenport, in his report, repeatedly alludes to the enormous extent to which the poppy is cultivated, and this plant is said to be

probably indigenous in Yünnan. Unlimited quantities of the drug might be obtained if a demand existed.

The specimens of opium are of two kinds—namely, hard and soft—and it is supposed by Mr. Stewart that the soft samples are probably watery extracts, prepared from the hard specimens, with a special view to increase the percentage of morphia in the drug. It is found, in fact, that the soft specimens yield an amount of morphia nearly equal to three times as much as the dry ones. The latter, in their crude state, have neither the odour nor the general characteristics of Turkey opium, but have some of the qualities of Persian, Egyptian, and East Indian opium. The results of the analyses made by Mr. Stewart show that the hard specimens are inferior to Turkey opium in the yield of morphia, which is the standard of the commercial value of opium, the highest result obtained being 8·05 per cent., whereas from 10 to 14 per cent. is obtained from fine Turkey opium. The soft specimens, as we have just mentioned, contain much more morphia, but for general pharmaceutical purposes in England all the samples would be of little use, because in the British Pharmacopœia uniformity of quality is required in all officinal preparations of opium rather than high percentage of morphia. Mr. Stewart observes, with regard to the commercial aspect of the question, that, looking at the high percentage of morphia in the soft samples, and the low price, it is probable that these specimens might enter into successful competition, even in England, with Turkey or any other opium for the manufacture of morphia. The analytical results obtained from the samples of opium are appended to the report presented to the Secretary of State for Foreign Affairs, and they show the relative proportions of morphia, narcotine, extractive soluble in water, and water, contained in each; and, as we have observed, these proportions differ very widely.

A SUCCESSFUL CASE OF EXTIRPATION OF A KIDNEY.

We are pretty well accustomed in these times to new triumphs of surgical dexterity, and there is hardly any organ of the body a "successful removal" of which would greatly surprise us; yet the following case of extirpation of a kidney, reported by the operator, Dr. C. Langenbuch, Director of the Lazarus Hospital at Berlin (*Berliner Klinische Wochenschrift*, No. 24, 1877), deserves a brief narration:—The patient, Mrs. B., aged thirty-two, applied for relief at the hospital on November 10, 1875, on account of a painful tumour in the left side. She stated that for the last eighteen months she had suffered from dull pain in the region of the left kidney, which had rapidly increased in the last three months, and become so intolerable that she earnestly begged that something might be done for her. Within the last three months she had also first discovered the existence of a tumour. It should be noticed that her appearance was that of a strongly built and healthy woman.

On examination of the left renal region, inspection revealed nothing abnormal; but palpation at once detected a somewhat superficial tumour, apparently in front of the left kidney, but partly embedded in the lumbar muscles. It was a hard, tolerably smooth, globular body of about six to eight centimetres in diameter, tender on pressure, and which could be seized by the fingers pressed deeply down, as well as traced inwards for some distance, and moved to a certain extent from side to side. The patient stated that this tumour was the source of all her pain.

The diagnosis made was that of a new growth, probably a sarcoma, fibroma, or myo-sarcoma, springing from the connective tissue between and around the left lumbar muscles, or else from the muscles themselves. In spite of the pain, cancer could almost certainly be excluded by the appearance of the patient, whose hearty appetite and general state of health and vigour were strongly opposed to the idea of malignant disease. The condition of the urine seems to have to some extent diverted attention from the possibility of the tumour being of renal origin. The urine had its normal colour and specific gravity, and was completely free from blood, albumen, or any abnormal constituent or deposit. It was determined to extirpate the tumour, and the operation was performed on December 7. A careful examination of the tumour under chloroform immediately beforehand seems to have led Dr. Langenbuch to somewhat modify his opinion of its nature, and to think that after all there might be some connexion between the supposed growth and the kidney. The incision in the skin was made parallel to and about six centimetres from the spinal column, from the angle of the twelfth rib to the crest of the ilium. After dividing the subcutaneous cellular tissue and the superficial muscular fibres, the exterior of the tumour could be reached with the finger, but it was difficult to isolate it from the tissue of the surrounding muscles (sacrolumbalis and quadratus lumborum), with which it was connected by a tough cicatricial tissue, enclosing here and there a nodule of fat. After cutting completely through the quadratus lumborum, from which point onwards the finger alone was used to isolate the "growth," the termination of the latter in a "hilus-like cord" was finally reached. The latter was then ligatured and divided, though with some difficulty, owing to the great depth of the wound, and the tumour removed. The cord to which the ligature was applied, under the first impression that it was a large bloodvessel, turned out on closer examination to be the ureter, a thick-walled tube with a lumen about equal to that of the carotid artery. A moderate-sized bougie could be passed down it into the abdominal cavity for a distance of fifteen centimetres. The operation was conducted throughout with all the precautions of Lister's method, and the patient made an excellent recovery, which was only retarded by the rupture of the skin sutures, owing to incautious exertion on the part of the patient. She left the hospital, completely cured, in the beginning of January, 1876.

Unfortunately, she left Berlin shortly after without giving her address, and she has been lost sight of from that time. The condition of the kidney (for such it was) which was removed was as follows:—The whole organ (8 centimetres long, 5 centimetres broad, and 2·5 centimetres thick) was converted into a cavity whose walls consisted of a tough cicatricial tissue, the exterior of which still exhibited scattered remains of the fat in which the organ is normally embedded. The interior was lined with reddish floating shreds, the remains of the pyramidal substance. No microscopical examination of the kidney was possible, as, owing to the carelessness of a servant, the fate of many other pathological curiosities befel it, and it was thrown away. Dr. Orth, however, from a previous naked-eye examination, was able to state that the cyst-wall mainly consisted of fattily degenerated tissue with a fibrous layer externally, but that he could form no opinion of what the previous state of affairs had been. For Dr. Langenbuch's speculations as to the possible course of events in this case we must refer those interested to the original paper.

THE WEEK.

TOPICS OF THE DAY.

The movement for providing trained nurses for the sick poor of the metropolis is gradually developing; last week a meeting of gentlemen and ladies interested in the establishment of a District Nursing Home for the benefit of the poor in Lambeth and its neighbourhood, in connexion with the Metropolitan and National Nursing Association, was held, by permission of

the Archbishop of Canterbury, in the library of Lambeth Palace. The chair was taken by Mr. Robert Wigram in the first place, and afterwards by his Grace. Captain Fortescue, secretary to the parent society, explained its aims and operations, dwelling upon the great importance of having the sick poor tended by skilled nurses. The Association, he said, looked forward to the establishment, in the first instance, of one District Nursing Home for Central, East, and South London respectively. The Central Home had been fixed in Bloomsbury-square a year or two ago, and it was estimated that to maintain a home for Lambeth would require about £700 a year. Formal resolutions were moved for the appointment of a local committee to aid in raising funds for the support of the proposed home, and to interest persons in the neighbourhood in the work of the Association.

A committee convened by the Mayor, but in his absence presided over by the Rev. H. B. Boulby, was held at Birmingham last week, to consider the propriety of establishing a system of Provident Medical Dispensaries suited to the requirements of the town. The chairman, in opening the proceedings, pointed to the increasing abuse of medical charities, as shown by recently published statistics, in which the number of recipients of medical relief appeared to have risen within the last ten years from one in five to one in three. Many persons, he believed, who had recourse to the medical charities because of the excellence of the advice and treatment received there, were both able and willing to pay a small sum for that service if the opportunity of doing so were offered them through the establishment of popular dispensaries. Mr. R. W. Dale moved a resolution affirming the advantages of provident dispensaries for the industrial population, and this was unanimously carried.

Another case of poisoning by carbolic acid was heard before Dr. Hardwicke last week, at an inquest held at the St. Pancras Coroner's Court. The deceased, an old man, named Page, aged seventy-seven, an inmate of the infirm ward at the St. Pancras Workhouse, asked one of the helpers, named Kate Conolly, to give him some house medicine, upon which she went to a cupboard and took therefrom a bottle, and poured out a glassful, which Page took and drank off at a draught. He immediately found that there had been a mistake, and that instead of medicine, carbolic acid had been given him. Although everything was done for the deceased, he expired in five minutes. It was shown that it was against the rules of the house for anyone except the paid nurses to administer medicines. It was also stated that in this instance the bottles were of a similar kind. The jury returned a verdict of "Death from misadventure." They might have added a recommendation that carbolic acid should not be kept in the same cupboard with medicines for internal administration.

Some little time ago we commented on the decision of a judge who directed the acquittal of a prisoner who had administered cantharides to a young girl, on the ground that sufficient had not been given to cause actual harm. In a case recently tried at the Manchester Assizes, Martha Barker, a domestic servant, was charged with administering poison to her mistress, Mrs. French, at Manchester, with intent to murder her. Mrs. French being ill, the prisoner was sent to a surgeon's for some medicine; she returned with a bottle of liquid, which she said the doctor told her she must make her mistress take, although it would probably make her feel worse. Mrs. French took two doses, from the effects of which she became very ill, and it was afterwards found that there was red precipitate in the medicine. The medical man in question, who was called as a witness, denied that he kept this poison in his surgery; but as it was proved that there was not sufficient poison in the bottle of medicine to make it fatal to life, in accordance with Taylor's work on "Medical Jurisprudence" (which the judge consulted on the point), the jury acquitted the prisoner. There would appear to be something defective in the law as it now stands, if a charge of administering poison with a criminal intent is to break down because the would-be murderer just stopped short of the quantity necessary to produce death.

It is reported that information has been received at Devonport of an outbreak of Asiatic cholera which has occurred on board the *Arab* gun-vessel, Commander Broughton. One case of an artificer named Rose proved fatal five hours after the attack. The *Arab* is on the East India Station, and was commissioned at Devonport in July, 1875. Through deaths and invaliding only thirteen hands remain on board at the present time, out of the original complement of seventy-five men.

The humbler classes in the metropolis are undoubtedly acquainted with many "delicacies" in the way of food which are unknown to the more wealthy, but these are not always unaccompanied by drawbacks. Last week the Coroner for Central Middlesex held an inquiry at Haverstock-hill, touching the death of Lizzie Wilkinson, aged five years, who, it was alleged, had been killed by eating indigestible food, including an article known by the name of a "faggot." It appeared that deceased, who had always been a healthy child, was taken very ill soon after midnight on the Saturday, when she vomited; she lay down in bed with two other children, and seemed to be better, but at seven on the following morning she was found dead. Deceased had partaken of "faggots" the previous evening for supper, and she had also eaten some stale cherries. Dr. Rees, who was called in after death, and who had made a post-mortem examination, said he found the stomach greatly distended and inflamed, and it contained a portion of indigestible matter. He also found part of a rusty pin in the stomach. The cause of death was exhaustion from gastric irritation from taking indigestible food, accelerated by the unwholesome food taken for supper. The Coroner remarked that he thought faggots were not proper food for children. The vendor of the faggots of which deceased partook, who was on the jury, protested against the statement of the Coroner, and said he sold at least 100 of them each evening. They were made of the sinews of meat, bullocks' livers boiled down and chopped, with "pig's fry," seasoned with pepper, allspice, sage, and onions. After further discussion the jury agreed to a verdict in accordance with the medical evidence.

At the meeting of the London School Board held last week, the proposition brought forward by the Rev. John Rodgers—"That the playgrounds of the schools be opened to children from 5.30 p.m. on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays, and from 2 p.m. on Saturdays, up to the usual hour of closing"—was again submitted, and finally carried. Considerable discussion was evoked by an amendment to the foregoing proposition, which had for its object the opening of the playgrounds on Sunday afternoons. In the end, however, the opponents to this suggestion were too strong for those who think it better for children to play in a safe enclosure rather than in the gutters, and the amendment was lost, ten voting for it, and twenty-eight against. The opening of these playgrounds on week-days will at any rate be a great boon to the children of the working classes. Only last week the father of a child who was run over and killed in Theobald's-row complained at the inquest that the children of the poor had no place in which to play but the streets, and upon this occasion the Coroner suggested that the playgrounds of the schools might be thrown open, to obviate the dangers run by children playing in the London streets.

On Monday last the Bishop of London distributed the prizes to the successful students at St. Thomas's Hospital. During the proceedings it was stated that many of the students had

been to the East, and some had received Turkish and Servian orders for their services on the battle-fields. The Bishop congratulated the successful students, and dwelt feelingly upon the importance of the medical profession to mankind.

According to the monthly return of the Registrar-General for Scotland, it appears that in June last there were registered in the eight principal towns of Scotland 2178 deaths. Allowance being made for increase of population, this number is 426 under the average for the corresponding month during the last ten years. The zymotic class of diseases proved fatal to 338 persons, thus constituting 15·5 per cent. of the whole mortality; this rate was slightly exceeded in Glasgow and Perth. From violent causes 79 deaths resulted, of which 4 were suicides; 6 deaths were caused by delirium tremens, and 7 by the direct effects of intemperance. Two males and three females had passed the ninetieth year of life, the eldest of whom was a landed proprietor, aged ninety-eight years.

In order to extend and improve the elementary teaching of physiology and the laws of health in elementary schools, the National Health Society of Berners-street has placed at the disposal of the London School Board, in addition to a sum of £100 previously offered, a further sum of £25 annually, for four years, for premiums to teachers and children who pass the best examinations in these subjects.

A Convalescent Home has been erected at a considerable expenditure by Mr. W. H. Ripley, M.P., in a prominent position overlooking the valley of the Aire, at Rawdon, near Leeds; and the Marquis of Salisbury has undertaken to perform the opening ceremony in October next.

The fatal cases of small-pox in the twenty English cities and towns now included in the Registrar-General's weekly returns, which in the nine preceding weeks had steadily declined from 92 to 29, were 37 in the week ending July 14, and of these 32 occurred in London, and 5 in Wolverhampton. Of the 32 in London, 17 occurred in private dwellings, of which latter 2 happened in Shouldham-street, Marylebone, 2 in Poplar, and 3 in Camberwell.

PROFESSOR HUMPHRY AND THE VICE-PRESIDENCY OF THE COLLEGE OF SURGEONS.

At the meeting of the Council of the College of Surgeons on Thursday week, Professor Humphry, who stood next in order of seniority to the Vice-Presidents, stated that though there were many reasons to induce him to come forward for the Vice-Presidency, and in due time for the Presidency, such as the desire not to appear to shrink, without sufficient reason, from any duty which as a member of the Council he owed to the College; the consciousness that it would be agreeable to the Fellows and Members of the College resident in the provinces that one of their number should hold the highest offices in the College; the desire to promote a closer union between his University, as a representative of literature and general science, and the profession, and the feeling that it would be gratifying to the members of the University that one of its body should hold the offices of Vice-President and President of the College of Surgeons; and also the ambition, the honourable ambition, felt by all members of the Council and Fellows of the College, to occupy positions which place those who fill them at the head of the profession of surgery, and which give them the opportunity to do good work for the College and the profession;—still, before and above all these considerations he was bound to place the interests of the College, and to reflect whether he could fulfil in a satisfactory manner the duties of the office of Vice-President, and more particularly of President, without neglecting the duties which devolved upon him as Professor of Anatomy at Cambridge. This, he was forced to conclude, it would not be in his power to do. The duties of the Presidency are extremely onerous, requiring an almost daily attendance at the College for the transaction of business, an attendance at numerous committees, and an intimate acquaintance with the affairs and administration of the College which it was scarcely possible for him to possess. These duties had doubtless been increased by the zeal and assiduity in promoting the interests of the College which had been displayed by those who had recently held the office of President; but he should regret that an era of diminished zeal and lessened effort in such a cause should be inaugurated by himself. His labours at Cambridge as Professor of Anatomy and Surgeon to the Hospital were very considerable, and necessarily increased by the increasing number of students of medicine at the University, and were quite incompatible with that frequent attendance at the College which would be requisite for the efficient performance of the duties of the Presidency. He therefore felt sure that the Council and the Fellows of the College would agree that he was acting in the manner most conducive to the interests of the College in allowing the office of Vice-President to pass on to one who would be able to discharge its functions far better than it was possible for him to do.

DISTRIBUTION OF PRIZES AT THE LONDON HOSPITAL.

The Right Hon. W. E. Forster, M.P., presided at the annual distribution of prizes on Wednesday last, the 18th inst. After the more formal part of the proceedings had been gone through, the right honourable gentleman addressed the students and a numerous assemblage of their friends. In the course of his remarks he touched upon one or two subjects of great interest to the profession. He said that his duties in the House of Commons had taught him the absolute necessity of having well-educated medical men, especially at the present time. There was now going on in the House a perpetual war with disease, with a view to remedy as far as possible the mechanical ills which result from the existing circumstances of our present social system, and in the hope of making these conditions more favourable to life and health and happiness. In connexion with the Department of Health, with which he (Mr. Forster) while in office had had to deal, he referred to the services of Mr. Simon, "than whom a more able and more devoted public servant never existed." After thus paying a well-merited tribute to Mr. Simon, Mr. Forster went on to speak of the Vivisection Commission (of which he was a member) and its recommendations. He said he believed the Bill was necessary and useful; yet he had much sympathy with physiologists. He thought there was some ground for believing that vivisection cruelties had been practised on the Continent, but he firmly believed that there had been gross exaggeration as to what was done in England; he said the Commissioners had discovered that the reports of reckless cruelties in this country were absolutely unfounded. Mr. Forster believed "that vivisection may be of service, and that, under proper restrictions, it must be carried on. Restrictions were, however, necessary, as there was danger of becoming callous and indifferent, as the mere result of constantly experimenting. Hence he favoured the Bill, which allowed experiments, either with or without anæsthetics, provided there was some reason to anticipate fresh discoveries, but which forbids vivisection experiment as a mere demonstration to students." Mr. Hutchinson, in proposing a vote of thanks, which was carried by acclamation, said that he was pleased that the Council of the College had asked an "outsider" to preside on the occasion. Isolation was as bad for a profession as for individuals; and he knew of nothing which so tended to improve one as mixing with the world; and nothing assuredly would so help them, as a profession, as hearing what the outside world had to say of their doings. He was glad that Mr. Forster had been chosen, and he was greatly pleased to have heard from him the motives which had influenced

the Vivisection Commission in the drawing up of their recommendations. It was obvious that they had great sympathy with physiologists, and had worked in their interests. The proceedings then terminated.

TESTIMONIAL TO SEÑOR MANUEL GARCIA.

On Saturday, the 14th inst., at a meeting held at 21, Harley-street, a numerously signed address and a handsome service of plate were presented to Señor Manuel Garcia, in recognition of the services rendered by him to science and humanity by his discovery of the laryngoscope. In the unavoidable absence of Lord Coleridge, the presentation was made by Professor Huxley. He said that it was unnecessary for him to do more than remind the physician that in the laryngoscope he had gained a new ally against disease, and a very remarkable and valuable addition to that series of instruments, all of which, from the stethoscope downwards, had come into use within the memory of living men, and had effected a revolution in the practice of medicine. This instrument they owed to Señor Garcia, who had invented it a quarter of a century ago. Sweden and Germany had long since acknowledged their indebtedness to him on this account, and a feeling had arisen that Englishmen should not be behindhand in recognising the merit of one who had lived so long among them. Numerous representatives of the aristocracy and the commonalty, of the bench and the bar, of arts and of physic, and of the cultivators of the mathematical, physical, and physiological sciences, had therefore united in presenting him with this testimonial. Señor Garcia, in his very modest reply, said: "The idea of examining the interior of the larynx with a mirror during the act of singing had often presented itself to me, but was always rejected, as I believed it to be impracticable. It was not until September, 1854, that it occurred to me that the best way to resolve my doubts was to submit them to the test of experiment. I purchased a dentist's mirror, which, having heated it, I placed against the uvula; then, flashing upon it with a hand mirror a ray of light from the sun, I saw, to my intense delight, the larynx exposed. There my parts ends. If the laryngoscope has become a useful instrument, it is all owing to the skill of the men into whose hands it has fallen. The approbation of my simple idea by so many leaders of the scientific world is to me an honour as unmerited as it is unexpected."

THE HEALTH OF BRIGHTON.

Dr. R. P. B. Taaffe, Medical Officer of Health for the Borough of Brighton, has, in his annual report on the health of that locality for the year 1876, established the reputation for health which this well-known watering-place has so long enjoyed. From the tables which he has carefully prepared, it will be seen that Brighton takes the first place among the twenty large English towns, with a death-rate of 19·6 only, that of London for the year 1876 being returned as 22·3. In the first and second quarters of the year under notice, measles was prevalent in the town, and, in the last two quarters, scarlatina. This latter outbreak, however, which was much exaggerated, was not of a severe character, and soon died out. Dr. Taaffe, nevertheless, strongly impresses upon the authorities the advisability of being prepared with a hospital for infectious diseases, so that future epidemics may be instantly and efficiently dealt with. The County Hospital, he points out, cannot provide for the wants of an ordinary epidemic, so that he is dependent upon the kindness of the Board of Guardians for accommodation in times of zymotic visitations; and he remarks that the Sanitary Authority ought to be in a position to deal with epidemics more directly, by having a hospital and the necessary accessories at its own special command. As in former reports, Dr. Taaffe suggests that some steps should be taken to place prominently before the Legislature that persons barely convalescent from contagious complaints ought not to be allowed to travel from home and propagate them to communities at a distance. Brighton suffers heavily in this way, from the transmission into it of the zymotic class of diseases. Taking this fact into consideration, it speaks well for the sanitary condition of the town that it is enabled to present such a satisfactory report as the one under notice.

HARVEY TERCENTENARY MEMORIAL FUND.

A meeting of the London subscribers to this Fund was, by permission of the President of the Royal College of Physicians, held at the College on Wednesday last. In the absence of the chairman of the committee, the Earl of Derby, who sent a letter stating that he was unable to be present, Dr. Owen Rees occupied the chair. There were also present Sir Thomas Watson, Bart., Sir George Burrows, Bart., Dr. Sieveking, Dr. Barnes, Mr. Hilton, Dr. Hare, Dr. Glover, Mr. Ernest Hart, and others, with the Hon. Sec., Mr. G. Eastes. A report of the progress of the Fund was read, from which it appeared that, after the payment of all expenses hitherto incurred, a nett sum slightly exceeding £800 remains for the purposes of the Fund. As this amount is not sufficient, further funds are urgently required, in order that the statue may be completed by next year, which is the tercentenary anniversary of Harvey's birth. Dr. Glover and Dr. Hare were appointed auditors of the accounts. Sir George Burrows, Bart., M.D., and Prescott Hewett, Esq., were elected honorary treasurers; Sir G. Burrows, Sir W. Gull, Sir J. Paget, Sir F. Hicks, Sir S. Waterlow, Mr. S. Lushington, Dr. Quain, Dr. O. Rees, Mr. John Simon, and Mr. Prescott Hewett were nominated as an executive committee for London; and were requested to take immediate steps for securing further subscriptions, and to report progress to another general meeting of subscribers before the end of the present year. A resolution was passed, requesting the Earl of Radnor to grant a site of land at Folkestone on which the statue when completed might be placed. Votes of thanks to the President of the College of Physicians, to the Chairman for presiding, and to the Honorary Secretary, closed the proceedings.

ROYAL COLLEGE OF SURGEONS.

From the annual report on the finances of this institution, which has just been published, it appears that the receipts amounted to £16,266 11s. 8d., and the expenditure to £15,681 2s. 1d., showing a balance at the bankers of £585 9s. 7d. The largest amount in the receipts was in fees paid on admission to fellowship, membership, and for dental diplomas, viz., £12,372 10s. (the Midwifery Board having ceased to exist, there were no receipts for the licence in midwifery). The next largest sum appears to be derived from rents of chambers adjoining the College, and dividends on stock, viz., £2499 4s. 10d. The item of elections to the fellowship, which formerly produced a good income, is now reduced to only forty guineas. In the expenditure the largest item is in fees to Council, courts, and boards of examiners, viz., £6124 9s. Salaries and wages amounted to £3988 13s. 8d. For Government stamps, taxes, and rates, the large sum of £1250 2s. 10d. was required, not including postage-stamps. The Oration and Hunterian Festival this year amounted to £230 4s. 6d. It will be remembered that H.R.H. the Prince of Wales honoured both with his company. Pensions amounted to £287 19s. 6d.

ILLNESS OF PRINCE ALBERT VICTOR.

Prince Albert Victor, eldest son of H.R.H. the Prince of Wales, is suffering under an attack of continued fever. The symptoms date from Saturday, the 7th inst., hence it must be some days before there can be any important change for the better. The course of the disease has hitherto been very favourable.

A SUCCESSFUL ACTION FOR THE RECOVERY OF FEES.

An action was tried last week before the Lord Chief Justice and a special jury, brought by Mr. Wood, the senior Surgeon of King's College Hospital, to recover from a Mr. Mathias the balance of an account for medical attendance on the defendant's wife. The evidence showed that in the spring of 1870 the defendant's wife was sent up to London to be attended by the plaintiff for a serious illness; that she, having taken lodgings in the neighbourhood, underwent two operations, which ultimately proved successful; that the defendant, having paid the plaintiff £50 for the first operation, refused, except as to £20 which he now paid into Court, to pay the balance (which consisted of £20) for the second operation, and seventy-five guineas for seventy-five visits consequent upon it. The defendant's counsel admitted that he had no evidence to call to prove that the charges were improper; the defendant could only prove that he had no notion at the time that these would be the plaintiff's charges. His Lordship observed that that would be no answer; the defendant ought to have inquired. At his own request the defendant was sworn, and stated that the plaintiff had deceived him; he had been introduced to him by his brother, and he ought to have informed him that his charges were so high. His Lordship directed the jury that this was no defence, and the jury accordingly at once found a verdict for the plaintiff.

DEVONSHIRE HOSPITAL AND BUXTON BATH CHARITY.

Two important announcements were made at the meeting of the Committee of Management of the Devonshire Hospital and Buxton Bath Charity, held at the Hospital on the 7th inst. After adverting to the present position of the Hospital, the chairman stated that it was intended to organise a nursing department; a lady superintendent has been engaged, and, under her advice and supervision, trained and probationer nurses have been secured, and every expectation is held out that this part of the work of the establishment will be as satisfactory as can be desired. Further, the extension of the Hospital to the whole of the buildings and premises connected with it has now been secured. Under the easy requirement of providing similar stable accommodation, etc., elsewhere, the Duke of Devonshire has kindly conceded the whole of these buildings and grounds to the uses of the Hospital for ever, under certain restrictions. This extension will almost double the capacity of the Hospital; and the governors of the Cotton Districts Famine Fund have engaged to defray the whole expenses to be incurred (amounting to £10,650), subject to a prior claim on 100 additional beds to be created.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

The annual meeting of the Society of Medical Officers of Health was held July 11, when the following officers were elected for the year ensuing:—*President:* Dr. Thos. Stevenson, F.R.C.P. Lond. *Vice-Presidents:* Dr. G. Buchanan (late President), Dr. T. O. Dudfield, Dr. C. Meymott Tidy, Mr. E. L. Jacob. *Treasurer:* Mr. J. Liddle. *Hon. Secretaries:* Dr. J. Northcote Vinen, Dr. W. H. Corfield. *Council:* Dr. Bristowe, Mr. H. Leach, Mr. Lovett, Dr. Rygate, Dr. Tripe, Dr. Whitmore, Dr. Adams, Dr. Bond, Dr. Baylis, Dr. Philpot, Mr. Thomas, Dr. G. Wilson.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

This Society has just terminated a very successful session, and held its fifteenth annual meeting. The membership now includes a large majority of Bradford practitioners, and many of those from the populous districts surrounding the town. During the past session the Committee concluded an arrangement with the Board of the Bradford Infirmary, by which the Society finds a permanent home within the walls of that institution, obtains the use of a large and increasingly useful medical library, and secures facilities for the prosecution of pathology, and the formation of a museum. The Society has to deplore the loss of its President for the year, J. D. Lawrie, M.R.C.S., who died suddenly on January 1, 1877. The officers elected for the ensuing year are as follows:—*President:* R. H. Meade. *Treasurer:* W. Whalley. *Secretary:* D. Goyder, M.D. *Curators:* A. Rabagliati, M.D., and T. C. Denby. *Auditors:* J. Foster and J. H. Bell, M.D. *Committee:* W. Burnie, M.D., P. E. Miall, J. Arthur, and E. T. Tibbits, M.D.

PRESENTATION TO DR. WOLFE.

At a recent meeting in connexion with the Ophthalmic Institution, Glasgow, an address was presented to Dr. Wolfe on behalf of certain of the students of the University, thanking him for the trouble and pains he had taken in instructing them in ophthalmic medicine. Such a testimonial must be highly gratifying to Dr. Wolfe, and speaks well for the students themselves.

MEDICAL PARLIAMENTARY AFFAIRS.

London Water-Supply.—The report of Dr. Frankland concerning the Southwark and Vauxhall water-supply was alluded to by Colonel North, especially that part which stated that it was "full of moving organisms, and contained an excessive portion of organic impurity." Mr. Sclater-Booth explained that this water had been for some time in an unsatisfactory state, and the water examiner had been directed by the Local Government Board to communicate with the offending company. He had also directed a statutory inquiry to be made by Major Bolton under the 35th section of the Metropolis Water Act. He referred to the recent large expenditure of the company with a view to improve the quality of the water.

Small-pox in the Metropolis.—Authoritative contradiction to various floating rumours respecting the continued spread of small-pox was given by Mr. Sclater-Booth when he stated that there are now 483 vacant beds at the Asylums Hospitals; at the present time 621 patients are under treatment, as against 850 and 950 for May and June last. The experience already gained had been very salutary in keeping in check the existing epidemic.

Medical Department in India.—No conclusion has yet been come to, said Lord G. Hamilton, respecting the administration of the Army Medical Service in India. He could not state whether this department was to be in the hands of the Indian Government only, or what alterations were likely to be made.

Cattle Plague.—Allusion was made to the reappearance of cattle plague at Bethnal-green in a shed containing ten cows. Lord Sandon remarked that the whole stock were slaughtered after being condemned by the Privy Council inspector. Fortunately the orders of the Privy Council for effectually dealing with the disease in the metropolis were still in force. The order for restricting the removal of live cattle in the metropolis north of the Thames has been renewed. The Irish Privy Council have resolved not to relax the restrictions in the importation of live cattle into Ireland for the present.

St. John's House, Norfolk-street.—The annual meeting of this institution was held on Monday last, under the presidency of the Bishop of London. The report stated that there were now 138 nurses and probationers, and a large staff of nurses were satisfactorily employed at King's College and Charing-cross Hospitals. During the past eight years nearly 300 probationers had entered St. John's House for the usual three years' training. Of these many were now nurses of the House, while others had settled in England, or in different quarters of the globe, as nurses. During the same period 200 lady pupils had been trained, some of whom were now superintendents or matrons, and others have become sisters of St. John's House. More than 600 cases of illness had been nursed during the past year—many were fever, and some small-pox. A new branch of work had been commenced on a small scale in Ashburnham-road, Chelsea, in the form of a new Maternity Home and Training Sschool, the principal object of which was to provide means for the training of monthly nurses. The receipts and expenditure showed that £9972 had been received, of which £6761 was for nurses' services, and the total expenditure was £9465.

ANTI-VIVISECTION.

Mr. Charles Hawkins, a late member of the Council of the Royal College of Surgeons, in which he continues to take the greatest interest, has just presented to the Library the manuscript lectures of the late Sir Benjamin Brodie, which are of additional value as being in his own well-known and peculiar handwriting. The following lecture, which we are permitted to publish, will no doubt be considered very interesting at the present moment:—

"In the present, as in the other lectures, I have had frequent occasion to introduce the history of experiments on living animals, made with a view to promote our knowledge of the animal economy. But it is perhaps scarcely right that any one should refer to investigations of this description without offering some explanation or apology for what, in the eyes of many, may appear to be an abuse of the power which we are allowed to exercise over the other parts of the animal creation; and certainly it would but ill become the Professor of this College, addressing an audience in this theatre, to treat with indifference the question whether it be or be not allowable or proper to endeavour to enlarge the boundaries of our own knowledge by giving pain to other beings, and by sacrificing the lives of inferior creatures. Far be it from my intention to contribute anything towards suppressing the kinder feelings which nature has implanted in the human breast, and which ought to be especially cultivated and fostered by those whose profession leads them to be so conversant with human misery, and on whose active, zealous, and benevolent exertions depends so much of the happiness of their fellow-men. We must, however, on this, as on every other occasion, assume that we are justified in employing the animals which are below us, not only for the purposes of our instruction, but also for that of ameliorating the general condition of the human race. Without this assumption, indeed, man such as he now is, living in society and improving his intellectual and moral faculties, could scarcely exist. He is but ill calculated, especially in these northern climates, to live on a purely vegetable diet; and how could he support the storms of the autumnal season, or the low temperature and piercing winds of the winter months, if he were not to borrow from other animals their skins and furs and fleeces? and how cheerless and unprofitable would be his nights if he were not provided with that artificial light which makes them emulate the day, derived from the blubber of the whale, the tallow of the ox, or the wax of the bee! Besides, if we were not to obey that instinct which tells us that we are to exercise a dominion over all other beings endowed with life, we should soon discover that those other beings would exercise over us a dominion of a still more severe and arbitrary kind; and unarmed, feeble, and defenceless man would speedily vanish from the surface of the earth, or exist only in a few remote places whither his enemies have not yet been able to pursue him. If physiological experiments were intended merely to gratify an idle curiosity respecting that which it is of no import for us to know; if each experiment ended with itself leading to nothing of further interest, then must we esteem them as cruel and unjust, and the experimentalist must be placed on a level with him who trains his gamecocks to destroy each other, or his dogs to bait and torment the bull. But if such experiments enable us to obtain a more complete and accurate knowledge of the phenomena and laws of organic life; to take more enlarged and comprehensive views of the world which we inhabit, and of the general scheme of this vast creation; if they enable us better to understand the nature of disease, and to trace to their proper source the trains of morbid action on which our bodily infirmities depend, and thus to learn a better application of the remedies which may be resorted to for their relief—who then can doubt that we are as much justified in prosecuting our inquiries in this manner, as in slaughtering the sheep that we may eat his flesh, or enslaving the horse that we may avail ourselves of his bodily labour. Nor is this an exaggerated statement of the good which may be derived from physiological researches. How many lives have been preserved, which would otherwise have been lost from secondary hæmorrhage, in consequence of the modern observations on the ligature of bloodvessels! But I am not called upon to point out the particular advantage that may have been derived from each particular experiment. Those, indeed, have narrow views of science who are incapable of perceiving that, while each individual discovery contributes its own share to the general improvement, it is not from these considered separately, but from the increase of the whole mass of knowledge, that we are to deduce those principles which admit of a practical application for the benefit of the human race. The better pathology, the more accurate diagnosis of disease; the simpler, but more efficacious, remedies of modern surgery, all bear unequivocal testimony to the great importance of physiological science. And what would physiological science have now been, had it rested only on anatomical facts and speculative notions, unaided by physiological experiments? The arguments which may be urged against the inconsiderate making needless repetition of experiments, and a wanton sacrifice of animal life, do not apply to researches of this kind when conducted with proper circumspection, forethought, and attention to humanity; and if objections be made at all against researches such as these, let them come from the mild and peaceable Gentoo, or from the tender-hearted girl who steps aside that she may not injure the insect at her feet; not from those who rise in the morning elated with the expectation of hunting the timid and inoffensive hare or stag, or who catch the fox in a snare, and preserve him for a convenient opportunity when they may turn him out before their dogs to be pursued over the open country, that his terrors and bodily sufferings may be made the source of a barbarous amusement."

FROM ABROAD.

On Pilocarpinum Muriaticum.

Dr. Curschmann, Director of the Berlin City Tent Hospital, read a paper upon this substance at the Berlin Medical Society, which is published in the *Wochenschrift* for June 18.

Notwithstanding the enthusiasm with which jaborandi was received in the different clinics, a year and a half since, he observes, few practitioners now employ it, or only to a very limited extent. The chief causes of this are the inconstancy of its effects, and the vomiting, headache, and giddiness which often accompany its use. It was hoped that if its active principle could be separated, the results of its employment might prove more satisfactory. This has now been satisfactorily done by Merk, of Darmstadt, who designates it *pilocarpinum muriaticum*, after *pilocarpus pinnatus*, the name given by Baillou to the most important of the jaborandi group of plants. Weber and Bardenhewer having reported favourably of the employment which they have made of this new alkaloid, Dr. Curschmann instituted some trials, with results which corresponded with theirs. He has made ninety such trials on fifty-five adults, part of whom were ill, and part convalescent or in health. He employed a 2 per cent. solution, injecting from one to one and a half gramme, and therefore 0·02 to 0·03 of the pilocarpin.

The general effects which ensue correspond pretty exactly with those caused by the jaborandi; but they are produced more rapidly and more certainly, and are more durable. The first sign, observed in almost every case in the course of, or at the end of, the first minute, is turgescence and redness of the face, that soon spreads to the neck and chest—the carotids and temporals pulsating forcibly, and the latter appearing in many cases dilated and strongly prominent. Within from three to six minutes the increased secretions of saliva and sweat appear, the latter in almost all cases continuing longer than the former, sometimes for one or more hours longer. In all the ninety cases sweating was induced. The sweating begins on the face, and soon invades the chest and abdomen, whence it proceeds gradually, if sufficient pilocarpin has been injected, to the lower extremities. After a small dose, or when the patient is little sensitive to its action, the legs, or even the thighs, may remain quite dry, or only moderately damp. In several highly sensitive persons the highest point of its action was denoted by slight chills, and in two by decided shivering. In about half the cases there was more or less considerable increase of the lachrymal secretion, which, however, never was distressing. The contemporary discharge from the nose seemed dependent on this, for no independent secretion from the nose was observed, nor any from the remainder of the mucous membrane of the air-passages. In the great majority the pulse rose at the beginning of the action of the pilocarpin

five or six beats, and in a few cases twenty beats; but within the first half-hour it had usually resumed its normal condition. In a few instances its character remained unaltered, but in most there were dilatation and diminution of the tension of the arterial tube. No increase in the frequency of respiration was observed in either patients or healthy persons. A few cases in which the temperature was taken exhibited the same results as those obtained by Riegel and Bardenhewer—viz., that at the height of the influence of the drug the temperature sank half a degree.

Dr. Curschmann furnishes several details of the quantity of saliva discharged, which is shown to be dependent on the amount of the dose given. Some persons, however, are extremely sensitive to the action of the pilocarpin. Thus, a strong, healthy man who came into the hospital for some trifling external ailment, discharged in the course of two hours and a half 280 cubic centimetres of saliva after a single injection of 0·01 of pilocarpin. Sweating, which under jaborandi is not a constant occurrence, has always been produced abundantly by pilocarpin. In some very susceptible persons profuse sweating has been produced even by 0·01, and only one person remained exempt from it when the dose of 0·02 was employed, and he sweated abundantly on the dose being increased. The employment of 0·03 produced greater and more durable sweating than was required, and might be disadvantagous to feeble persons. The sweating under the full action of the remedy continues from one hour and a half to two hours, in many cases only an hour; and it is as profuse as from a vapour-bath, wetting through all the body- and bed-linen. In ten cases the persons were weighed, in order to ascertain the amount lost by sweating, all food and drink being in the meantime abstained from. After abstracting the weight of the urine and saliva discharged, that of the sweat was found to reach one or two kilogrammes, or even two and a quarter—showing that sweating is a most powerful factor in the action of pilocarpin, and not, as it has sometimes been considered with reference to jaborandi, an uncertain appendix to its sialagogue action. The pilocarpin does not seem to exert any direct influence on the secretion of urine, for although during the sweating and salivation its quantity is of course proportionately decreased, it is free from abnormal constituents. In thirty of the cases the condition of the pupil was carefully observed, and no decided influence was produced by the subcutaneous injections. But when a few drops of a 2 per cent. or stronger solution were brought in direct contact with the conjunctiva, decided contraction was induced in from five to ten minutes, which persisted for hours, and traces of which were even observable next day.

As to the accidental effects produced by pilocarpin, vomiting is the principal; but the frequency of its occurrence is much less than when jaborandi is employed; while by the observation of certain rules it is produced so seldom that it is of little consequence as compared with the advantages derived from the drug. This is brought about by careful dosing, and by desiring the patient to carefully avoid swallowing the increased saliva. In persons who have had vomiting after large doses, this may be often prevented by employing moderate yet effectual doses. From some comparative trials which he has made with the internal administration of pilocarpin, Dr. Curschmann believes that the infrequency with which it causes vomiting, as compared with jaborandi, is principally due to its being used hypodermically, and thereby avoiding direct irritation of the stomach. Some persons, especially those who have been weakened by prior disease, complain of a sense of debility, but this usually soon passes off; but in others a complete state of collapse is produced, which may or may not be connected with prior vomiting. The possibility of this occurrence must always be borne in mind. It is dependent upon the amount of the dose and the susceptibility of the individual. It is oftenest met with in women and in those whose strength has been greatly reduced; and when the patient's constitution is not known, the first dose of the medicine should not exceed 0·02, while its effect should be watched for a quarter or half an hour. As far as the trials have gone, pilocarpin does not seem to act dangerously on the subjects of heart disease, and, indeed, can be employed when no other diaphoretic procedure for so long a period would be ventured upon. Indeed, as a therapeutical agent for the production of diaphoresis, it is superior to any other method in use, being more easily employed, while its action is more certain and more complete, without being more or even so dangerous as most of these. Its superiority over the various sweating-baths in ascites, hydrothorax, asthma, etc., is most marked. It is true that diaphoretic treatment is thought less of than formerly; but in several cases the difficulty of its application, rather than its inefficacy, is the cause of its not being resorted to. Speaking from his own experience, Dr. Curschmann has found the pilocarpin very useful in œdema, in dropsy of the cavities from heart or lung disease, and in chronic nephritis, etc., and that after diuretic, drastic, and other means have failed. He believes that a large field for its employment may be found in pleurisy accompanied by serous exudation, both in promoting the absorption of this, and in preventing its re-accumulation after paracentesis. It is evidently indicated in chronic rheumatic affections, at least, so far as these are amenable to diaphoretic treatment.

Mortality Returns of the Paris Hospitals.

Dr. Ernest Besnier, in his report (*Union Méd.*, May 12 to 29) on the mortality for the first quarter of 1877, observes that so high a mean temperature—viz., 6·4° C. (42·10 F.)—has only been attained in this quarter on four occasions since 1819. The rainfall, too, was greatly above the mean, and the prevailing winds were W. and S. The general mortality of the civil hospitals (3438) has exceeded the mean of the quarter of the last six years by 390. A portion of this augmentation is accounted for by the great increase of population as contrasted with its diminution which followed the two sieges.

1. *Affections of the Respiratory Organs.*—In spite of the elevated temperature, these, as compared with the same quarter of the previous nine years, were very fatal, rising from the mean of 30·28 to 32·88. The deaths due to phthisis increased from 53·87 to 58·66, and to pneumonia from 35·73 to 41·72. It is to be observed that the hospital mortality from pneumonia is more than a third higher than the ordinary mortality from the disease, many of the subjects being the victims of alcoholism and various other diseased states disenabling them from resisting, while numerous aged persons are said to die of pneumonia which has only supervened on other chronic diseases. The fatality of bronchitis increased from 5·92 to 6·62, and of pleurisy from 11·91 to 15·96.

2. *Diphtheria.*—The usual melancholy account of this disease, and of the protests which have been addressed to the authorities respecting it, are repeated. In vain, Dr. Besnier observes, has he called attention during the last ten years to the increasing fatality of diphtheria, and its murderous propagation caused by the promiscuous introduction of cases into the ordinary wards. While during the first quarter of 1868 the number of cases was seventy-one, during that of 1877 there were 265 cases, with 220 deaths, or more than 83 per cent. The disease has been very fatal also among the town population, there having occurred 508 deaths, while the mean of the quarter of late years has furnished but 300 deaths. The entire mortality from diphtheria during the quarter, for the civil population, has reached the high figure of 728. It is observable that the higher parts of the town, which are generally spared by typhoid fever, were cruelly ravaged by diphtheria.

3. *Rheumatic Affections.*—Articular rheumatism occurs in pretty much the same proportion all the year round, but, although the number of cases is much the same in each quarter, the time of the year exerts an effect upon their gravity and upon the visceral complications that accompany them. Thus, Dr. Bucquoy, of the Cochin, and Dr. Lereboullet, of Val-de-Grâce, in the present quarter indicate the frequency of the occurrence, not only of cardiac complications, but also of pleurisy and pneumonia of a persistent character.

4. *Variola.*—The cases have amounted to 149, with twenty-two deaths, the number having been 141 in the last quarter of 1876. The excellent effects of isolation (recently established in the French hospitals) continue to be observed, the slightest infraction of the rule being followed by examples of manifest transmission. Dr. Lereboullet has communicated the successful results of 1290 revaccinations performed on 1290 soldiers at the Val-de-Grâce, but we have already (*Medical Times and Gazette*, June 16, page 657) brought these under the noticeo our readers.

5. *Typhoid Fever.*—Following its law of *évolution saisonnaire*, which has been frequently commented upon in these reports, and which is not departed from even during the most marked epidemic visitations, typhoid has undergone the normal diminution which always occurs in the spring, the deaths having fallen from 992 in the last quarter of 1866, by slow and

regular decrease, to 361—the numbers having been 114 in January, 118 in February, and 102 in March, and that in spite of a considerable elevation of the general mortality. Although the number of cases during the quarter has still been about three times greater than the corresponding mean of former years, the *relative mortality* has undergone an extremely remarkable diminution. Thus, while the mean mortality of the corresponding quarter of the eight preceding years was 20·86, that of 1877 was only 16·12. This diminution is due to two causes: there are many cases carried over from last quarter which after a long convalescence have recovered; and a considerable number of the cases occurring at the end of the epidemic are very benign and rapidly curable.

Prof. Germain Sée on Salicylic Acid.

Prof. G. Sée has just read, at the Academy of Medicine, an elaborate memoir (which is published in detail in the *Union Médicale* of July 3 *et seq.*) entitled, "Studies on Salicylic Acid and the Salicylates; and on the Treatment of Acute and Chronic Rheumatism, Gout, and various Affections of the Sensory Nervous System, by the Salicylates," in which he speaks of this new article of the materia medica in most enthusiastic terms. He treats at full length of the history, chemistry, physiological and therapeutical action of this substance; but we have only space for transcribing his conclusions as to its therapeutical effects.

"1. As an external antizymotic agent, salicylic acid has an incontestable action, but in nowise superior to that of carbolic acid, its only advantage being its privation of odour. As an internal antiseptic, it manifests no appreciable effect in either purulent affections or contagious and parasitical diseases—as diphtheria, or muguet, or gangrene, or finally in diabetes. 2. As an antipyretic, salicylic acid and the salicylates possess only transitory and doubtful properties, even when specific, miasmatic, virulent fevers, etc., are in question. Even the salicylate of quinine occupies no definite position in the treatment of marsh fevers. Powerless in the treatment of small-pox, the salicylate of soda has not been sufficiently tried in typhoid fever. Its febrifuge power is exceedingly limited. 3. It is in acute articular rheumatism that the most certain and most prompt effects are observed—so much so that we may promise with almost certainty the cure of febrile or apyretic acute rheumatism within a space of from two to four days. Fifty-one cases may be adduced in proof of this. 4. In simple chronic rheumatism the trials which I have made have proved most satisfactory. The same may be said of the acute crises which manifest themselves from time to time in simple rheumatism or in chronic rheumatic arthritis, the painful attacks of which cease as soon as in acute rheumatism. Moreover, the articular tumefactions considerably diminish, and the motions of the joints may become free even after years of pain, rigidity, and immobility—on the condition that the bony lesions have not become too deep-seated or too advanced. Twelve cases of chronic rheumatism either cured or ameliorated are adduced. 5. But it is in acute and chronic gout that the results are the most remarkable. From the commencement of my observations I was struck by the promptitude with which the most painful acute paroxysms were arrested. Within the space of two or three days the pains, the articular fluxion, the redness of the skin, and the sensibility to touch had all disappeared. Chronic gout is just as amenable to the salicylic treatment. Continued, even in moderate doses, it affords the patients absolute security from an acute attack. The tophi of the joints diminish in size, and cease to become inflamed—in a word, the cure is complete, and that without the production of any metastasis on the heart, stomach, respiratory organs, or the brain. Not once have I been able, among the twenty-one cases I have watched, to observe the slightest retrocession of gout inwardly. No other inconvenience has been produced than the production of some disturbances in the ear, and sometimes a certain amount of debility or narcotism. The two latter phenomena disappear when the dose is diminished; but the perturbations of audition are much more persistent. Among affections which are often of a gouty nature, gravel may be mentioned. This is favourably modified, or rather more easily eliminated, by the aid of salicylate of soda, which also has the advantage of allaying the nephritic pains. 6. The salicylic treatment has seemed to be of advantage in certain facial neuralgias; but its action in this affection is not definitively established, and the same may be said with regard to sciatica. 7. In painful affections of the spinal cord, the salicylate of soda produces calming effects which are distinctly appreciable; but by the continuance of its employment a certain amount of debility is produced."

REVIEWS.

A Handy Book of Forensic Medicine and Toxicology. By W. Bathurst Woodman, M.D., F.R.C.P., Assistant-Physician to the London Hospital, etc.; and Charles Meymott Tidy, M.B., F.C.S., Professor of Chemistry and of Medical Jurisprudence and Public Health at the London Hospital, etc. London: J. and A. Churchill. Pp. 1205.

In approaching such a book as this, more especially at the present moment, when the lamentable death of one of its authors is fresh in our minds, the critical inquirer labours under serious difficulties. One, at all events, has passed away, whom praise or blame would have influenced and affected. On him all praise is lost; dispraise we shrink from giving. Nevertheless, in the execution of our duty towards the public, we must do our best, whilst avoiding all extremes, to speak fairly of what is good and what is bad in the book. Shall we begin with the latter first? We fear that in one respect we are compelled to do so, for no one can look at, still less handle, the ungainly volume without making to himself the mental comment that it is eminently an *unhandy* book, from size, shape, and weight. But neither, on the other hand, can there be any doubt, on opening the book, of the immense amount of labour and pains bestowed upon it—often, we are sorry to say, needlessly, uselessly. The book might in more than one sense, unhappily, be termed monumental. It is dedicated to the memory of Dr. Letheby. Its appearance has been almost the signal for the death of one of its authors. Itself remains the monument of an immense amount of work—curious, learned, scientific, but very often for the medical jurist useless.

Throughout the work, or nearly so, the authors adopt the second person in addressing the reader: there can be no doubt of the value of this plan when addressing a class of students, but we question its utility when dealing with abstract principles or matters of fact. It may be said to begin with instructions as to how to give evidence, what courts a practitioner is liable to be called before, with the procedure of each; and this mode, which we think is a novelty in such treatises, is upon the whole a good one. It is better to learn by the concrete than by the abstract; and so this plan, if carried out perfectly and clearly, is likely to be of good service. The second chapter is devoted to instructions as to how to make a medico-legal or other post-mortem examination. Many useful hints are here given, but in thoroughness and completeness it is not to be compared to Virchow's famous post-mortem published in these columns, and afterwards as a separate pamphlet. Probably, however, this account appeared too late for the service of the authors.

Early in the volume come the chapters on poisoning, which, however, we shall meantime pass by, and proceed at once to chapter xix., which deals with the examination of hairs and stains. Here we find some very useful information. We have excellent figures of the microscopic appearances of many kinds of hairs, and a good account of the spectroscopic appearances of blood. These last are of the greatest possible importance; but they need not entail an account of the construction of the microspectroscope, nor of some hundreds of details of no practical importance. Nevertheless, we have no hesitation in saying that the practical description of the various steps to be taken for making out the various blood and other spectra liable to be mistaken for it, is one of the best we have seen. The chapter which follows, on "Life Insurance," is, if possible, too elaborate; it goes into details which have really no bearing on medical jurisprudence, many of them being purely physiological. Here, too, is to be seen, well marked, a tendency elsewhere manifest; there is no attempt to classify or group authorities—they are all given as of equal value, and are heaped pell-mell together throughout the pages. These useless details and most useful facts are mixed up in a very aggravating manner, for it is not possible to overlook what is really valueless to the medical jurist without also running the risk of overlooking something well worthy of attention. It is not a grateful task to find such faults, but when we bear in mind that the prime objection to the book consists in its unhandiness, we cannot help feeling how greatly it would have been improved by the omission of wholesale quotations from anatomical and physiological works. In the chapters which follow, on the

sexual relations, the same feature is equally marked. But the highest types of perverse ingenuity come further on in the volume; and as examples we might cite, under the heading of "Starvation," pages on "Some General Observations on Food"; or still worse, under the heading of "Gunshot Wounds," more than twenty pages on "The Weapons themselves and the General Theory of Projectiles," including elaborate mathematical calculations. Two other points, and we have done with this part of the volume. There are scattered throughout this part of the work a good many woodcuts. These are almost without exception such as are to be found in ordinary works on anatomy, and the accompanying explanations are purely anatomical, and such as are altogether useless in a work of this class. Such a book is not intended for a first-year's student; and to any other the anatomy of the base of the brain, the neck, the pelvis, and so on, should be sufficiently familiar to render the anatomical matter here altogether useless. There is, moreover, throughout the whole book a display of learning, which we cannot help calling pedantic. Quotations in half a dozen languages, *àpropos* or *mal-àpropos*, adding nothing to the clearness of the description, nor serving any good purpose which we can see, do not deserve any other name. Such little pettinesses are altogether out of place in works of this class; and the same may be said of the mock heroic style which is abundantly to be found throughout its pages. One very good feature in the volume is the collection of illustrative cases given in almost every department of the subject; but even here want of judgment has been displayed, for number seems to have been the aim of the authors, not aptness of illustration. But let us turn to the part relating to toxicology.

Here the authors—rightly or wrongly, we shall not pretend to say which—reject all schemes of classification, and deal with the various poisons simply as animal, vegetable, or mineral. They introduce the subject, however, by certain general considerations, followed by a scheme for a complete analysis in a toxicological sense of any suspected substances. Both of these chapters contain much sound matter, which it would be well to bear in mind; but the systematic analysis—largely founded, we are told, on the methods of Dr. Letheby,—is very imperfect, and in one instance, at least, illustrated by a dangerously inaccurate figure. Dr. Letheby's processes were often enough objected to while he was yet alive, and it is not well that they should be perpetuated; if the authors of a work like this take upon themselves the responsibility of doing so, it is as well once more to point out the inadequacy of these processes. We allude more especially to their acetate of lead process, which, as far as we are aware, is not now advocated by a single chemist or toxicologist of distinction.

Turning to the description of the individual poisons, we are again most painfully reminded of a fault of which we have already complained—the waste of space, and the superabundance of padding in the shape of details, useful no doubt to the student of chemistry, but utterly useless or worse than useless to the student of toxicology. Page after page is wasted in such matters as the various chemical compounds of metals, their atomic weights, their mode of manufacture,—we have hardly patience to say what-not,—whilst really important details are passed by. One most characteristic feature of the toxicological portion of the work now before us is the collection of cases of poisoning by various substances. In making this collection the authors have exercised a vast amount of patient research, but they have displayed little power of selection, and the analysis will be mainly of use as affording references, which, to render them useful, every real inquirer must verify for himself. It needs but a glance at these tables to illustrate and confirm what we are now saying. This part of the work is further illustrated by certain chromo-lithographs, about which a word may be said. They are supposed to represent the interior of the stomach in poisoning by certain substances; it so happens that we have seen the post-mortem appearances in similar cases of poisoning, and we can confidently say that in no one instance have we seen anything resembling the appearances here figured. This by no means implies that these are utterly inaccurate; it only means that hardly two cases present the same appearances. But when we come to consider the process through which these figures have gone, we can understand some at least of the sources of error. They are all described as from casts by Dr. Letheby. Now, to put it as mildly as possible, it is almost certain that Dr. Letheby's cast would not correspond in colouring to the original; and just as certain that the chromo-lithograph would not exactly correspond with the cast. This shows how dangerous it is in a subject like toxicology to attempt illustrations which cannot be made perfectly like the original.

In our general criticism of the book we have dealt with broad outlines; but in matters of detail it would be easy to go even farther than we have done. It is melancholy to reflect how much time and trouble have been wasted over the volume. Much of it, indeed, forcibly reminds us of that definition of dirt which describes it as matter in the wrong place. The waste of labour and of bodily and mental power which this book implies is enormous. The details entered into are, no doubt, useful in their proper place, but here they are out of place. The only thing wanting to make the book a good book, yea, a capital book, has been a stern and judicious editor. For it will be marked that throughout what we have said we have never said this is a "bad book"; we have not used even the milder form of expression, "this is not a good book." There is a vast amount of good in it, but the work has been conceived in a spirit which would require a lifetime to carry out, and a library to contain. No doubt the authors have done their best with the limited time and experience at their disposal; but these were not great enough for the undertaking, and it is much to be regretted that the work, as undertaken and carried out, was not more commensurate with these. Certain of the faults of the work we can trace distinctly to Dr. Letheby's teaching, especially in the earlier part of the volume. And in this respect it is perhaps hardly fair to visit the faults of the father on the children. Dr. Letheby, when alive, manfully fought his own battles, and as this work now remains a double monument of his labours, and of those of Dr. Woodman, so sadly and abruptly brought to a close, we shall say no more. In any subsequent editions we trust the surviving author will use the pruning-hook as judiciously as the pen of the ready writer.

The Endemic Diseases of Tropical Climates, with their Treatment. By John Sullivan, M.D., M.R.C.P.L., etc. London: J. and A. Churchill. 1877. Pp. 211.

As by far the larger part of this little work has already appeared in our own pages, we have given the best possible proof that we consider it worthy of the attention of the profession, and we therefore need not say much more now than that we are glad that Dr. Sullivan has collected his papers together, and republished them in this form. In his modest little preface, Dr. Sullivan says that his treatise "is the result of patient study and observation during a practice of many years in tropical climates," and it is this fact that gives a special value to the work. The subjects treated of are—Anæmia in Hot Climates; Marsh Malarial Fever; Latent or Masked Malaria; Pernicious Fever; the Bilious Fever of the Tropics; Marsh Diathesis and Marsh Cachexia; Dysentery, Acute and Chronic; Diseases of the Liver; Hepatitis; Jaundice; Yellow Fever; and Asiatic Cholera. Dr. Sullivan has kept himself well acquainted with the best and most recent writings on these diseases, but, as we have said above, the great value of his book consists in the fact that it is the outcome of his own experience and successful practice. In the chapter on dysentery it will be seen that he strongly advocates the employment of ipecacuanha in the treatment of the acute form of the disease. He does not propound any theory respecting the *modus operandi* of the drug, but says, "I only know that it cures dysentery. It is not necessary that it should act as an emetic; it acts best when absorbed. The properties of ipecacuanha are so defined, its effects are so certain, that I go so far as to assert that ipecacuanha is to dysentery what quinine is to malarial fever." In conjunction with ipecacuanha he relies most on manna in the mild, and on calomel, with a little opium, in the severer forms of the disease; but he uses calomel as a purgative only, and warns his readers to guard carefully against giving it to salivation. In Asiatic cholera Dr. Sullivan altogether rejects the treatment of elimination. The plan he has found most successful is—Firstly, to prescribe complete cessation from all labour and fatigue out of doors, and the adoption of the horizontal position on the very first appearance of diarrhœa. Secondly, arrest of diarrhœa, "whether it exists in the preliminary state, or whether it takes the form of rice-water evacuations"; and for this purpose he prefers the employment of opium or laudanum, by means of suppositories and enemata. And, thirdly, he endeavours to supply the loss of fluid, by giving *ad libitum* "iced or cold

water, cold tea, or chicken-tea; and a cordial astringent mixture, as in common diarrhœa." He says, "I believe that no purgative, however mild, should be administered in cholera. There is no danger in arresting diarrhœa, and no safety until it is arrested." Our readers will find Dr. Sullivan's book useful and interesting, as giving the results of the experience of a well-informed and observant practitioner.

Atlas of Skin Diseases. Consisting of a series of Coloured Illustrations, together with Descriptive Texts and Notes upon Treatment. By Tilbury Fox, M.D., F.R.C.P., Physician to the Department for Skin Diseases in University College Hospital. London: J. and A. Churchill. 1877.

This work, one of no ordinary enterprise and importance, has been issued and brought to completion with most commendable regularity and punctuality. It will be remembered that it was announced as intended to be a new and improved edition of Bateman and Willan's famous Atlas, no new edition of which had appeared for some sixty years; and the promise given of a complete and reliable Atlas of Skin Diseases has been very fully redeemed. The completed work consists of seventy-two plates, in which are given 100 different illustrations of diseases of the skin, representing both the most common and the rare forms of disease; and more than half the plates are new. Each plate is accompanied by explanatory letterpress, descriptive of the diseases represented, and briefly treating of the diagnosis and treatment. The whole of this part is entirely new, is clear and concise, and gives the now pretty well known views of Dr. Tilbury Fox. We pointed in our former notice to some of the plates that we thought particularly good, and among the later ones we would direct attention especially to the excellence of those illustrative of xanthelasma, leprosy, and diseases of the nails; but all are so good, that it may be fairly said of them that they could suffice to teach the diagnosis of the eruptions they represent, even without the aid of the text. The Atlas is altogether one of the, if not the, cheapest and best ever published, and reflects great credit on both the editor and the publishers.

A Practical Description of every form of Medico-Electric Apparatus in Modern Use; with Plain Directions for Mounting, Charging, and Working. Illustrated. By Salt and Son, of Birmingham. London: J. and A. Churchill. Second Edition. 1877.

This second edition of Messrs. Salt's "Medico-Electric Apparatus, and How to Use it," may be confidently recommended to practitioners who wish for information concerning the construction and working of the various forms of medico-electric apparatus now most in use. It is "intended to serve as a guide to medical men in the selection of their instruments, and as a handy book of reference for all mechanical details connected therewith," and it will serve these purposes excellently well. It gives full information as to shape, sizes, prices, portability, etc., of the instruments; is freely illustrated; and the description and directions are clear and concise.

The Hunterian Oration. Delivered in the presence of H.R.H. the Prince of Wales, at the Royal College of Surgeons, in 1877. By Sir James Paget, Bart., F.R.S., D.C.L. Oxon., LL.D. Cantab., Serjeant-Surgeon to the Queen, Surgeon to the Prince of Wales, etc. London: Longmans, Green, and Co. 1877.

The profession will gladly welcome this edition of Sir James Paget's admirable and eloquent Hunterian Oration, which is enriched by the addition of a large number of valuable and interesting notes. In giving these, Sir James says, "In studying the life of Hunter I found, or thought of, many things which could not be well used in the Oration, but may be worth printing, whether for the amendment of some of its defects or for subjects for the thoughts of others. I have therefore arranged them in the following notes." And in so doing he has indisputably conferred an additional, and by no means small, boon on his many readers.

The National Health Society, London, received a deputation last week from the London Schools Swimming Club, for the purpose of asking the support of the Society to promote the extension of the art of swimming amongst teachers and scholars of both sexes of the public elementary schools of the metropolis.

REPORTS OF SOCIETIES.

OBSTETRICAL SOCIETY OF LONDON.

Wednesday, July 4.

Charles West, M.D., F.R.C.P., President, in the Chair.

Occlusion of the Cervix Uteri from Cancer.

Dr. Galabin showed a uterus in the cavity of which suppuration had occurred from occlusion of the cervix, due to cancer. The organ had been punctured; a drainage-tube was afterwards inserted. The patient died with general purulent peritonitis. The specimen was referred to Drs. Roper and Galabin to report upon.

Cæsarian Section.

Dr. W. Squire (for Dr. Buckell, of Winchester) read the notes of and showed the viscera of a case in which Cæsarian section was performed twenty to thirty minutes after death. The child was saved. The mother died suddenly of dilatation of the aorta, rendering the aortic valves incompetent. At the post-mortem examination the viscera of the chest and abdomen were found to be transposed.

The President thought the case of interest, as showing that a child could be recovered a considerable time after the death of the mother.

Dr. Aveling said that it is believed that a child may be born alive an hour after the mother's death.

Dr. Playfair said he knew of one case in which a live child was born half an hour after the death of the mother.

Dr. Routh said that much depended on the cause of the mother's death. He had performed Cæsarian section in a case of death from apoplexy, but the child was dead from carbonised blood.

Dr. Daly saw Cæsarian section done twenty minutes after rupture of uterus, but child was dead.

Dr. Playfair showed a specimen of elephantiasis of the vulva, removed by him. It was amputated and the bleeding vessels tied.

Ovariotomy during Pregnancy.

Mr. T. Spencer Wells brought forward some additional cases of ovariotomy performed during pregnancy. The author had arranged in a table the particulars of all the cases in which he had performed ovariotomy during pregnancy. The age of the patient was given, the period of pregnancy when ovariotomy was performed, the weight of the tumour removed, and the results to mothers and children. Full particulars of four cases hitherto unpublished were given. The author concluded that as eight of the nine mothers recovered; as pregnancy proceeded in five, and living children were born after natural labour; as in two, where labour came on soon after ovariotomy, there was no unusual hæmorrhage nor difficulty; and as four of the patients had borne children at various periods since the labour which followed the ovariotomy,—these facts will have their just influence in the formation of professional opinion upon the best mode of treating cases of pregnancy complicated by ovarian tumour.

Dr. Playfair asked Mr. Wells what his experience was of tapping and induction of premature labour. Dr. Playfair was in favour of ovariotomy, because of the unfavourable results which followed when labour was allowed to go on with small ovarian tumours.

Dr. Murray related a case where he had induced labour at the eighth month, and later performed ovariotomy successfully. He thought that when the tumour was fluid it was safer to tap; and even if solid but small, and pregnancy far advanced, labour might take place before the tumour would cause great inconvenience.

The President said that Mr. Wells' results tended to show the comparative safety of ovariotomy during pregnancy. Probably the operation should be done early, for the advance of pregnancy may give rise to suppuration of the cyst, and death. If ovariotomy could not be done, owing to the nature of the tumour, or other circumstances, premature labour might be induced.

Mr. Lawson Tait had in several cases been able to push up small ovarian tumours impeding labour, and had obtained favourable results. He was of opinion that ovariotomy was better practice than the induction of premature labour. He had once performed the operation during pregnancy; mis-

carriage occurred on the seventh day after, and the woman soon died. The pedicle was found to be gangrenous.

Dr. CARTER had seen two cases of pregnancy with ovarian tumours. Both cases went to the full time and did well. Children were alive and healthy. He asked Mr. Wells what other cases he had been consulted about which had not been operated upon.

Dr. GALABIN asked if Mr. Wells attached any importance, in making the choice of operation, to the stage of pregnancy reached? In the cases tabulated, miscarriage had occurred in all in which ovariotomy had been performed later than the fourth month, but in none of the others. If this were confirmed, it would seem preferable at such a stage to induce premature labour, and not to delay ovariotomy if indicated in the earlier months.

Dr. HEYWOOD SMITH asked if rapidity of growth influenced Mr. Wells in his choice of operation? He considered that any operation was extremely hazardous during the puerperal state and for two months after delivery. Tapping might be dangerous, especially if cysts were forming rapidly, or if the tumour contained puriform fluid, for fluid might escape and set up inflammatory mischief.

Dr. ROUTH thought that more cases were required before an opinion could be formed on the subject before the Society. Seven cases had been mentioned this evening which ran natural courses without any interference. Dr. Routh had brought on premature labour successfully, and performed ovariotomy three months afterwards, but the patient died. Much depended on the size and rapidity of growth of the tumour.

Dr. CHAMBERS had seen a case of ovarian tumour associated with pregnancy. He tapped. A few days after, abortion took place at the fourth month. She recovered from the miscarriage and tapping, but the tumour began to grow again, and the patient to lose health. The tumour was removed in about six weeks from the tapping, but the patient died. He thought that had ovariotomy been performed instead of the tapping, the patient would have had a better chance of recovery.

Dr. SAVAGE saw no chance of obtaining a rule of practice in these cases from the present discussion. He asked if Mr. Wells would operate in a case of pregnancy complicated by a solid or cystic ovarian tumour when there was no suffering, and what operation would he choose if the patient suffered severely. Dr. Savage thought that ovariotomy was the only justifiable operation in the latter circumstances.

Dr. ROPER induced labour at the seventh month in a case complicated by an ovarian tumour as large as a fœtal head. The child was alive. The patient did well, and has had living children at full term since, the tumour remaining unaltered.

Mr. SCOTT said the propriety of performing ovariotomy during pregnancy depended mainly on two conditions—the amount of suffering and constitutional disturbance present, and the position of the tumour. If the tumour were wedged in the pelvis so as to impede delivery, early ovariotomy should be performed. If the tumour were well up in the abdomen, giving rise to no trouble, it may be doubted if operative interference be justifiable.

Mr. WELLS replied that the patient and her friends have an undoubted right to share in the discussion, and it is often not only advisable, but right, to give them some share of the responsibility when the decision involves a matter of life or death. He thought that to remove the fœtus, and soon afterwards to remove the tumour, was extremely dangerous. It was necessary to observe more cases to answer some questions. It is probable that early is preferable to late operation. If a tumour could not be reduced by tapping, and the woman was not suffering, the clear course was to leave her alone. Cases had gone on to term, and living children had been born, but the tumour still remained, and caused anxiety and suffering.

TREPHINING THE MEMBRANA TYMPANI IN OLD DEAFNESS.—Dr. Bonnafont, in a communication to the Academy of Sciences entitled, "Trephining the Membrana Tympani successfully in a case of old deafness that had resisted all treatment," lays down the position that all cases of deafness that are not due to an impairment of the sensibility of the auditory nerve (which may be ascertained by placing a watch on the cranium near the ear), and which have resisted all the ordinary modes of treatment, such as catheterism of the Eustachian tube, etc., may be cured or considerably ameliorated by trephining the membrana tympani.—*Gaz. Hebd.*, July 13.

NEW INVENTIONS AND IMPROVEMENTS.

HYPNOIPOIETIC.

UNDER the above name, the well-known manufacturing chemists, Messrs. Richardson and Co., of Leicester, have introduced a new solution of opium. It is of the same strength as the tincture of opium of the Pharmacopœia, but in its qualities is more like morphia; and it does not, so far as we have tried it, produce headache, nausea, or constipation. It has but little taste, is an elegant-looking, clear preparation, and mixes well with water.

ALEXIMORHYGIASTIKON.

THE apparatus with the above terrible name is a patent pocket inhaler, devised by Mr. James B. Austin, 7, High-street, Bloomsbury, and appears to us to be really an ingenious, handy little instrument, deserving of a less formidable title. It consists essentially of a core, composed of minute rolls of blotting paper, and enclosed within an impermeable circular case, open at the ends. The core is saturated with a solution of the drug to be inhaled, and then the air is inhaled through the tube. Two forms of the instrument are made, one for inhalation by the nostrils, and the other by the mouth. The case containing the inhaler carries also a small bottle of a solution of carbolate of iodine, and a twisted wire by means of which the fluid may be accurately dropped on to the bibulous core. The apparatus is very simple; is easily used; and we can well imagine that it may be found to be of good service. We have indeed received an indignant denunciation of it from an old friend, who suffers greatly from asthma and bronchitis, and had bought one of the bottle forms of the inhaler, hoping to get relief thereby. But we must in honesty add, as our friend did, that he had not tried it—he was kind enough to make us a present of it,—the sight of it having been enough to convince him that it was too small to be of any use. On this point, however, we think he is mistaken. It must be understood that our remarks respect the apparatus only, and have no reference to the medicinal value of the solution of carbolate of iodine supplied with it.

LACTOPEPTINE.

THERE is undoubtedly a very considerable and eager demand for artificial aids in the various forms of indigestion that result from the high-pressure life of nineteenth-century civilisation; and Messrs. Carnick, Kidder, and Co., of New York, and Great Russell-street, London, have brought out a new remedy, which they call Lactopeptine, to meet this demand. They state that this Lactopeptine is a combination "of the five active agents of digestion, in the same proportions as they exist in the human system"; that is, that it is composed of pepsin, pancreatine, diastose (or vegetable ptyalin), lactic and hydrochloric acids, together with sugar of milk; and the well-known analyst, Dr. H. C. Bartlett, confirms the correctness of the manufacturers' description of the preparation. We can add that Lactopeptine is pleasant to take, and that where we have had an opportunity of prescribing it, its employment has been decidedly beneficial. It is most useful, we think, in cases of *slow* digestion; and in dyspepsia attended with fulness, a sense of weight, and with flatulence. The dose required is large—not less than fifteen grains.

IVORY JELLY.

THIS jelly, which is prepared from pulverised ivory, is very palatable, and, as it contains the bone phosphates in (according to Mr. Dugald Campbell's analysis) a soluble condition, it may be very fairly supposed to possess, for some invalids, a higher nutritious value than that of ordinary jellies. It is manufactured and sold by Mr. T. K. Callard, Blenheim-terrace, St. John's-wood, and by Messrs. Callard and Callard, of Queen's-terrace, St. John's-wood.

KORFF'S CHOCOLATE.

FROM Messrs. Phillips and Co., 11, Great St. Helen's, London, we have received a sample of Korff and Co.'s Chocolate Powder. It is very agreeable and fragrant; and we believe that it is what it professes to be—viz., the pure powder of the bean, without any additional starchy matter, and without abstraction of the fatty matter natural to it.

VIN DE BAUDON.

"BAUDON'S WINE," which is proposed as a substitute for cod-liver oil in pulmonary phthisis and diseases of debility, is a medicated wine containing phosphate of lime and some antimony. It comes to us from France, and its usefulness is attested by the names of some French physicians and surgeons of high standing and repute. In our "Hospital Reports" of May 12, of this year, we also reported a case of pulmonary disease under the care of Dr. Andrew Clark, in the London Hospital, in which very marked improvement took place during the exhibition of this wine, without any other medicinal treatment. The "Vin de Baudon" is, at any rate, a very agreeable remedy, the basis of it being a pure muscat wine; but as this is a "generous" and rather potent wine, and it is given in considerable doses, "a claret-glassful, pure, or mixed with a little water, or seltzer water," being recommended to be given to adults before each principal meal, it may be questioned, perhaps, whether any good consequent on the use of it may not, in large measure at least, be due to the wine itself rather than to the phosphates, etc., with which it is medicated. Messrs. Pagny and Wallace, 3, Finsbury-pavement, are the agents for the wine in England.

OBITUARY.

CHARLES SCOTT, M.D., C.B., INSPECTOR-GENERAL OF HOSPITALS.

WE have to record the death of Dr. Charles Scott, which took place on the 9th inst., at St. Edmund's Villa, South Lambeth-road, at the age of seventy-four. The deceased entered the Army Medical Department in November, 1834. He was in medical charge of the 32nd Light Infantry for many years, and Surgeon to the regiment in the Punjaub campaign of 1848-49, and present at the siege and capture of Mooltan and the battle of Goojerat. He served with the force under Sir Colin Campbell against the Peshawur frontier hill tribes in 1852; and in the Indian Mutiny, as medical officer of the 32nd, in the defence of the Residency of Lucknow until its final relief by Lord Clyde, he distinguished himself. He was subsequently at the defeat of the Gwalior rebels at Cawnpore, and received official recognition in despatches "for eminent servicest hrough-out the whole siege of Lucknow." In 1860 he was appointed Honorary Surgeon to her Majesty, and in 1862 retired from the service.

MEDICAL NEWS.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.—At the usual monthly Examination Meetings of the College, held on Monday, Tuesday, Wednesday, and Thursday, July 9, 10, 11, and 12, 1877, the following candidates were successful:—

Previous Examination for the Licence to Practise Medicine.

Waterston, Jane Elizabeth.

Final Examination for the Licence to Practise Medicine.

Charlton, Henry Arthur Herbert.
Clarke, John Patrick.
Clarke, Joseph.
Clinch, James Vincent.
Conry, John.
Delahoyde, O'Connell John.
Donaldson, Ebenezer.
Duigenan, John Joseph.
Fisher, Francis Charles.
Higgins, Samuel McCulloch.
Jennings, John Bray.
Kisby, George.
Lyndon, George.
Rowlands, William.
Rugg, James Foster.
Ryan, Walter Henry.
Sherrard, Henry Robert.
Smith, Richard Baker.
Thompson, John Henry.
Tyner, Richard Gelling.
Winter, Walter Henry Trimnell.
Wylde, James Harold.

For the Licence to Practise Midwifery.

Charlton, Henry Arthur Herbert.
Clarke, John Patrick.
Clinch, James Vincent.
Conry, John.
Croft, Freeman Wills.
Delahoyde, O'Connell John.
Donaldson, Ebenezer.
Duigenan, John Joseph.
Fairbank, William.
Fisher, Francis Charles.
Goodman, Francis George.
Hamilton, William.
Higgins, Samuel McCulloch.
Kisby, George.
Lyndon, George.
O'Dwyer, Malachi.
Rugg, James Foster.
Ryan, Walter Henry.
Sherrard, Henry Robert.
Smith, Richard Baker.
Thompson, James Edward.
Thompson, John Henry.
Tyner, Richard Gelling.
Westby, George.
Wylde, James Harold.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed their primary examinations in Anatomy and Physiology at a meeting of the Board of Examiners on the 12th inst., and when eligible will be admitted to the pass examination, viz.:—

Biden, Edward J., student of the Charing-cross Hospital.
Brockliss, Edward L., of Guy's Hospital.
Brown, Percy, of the London Hospital.
Charles, Henry, of Guy's Hospital.
Fulton, James, of St. Thomas's Hospital.
Gabriel, Samuel J., of St. Bartholomew's Hospital.
Hooker, C. Paget, of St. Bartholomew's Hospital.
Mark, Leonard P., of St. Bartholomew's Hospital.
Parish, Frank, of University College Hospital.
Pilkington, Francis S., of Guy's Hospital.
Ponsford, Leicester C., of University College Hospital.
Price, Arthur, of St. Thomas's Hospital.
Rushworth, Frank, of St. Bartholomew's Hospital.
Rushworth, Norman, of St. Bartholomew's Hospital.
Thomas, Stanley T., of Guy's Hospital.

Nine candidates were rejected. The following gentlemen passed on the 16th inst., viz.:—

Bampton, Augustus H., student of the Westminster Hospital.
Burrows, Henry C., of the Liverpool School.
Deane, Arthur D., of Guy's Hospital.
Humphry, Lawrence, of the Cambridge School.
Hunter, Vere E., of St. George's Hospital.
Moore, Stephen H., of Guy's Hospital.
Parker, William R., of University College Hospital.
Rees, Albert H., of University College Hospital.
Sage, Charles, of Guy's Hospital.
Shelswell, Oscar B., of Guy's Hospital.
Smith, Herbert, of St. Bartholomew's Hospital.
Wall, George B., of the Charing-cross Hospital.
Walters, Frederick R., of St. Thomas's Hospital.

Twelve candidates were rejected. The following gentlemen passed on the 17th inst., viz.:—

Balls, James, student of King's College Hospital.
Duncan, H. Montague, of University College.
Greensill, James H., of the Middlesex Hospital.
Griffiths, Herbert T., of St. George's Hospital.
Hodgson, J. Willoughby, of Guy's Hospital.
Hitch, Frederick, of Guy's Hospital.
Licard, William E., of the Charing-cross Hospital.
Mackrell, Alfred S., of St. Bartholomew's Hospital.
Outhwaite, William, of St. Bartholomew's Hospital.
Sainsbury, Harrington, of University College.
Smith, J., of the Westminster Hospital.
Stuart, Ernest O., of Guy's Hospital.
Watton, Robert S., of University College.
Webb, J. Gascoyne, of St. George's Hospital.
Williams, William, of St. Thomas's Hospital.

Nine candidates were rejected. The following gentlemen passed on the 18th inst., viz.:—

Brookes, Robert, student of King's College Hospital.
Buller, Audley C., M.A. Cantab., of the Cambridge School.
Dunn, Walter, of St. George's Hospital.
Heyland, Langford R., of St. George's Hospital.
Hine, John E., of University College Hospital.
MacDonald, Greville M., of King's College Hospital.
Shettle, H. Wynter, of St. George's Hospital.
Sutton, Samuel W., of St. Thomas's Hospital.
Tinker, T. Howard, of University College Hospital.

Fifty-seven candidates out of 136 examined having failed to acquit themselves to the satisfaction of the Board of Examiners, were referred to their anatomical and physiological studies for three months. With this the primary examinations for the present session are brought to a close. The next and ensuing weeks will be devoted to the pass examination for the diploma of Membership, for which upwards of 200 candidates have entered their names.

These examinations, as is now generally known, are open to all Fellows of the College; and distinguished foreigners introduced by them desirous of witnessing the mode of conducting the examinations for Fellowship and Membership. Amongst the visitors at the above examinations were Dr. Tripier, Professeur d'Anatomie à l'Ecole au Beaux Arts, Lyons, accompanied by a co-Professor, Dr. Wm. Darling, F.R.C.S. Eng. (exam.), Professor of Anatomy in the University of New York; Dr. J. E. Winters, the Demonstrator of Anatomy in the same University; Dr. Ambrose Lediard; Mr. A. P. Gould; Dr. Heiberg, Professor of Anatomy in the Royal University, Christiania, Norway.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, July 12:—

Green, Thomas Beaufoy, Kendal.
Fagg, Thomas William, Alkham, near Dover.
Rawson, Ernest, Taranaki, New Zealand.
Wakefield, Thomas, 37, Nottingham-place, W.
Wright, Arthur, 64, St. Mary's-terrace, W.

The following gentlemen also on the same day passed their primary professional examination:—

Bowlby, Anthony Alfred, St. Bartholomew's Hospital.
Fisher, Frederick Charles, St. George's Hospital.
Webb, Charles Alfred, St. George's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

BARNES, R. S. FANCOURT, M.B., C.M.—Physician to the British Lying-in Hospital.

PAXON, HERBERT E., M.R.C.S. Eng., L.S.A.—Junior House-Surgeon to the Cheltenham General Hospital, *vice* C. Greenwood, resigned.

BIRTHS.

DAVY.—On July 10. at Vue du Lac, Guernsey, the wife of Francis Arthur Davy, M.D., A.M.D., of a son.

DAWSON.—On July 12, at 5, Second-avenue, Queen's-gardens, Brighton, the wife of Richard Dawson, M.B., of a daughter.

MOORE.—On July 7, at H.M.'s Dockyard, Pembroke Dock, the wife of George Moore, M.D., Fleet-Surgeon, of a daughter.

OWEN.—On July 15, the wife of William Owen, M.R.C.S.E., of a daughter.

TAYLOR.—On July 11, at Champion-park, Denmark-hill, the wife of W. Bramley Taylor, M.R.C.S., of a daughter.

MARRIAGES.

BAINBRIDGE—MACKENZIE.—On June 21, at Dhulia, Khandeish, Bombay Presidency, George Bainbridge, L.R.C.P. Lond., M.R.C.S. Eng., H.M.'s Bombay Medical Establishment, to Jessie Beatrice, daughter of the late T. Mackenzie, C.B., Deputy Inspector-General of Hospitals, Bombay.

GRIMES—CROOKE.—On July 17, at Trinity Church, Brompton, John Grimes, M.D., B.Sc., of Grassendale, near Liverpool, to Emily, elder daughter of Reginald Crooke, of Mossley-hill, near Liverpool.

HEWSON—RICHARDSON.—On July 11, at Marylebone Church, R. W. Hewson, L.R.C.P. Edin., only son of J. Dale Hewson, M.D., of Coton Hill, Stafford, to Anna Maria, widow of the late H. Dallin Richardson, Esq., solicitor, York.

HITCHCOCK—HAILSTONE.—On July 12, at Bottisham, Lode, Charles Knight Hitchcock, Esq., younger son of Charles Hitchcock, L.R.C.P. Edin., of Fiddington House, Market Lavington, to Alice, younger daughter of the late Rev. J. Hailstone, M.A., J.P., of Anglesey Abbey, Cambs.

SMITH—CHAMPAIN-HALL.—On July 11, at St. Peter's Church, Paddington, Edwin Gilbert Smith, M.R.C.S. Eng., of Easy-row, Birmingham, to Florence, eldest child of William Champain-Hall, of Grittleton-road, Paddington.

WILMOT—WADDY.—On July 17, at Monkstown Church, county Dublin, Samuel Cusack Wilmot, Esq., B.A., barrister-at-law, eldest son of Samuel George Wilmot, M.D., of Dublin, to Annie Warren, younger daughter of Lieutenant-General Sir Richard Waddy, K.C.B.

DEATHS.

BOULTON, ROBERT GEORGE, M.D. and J.P., at Beverley, Yorkshire, on July 12, aged 72.

FRASER, MARGARET SKENE, eldest daughter of Robert W. Fraser, M.D., Staff-Surgeon, half-pay, at 13, Lloyd-square, Clerkenwell, on July 13, aged 32.

LAND, ARTHUR HOLMER SEYMER, child of Surgeon-Major J. Land, M.D., R.A., at Colaba, Bombay, on June 4, aged 2 years and 9 months.

MARCHER, HANS KOFOD, M.D., K. of D., at Copenhagen, on July 15, aged 81.

ROBERTSON, RICHARD H., M.D., at Carlisle Lodge, Howard-road, South Norwood, on July 16, aged 69.

POPE, EDMOND, M.R.C.S. Eng., of Brixton, on July 15, in his 41st year.

POWELL, HENRY, M.R.C.S., at Crawley Lodge, Crawley, Sussex, on July 10, aged 68.

STUCKEY, JOHN, M.R.C.S. Eng., of H.M.C.S., Colonial Surgeon, Accra, Western Africa, eldest son of Samuel Stuckey, late of Langport, and now of Worton Lodge, Devizes, on May 10, aged 34.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

HAVERSTOCK-HILL AND MALDEN-ROAD PROVIDENT DISPENSARY.—Medical Officer. Particulars may be had of the Honorary Secretary, to whom applications, with testimonials, should be sent on or before July 30.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, CITY-ROAD.—Two Assistant-Physicians. Candidates must be M.D. or M.B., and if not M.R.C.P. Lond., must undertake to become so within twelve months. Applications, with testimonials, to the Secretary, on or before July 31.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

VACANCIES.

Foleshill Union.—Mr. Charles H. Parsons has resigned the Shilton District; area 4,240; population 928; salary £15 per annum.

Holbeach Union.—Mr. Arthur B. Ewen has resigned the Tydd District; area 7229; population 1493; salary £25 per annum. Also the Lutton District; area 14,510; population 2900; £37 10s. per annum.

Manchester Township.—Mr. George R. Gowland has resigned the office of Assistant Resident Medical Officer at the Crumpsall Workhouse; salary £170 per annum and allowances.

North Witchford Union.—Mr. J. B. Pike has resigned the Fourth District; area 14,126; population 2905; salary £60 per annum.

Sleaford Union.—The Wilsford District is vacant; area 14,140; population 1920; salary £21 per annum.

APPOINTMENTS.

Brighton Parish.—Andrew Henderson, M.D. Glasg., L.F.P. & S. Glasg., to the Central District.

Droitwich.—Edward H. W. Swete, M.D., as Analyst for the Borough for two years.

Hastings Union.—Edward P. Thurstan, M.B. Cantab., M.R.C.S. Eng., L.S.A., to the Third District.

Llanelly Union.—John R. Thomas, M.R.C.S., L.S.A., to the Llanelly District. Lewis Jones, M.B., M.R.C.S. Eng., to the Pembrey District. John W. Morris, L.R.C.P. Lond., M.R.C.S. Eng., to the Llannon District.

SOCIAL SCIENCE CONGRESS.—The following are the special questions selected for discussion in the Health Department at the forthcoming Congress at Aberdeen:—1. What is the best mode of providing suitable accommodation for the labouring classes, and of utilising open spaces in towns? 2. How can the sanitary condition of the population engaged in the coast fisheries of Scotland and the United Kingdom be improved? 3. The present state of house accommodation in rural districts. Can its evils be remedied? Papers volunteered on other subjects coming within the range of the departments will be read and discussed.

HOSPITAL FEES IN DUBLIN.—A movement is at present in progress to consider the propriety of raising the fees payable by students in the clinical hospitals of Dublin. The hospital physicians and surgeons have already held two meetings at the College of Physicians, Kildare-street. To the second of these meetings a committee reported on the fees payable in the various London and provincial English and Scotch hospitals. It is suggested (1) that the fees payable should be uniform in all the hospitals; (2) that the fee for nine months' clinical instruction should be twelve guineas, that for six winter months should be eight guineas, and that for three summer months four guineas. Perpetual pupils are to pay a bulk sum of thirty guineas. These proposals were embodied in resolutions, which have been forwarded for discussion to the medical boards of the various clinical hospitals. If the increase of fees is agreed upon, it is not contemplated to make such increase retrospective.

TABULATION OF TEMPERATURE, ETC.—In the *Presse Méd. Belge* a case of Addison's disease is narrated by Dr. Carpentier, of the Hôpital St. Jean; but the reason of our noticing it here is to draw attention to the convenience of the tabulation employed for the exhibition of the temperature, pulse, and respiration, the initials for which are the same in all languages. The daily variations, given as a table at the end of the case, are much more readily appreciable and comparable than when diffused over the narrative of the case. For example:—

	Morning.			Evening.		
Dates.	T.	P.	R.	T.	P.	R.
March 16.. ..	37·9°	84	22	37·7°	78	18
„ 17.. ..	37·7°	76	16	37·8°	72	16

and so on as long as the case lasts.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

AN APPEAL.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—We venture to hope that you will kindly allow us, through your columns, to call the attention of the profession to the case of Dr. de Lisle Allen, who, after an illness of more than two years, is now an inmate of Bethlehem. During the whole of his illness Dr. Allen has been incapacitated from following his profession, and his family have been indebted to the kindness of private friends, supplemented by a grant from the Medical Benevolent Fund, for the means of defraying the heavy expenses necessitated by the nature of his malady. This appeal is now made to enable his wife and daughter to keep a home, and to put them in a position to earn a livelihood for themselves. Dr. B. W. Richardson, 12, Hinde-street, Manchester-square, will act as treasurer.

(Signed) BENJAMIN W. RICHARDSON, M.D., F.R.S.
J. HUGHLINGS-JACKSON, M.D.
J. E. ERICHSEN, F.R.C.S.
THOMAS SMITH, F.R.C.S.

Professor Vanzetti, Padua.—Received with thanks.

Recalcitrant.—A guardian, who has been a party to a resolution refusing to enforce the Vaccination Act, has given conclusive proof of his unfitness to be a guardian. A man who will not perform the duties cast upon him by statute ought not to be capable of election to the office with which these duties are associated. The business of a local authority is not to sit in judgment upon Acts of Parliament, but to execute them.

Sigma.—The term "census" originated at Rome, where the first took place B.C. 566, when the city was found to contain 84,700 citizens. After B.C. 432 it was held in the Campus Martius, and was generally taken every five years in Rome. The first census of Great Britain was made in 1801. The Act of Parliament, ordering a census to be taken every ten years, 41 George III., c. 15, passed December 31, 1800. Ireland was not included in this return, and the census for that portion of the United Kingdom was first taken in 1813.

SMALL-POX AND LIGHT.

Dr. Robert C. Croft, of the Camden-road, in a letter addressed to a morning contemporary, which deserves notice, asks those having the care of small-pox patients to try the plan of hanging the windows of the sick-chamber with yellow calico; preparing it, in fact, as if for photographic purposes. He states he does not know to whom the original suggestion is due, or from whom he heard of it, but the results in treatment have been so remarkable that he feels it a duty to call attention to it publicly. He adds—"We have yet a great deal to learn about the actinic properties of light, and we may some day find that the proper management of light will be a great aid in the treatment of disease."

TEMPERATURE OBSERVATIONS.

The mean temperature at the Royal Observatory, Greenwich, for the week ending the 7th inst. was 58·2°; 3·2° below the average in the corresponding week for sixty years.

COMMUNICATIONS have been received from—

Mr. ROBERT BRUDENELL CARTER, London; Dr. HENRY THOMPSON, London; Mr. KNOWSLEY THORNTON, London; Mr. E. L. HUSSEY, Oxford; Mr. S. FULLOM CONOLLY BURFORD, Oxfordshire; Mr. JOHN CHATTO, London; Dr. ROBERT HUNTER SEMPLE, London; Mr. T. M. STONE, London; Dr. THOMAS BARLOW, London; Dr. J. BURDON-SANDERSON, London; Dr. G. E. HERMAN, London; Dr. SPARKS, Crewkerne; Dr. HUMPHRY, Cambridge; Dr. GOYDER, Bradford; Dr. J. W. MOORE, Dublin; Sir WM. GULL, London; Dr. HANDFIELD JONES, London; THE SECRETARY OF THE OBSTETRICAL SOCIETY, London; THE REGISTRAR OF APOTHECARIES' HALL, London; Mr. R. KERSHAW, London; Mr. ERICHSEN, London; THE SECRETARY OF THE SOCIAL SCIENCE CONGRESS; Mr. J. S. JACK, Glasgow.

BOOKS AND PAMPHLETS RECEIVED—

Eighth Annual Report of the State Board of Health of Massachusetts—Jonathan Hutchinson, F.R.C.S., Illustrations of Clinical Surgery, fas. viii.—Tilbury Fox, M.D., Epitome of Skin Diseases—A Report to the Surgeon-General of the United States Army on the Transport of Sick and Wounded by Pack Animals—John Beattie Crozier, M.B., L.R.C.P., etc., God or Force?

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Archives Générales de Médecine—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—La Province Médicale—Practitioner—Home Chronicler—Cincinnati Clinic—Dublin Journal of Medical Science—Révue des Sciences Médicales—Canada Lancet—Guy's Hospital Gazette—Chicago Medical Journal and Examiner—Socialist—New York Medical Journal—Boston Journal of Chemistry—Dairyman—Proceedings of the Medical Society of the County of Kings—Industrial Art—Indian Medical Gazette.

APPOINTMENTS FOR THE WEEK.

July 21. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

23. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

24. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

25. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex. 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

26. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

27. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, July 14, 1877.

BIRTHS.

Births of Boys, 1202; Girls, 1108; Total, 2310.
Average of 10 corresponding years 1867-76, 2153·2.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	736	713	1449
Average of the ten years 1867-76	723·5	655·8	1379·3
Average corrected to increased population ...	...	...	1476
Deaths of people aged 80 and upwards ...	...	...	32

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	2	1	4	...	5	...	...	1	24
North	751729	13	6	4	1	16	...	3	...	44
Central ...	334369	2	5	1	3	1	...	2	1	21
East	639111	5	13	3	2	9	...	3	3	43
South	967692	10	3	9	1	15	1	6	1	37
Total	3254260	32	28	21	7	46	1	14	6	169

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·822 in.
Mean temperature	61·1°
Highest point of thermometer	79·0°
Lowest point of thermometer	42·6°
Mean dew-point temperature	51·6°
General direction of wind	S.W.
Whole amount of rain in the week...	0·37 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, July 14, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending July 14.	Deaths Registered during the week ending July 14.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2310	1449	79·0	42·6	61·1	16·17	0·37	0·94
Brighton	102264	43·4	58	32	72·6	45·4	59·8	15·45	0·96	2·44
Portsmouth ...	127144	28·3	68	43	69·7	47·6	58·5	14·72	0·02	0·05
Norwich	84023	11·2	60	35	79·2	45·0	61·1	16·17	0·12	0·30
Plymouth	72911	52·3	40	17	70·5	45·0	57·2	14·00	0·27	0·69
Bristol	202950	45·6	136	74	73·6	42·2	58·7	14·83	0·93	2·36
Wolverhampton ...	73389	21·6	53	30	74·4	43·7	57·2	14·00	2·25	5·71
Birmingham ...	377436	44·9	275	157	...	...	...	...	...	...
Leicester	117461	36·7	85	41	...	...	...	...	...	...
Nottingham ...	95025	47·6	69	34	77·0	40·6	58·0	14·44	0·33	0·84
Liverpool	527083	101·2	372	242	66·3	53·8	57·8	14·34	1·39	3·53
Manchester ...	359213	83·7	234	170	...	...	...	...	2·28	5·79
Salford	141184	27·3	131	76	69·8	42·3	56·3	13·50	1·78	4·52
Oldham	89796	19·2	81	36	...	...	...	...	...	...
Bradford	179315	24·8	125	75	66·4	44·4	56·1	13·39	0·13	0·33
Leeds	298189	13·8	235	117	71·0	45·0	58·1	14·50	0·58	1·47
Sheffield	282130	14·4	206	124	73·0	46·0	57·8	14·34	1·05	2·67
Hull	140002	38·5	113	46	75·0	43·0	59·6	15·34	0·90	2·29
Sunderland ...	110382	33·4	78	47	71·0	49·0	58·8	14·89	0·44	1·12
Newcastle-on-Tyne	142231	26·5	107	57	...	...	...	...	...	...
Edinburgh	218729	52·2	128	89	68·8	49·6	58·3	14·61	1·04	2·64
Glasgow	555933	92·1	370	202	65·0	47·2	56·4	13·55	1·00	2·54
Dublin	314666	31·3	157	144	72·4	51·8	60·7	15·95	1·28	3·25
Total of 23 Towns in United Kingdm	8144940	38·3	5491	3337	79·2	40·6	58·4	14·66	0·90	2·29

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·82 in. The lowest reading was 29·11 in. at the end of the week, and the highest 30·14 in. on Monday.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

THE HUNTERIAN LECTURES FOR 1877.

ON DEFECTS OF VISION WHICH ARE REMEDIABLE BY OPTICAL APPLIANCES.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

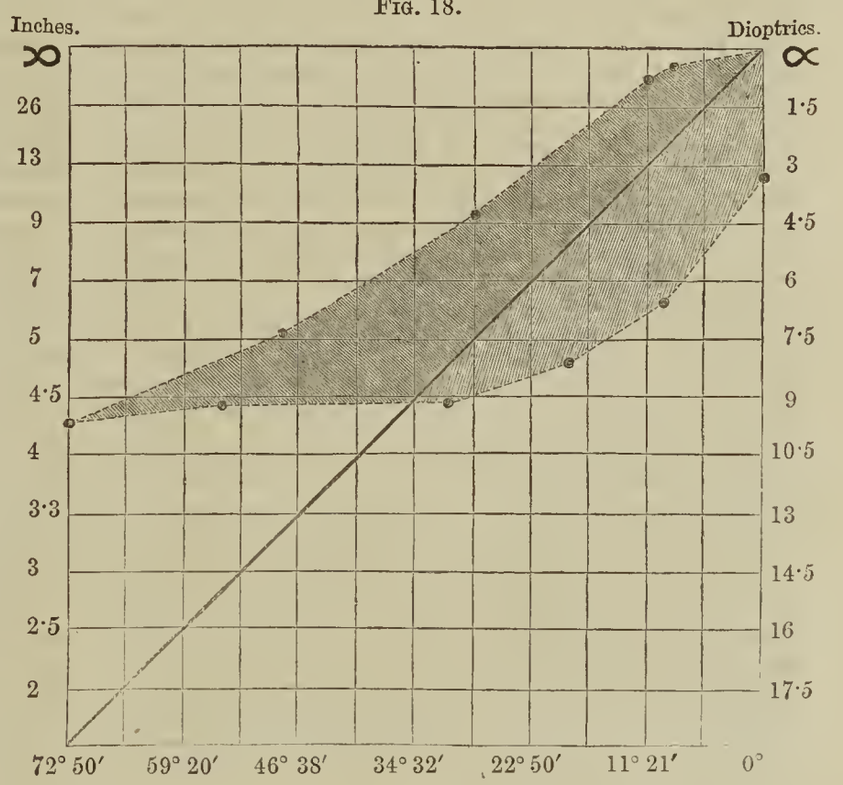
By ROBERT BRUDENELL CARTER, F.R.C.S.,
Late Professor of Surgery and Pathology to the College; and Ophthalmic Surgeon to St. George's Hospital.

Lecture II.

(*Concluded from page* 56.)

Although the object of convergence is entirely different from the object of accommodation—the former function being subservient to singleness of vision, or fusion; the latter to clearness or distinctness only,—yet it will be seen on brief consideration that the two functions must, in emmetropic eyes at least, almost always be called into action simultaneously. Accommodation is required only for near objects, and the nearer the object the more accommodation is necessary. The same is strictly true with regard to convergence; and hence, but only in emmetropic eyes, the two functions stand to each other in close and constant relationship, and, at least during the first forty years of life, are performed simultaneously and in strictly corresponding degrees. Convergence for a given point implies accommodation for the distance of that point, and the internal recti muscles and the ciliary muscles contract and relax together, as if by a common impulse communicated to the two. This harmony of action reminds us of Dr. Broadbent's doctrine, already mentioned, of the close connexion of the motor ganglia in such cases; and suggests the idea of a natural and complete co-ordination, common to the human race, and dependent upon the structure of the nervous system. If this be so, it is plain that such a co-ordination will not easily be overcome by changes in external organs—changes which, in their essential nature, are of an acquired or accidental character; and, although both myopia and hypermetropia derange the ordinary correlation between accommodation and convergence, yet the former of these errors of refraction is an acquired condition, while the latter, in its higher grades, is apparently an arrest of development, and neither of them can be expected to modify a ganglionic co-ordination equally in all cases; or even at all, except as the result of time, and of the gradual training of the muscles to adapt themselves to a disruption of their natural harmony. It was held by Porterfield, who published his treatise on the Eye in 1759, that "to every degree of convergence there is a fixed and absolute amount of accommodation"; but this view of the case is maintained by Donders not to be absolutely correct. In the first place, he argues, the two functions may be absolutely dissociated from each other, either by artificial means or by disease. Complete paralysis of the accommodation by atropine has no influence upon the convergence; and, although general paralysis of the third nerve would abolish both functions, there have been many cases of partial paralysis in which one of them has suffered alone. I have at present a patient in St. George's Hospital in whom the levator palpebræ muscle of the left eye is entirely paralysed, the superior and inferior recti are paralysed almost entirely, and the internal rectus is greatly weakened; but in whom the pupil is small and active, and the accommodation unimpaired. Quite lately, in private practice, I have seen the precisely opposite condition—the ciliary muscle and the sphincter pupillæ of one eye greatly weakened, apparently from intracranial syphilis, while the recti muscles were unaffected. Von Graefe has recorded a case of complete paralysis of all the external muscles without impairment of the accommodation; so that there is much reason to believe that the two functions, however intimately they may be associated in the healthy state, are physiologically distinct; and that the connexion between them is mainly of the character of an acquired co-ordination. Even in the healthy state, Volkmann showed that the interdependence of the two is not absolute; and Donders, who followed in the same direction, says—"It is easy to convince one's self that both eyes together, as well without as with slightly concave or convex glasses, can accurately see an object at a definite distance, and that, consequently, without change of convergence, the accommodation may be modified. With equal ease, we observe that, in holding a weak prism before the eye, whether with the refracting angle turned inwards or outwards, an object can be accurately seen with both eyes at the same distance, and that, consequently, the convergence may be altered without modifying the accommodation. When, therefore, it is required for the sake of distinct vision with both eyes, the connexion between convergence and accommodation can be, at least partially, overcome." Fig. 18 shows the diagram by which Donders illustrated these changes, as he found them occurring in the eyes of an emmetropic subject fifteen years of age. The diagram is altered by the conversion of the inches into dioptrics and parts of a metre, and by different shading of the positive and the negative parts of the relative accommodation; but in all essential respects it is the same. The diagonal line represents successive degrees of convergence; and the two irregular lines represent respectively the near-point and the far-point for each degree of convergence. An examination of the diagram shows that for all moderately distant points there was a play of accommodation on either side of that for which the visual axes were directed; but that the convergence power was in excess of the accommodative, so that the subject was able to converge to a point which the accommodation could not reach. The whole range of accommodation for each convergence is

Fig. 18.



called the relative accommodation for that point; and the diagram shows that not only the range, but also the region, of this relative accommodation differs according to the degree of the convergence. Thus, it appears that the eyes of this subject, whilst their axes were parallel, could accommodate from infinite distance up to a point which was only twelve inches away; and, when their convergence angle was 22° 50′, they could accommodate from twelve inches up to rather more than four inches and a half. With a convergence angle of 46° 38′, by which the visual axes were directed to a point only three inches distant, the accommodation had almost obtained its maximum, and was also entirely on the other side of the diagonal; so that it actually did not reach to the convergence point. With a convergence of 70°—that is, to a near-point of only two inches' distance, the absolute near-point of accommodation can be attained; but at this degree of convergence there is no longer any space for accommodation, and the lines of the far-point and of the near-point cut one another.

With reference to this diagram, Donders continues—"It

is of importance further to observe, that the relative range of accommodation consists of two parts—a *positive* part and a *negative*. The diagonal represents the convergence of the visual lines, and for each point of convergence the portion of the range of accommodation on the nearer side of this line is the positive, that on the farther side is the negative. The first represents what, reckoning from the point of convergence, we can accommodate still nearer; the second, what we can accommodate still farther off. For example, the emmetropic eye, at a distance of thirteen inches, is normally accommodated for this distance; but the accommodation may, with the same convergence, be made more tense—for a distance, namely, of six inches; and it may also be relaxed to distinct vision at a distance of seventy-two inches. The first is evident, since with negative, the second, since with positive glasses of definite strength, at the same distance of thirteen inches, with both eyes at once, accurate vision can be attained. The figure also shows that in the emmetropic eye, with parallel visual lines, the relative accommodation is wholly positive; that, with increasing convergence, the negative part rapidly increases, soon, also, at the expense of the positive; and that at a convergence of 36° the relative accommodation has become entirely negative. The distinction here made acquires importance from the fact that the accommodation can only be maintained for distances at which, as compared with the negative, the positive part of the relative range of accommodation is still tolerably great."

This subject of relative accommodation is one that underlies the useful employment of spectacles in almost all the cases which present any difficulty; and therefore, as at first sight it seems a little intricate, I may perhaps be excused if I dwell upon it with some minuteness. In the observations from which Fig. 18 was taken, Donders found that his patient, when the eyes were directed to a point thirteen inches away, and when by the maintenance of single vision it was certain that the convergence remained unchanged, was still able to overcome—that is, to see clearly through—convex glasses of 2·50 dioptrics, and concave glasses of 4·0 dioptrics. He found, also, by further observations, that work could only be maintained at distances at which the concave glass which could be overcome was greater than the convex glass; or, in other words, while the power of increasing the accommodative effort was greater than the power of relaxing it. Inquiries of this kind are more difficult than would at first sight appear, because they require a young subject, in whom the full vigour of accommodation has not begun to undergo curtailment from age, and who, nevertheless, is trustworthy as an observer. Moreover, they require the use of a very elaborate optometer, such that for every degree of convergence the lenses used may be placed at right angles to the visual lines, and also with their centres exactly opposite to the centres of the pupils. If the latter condition were not fulfilled, and if the patient were suffered to look through the lateral parts of the lenses, these would at once exert a prismatic action, which would vitiate the experiment by producing a displacement of the apparent position of the object, and, therefore, a corresponding alteration in the direction of the visual lines. For a description of the optometer, I can only refer to the great work of Donders; and, concerning the trustworthiness of the subject who was employed, we have no other ground of judgment than such as is supplied by the fact that Donders himself appears to have been satisfied upon the point.

The next inquiries in the same direction were made by Dr. Loring, of New York; and it is impossible even to refer to them without a passing tribute to the extraordinary care and diligence with which American practitioners have entered upon investigations of this kind, and to the success which has crowned their efforts. Dr. Loring was not satisfied with the then accepted view of a sort of fast and loose relation between accommodation and convergence—a relation which was intimate but not essential, which was to be explained no one exactly knew how, and which could be relaxed within the wide limits which are shown by Donders' diagram. He thought it more consonant with physiology to believe that there must be a close relation or none; and he tested the phenomena of relative accommodation from this point of view. He first showed, by an ingenious experiment which I will describe almost in his own words, that the tension of the internal recti muscles is modified by every change in the accommodation, and that the reason why such increased tension of the interni does not modify the position of the visual axes is to be found in the opposition of the external recti, which also become more tense, and which act as inhibitory structures against convergence in order to maintain the fusion of the two images which is necessary to singleness of vision. The experiment was conducted by placing letters of Snellen's test-types, No. 20, at a distance of twenty feet from the observer, while a lighted taper was so arranged as to be at the same level with the letters, and as nearly as possible in the same plane. The eyes being then fixed upon the letters, the visual axes were practically parallel, and the tension both of the interni and of the ciliary muscles was at the minimum. Binocular vision having been proved to exist by means of prisms, concave glasses of gradually increasing strength were successively tried, until the power was found which the accommodation, with parallel visual lines, could no longer overcome, and with which, therefore, vision began to be indistinct. Concaves of 2·25 dioptrics were the strongest glasses through which vision was distinct for both eyes. With these glasses binocular vision was also apparently perfect, as there was not a particle of diplopia or spreading of the rays of light. The glasses represented, therefore, the amount of relative accommodation which could be called forth independently of convergence, for, as the visual lines were parallel, the tension of the interni was apparently at its minimum. If every increased tension of the ciliary muscle were to be attended by increased tension of the interni, it would at first sight appear that this increased tension would show itself by increased convergence, which would then be expressed by diplopia. There was no diplopia. Did the assumption of an increased tension of the interni therefore fall to the ground? By no means; for if, under the foregoing conditions, a coloured glass was placed before one eye, diplopia followed immediately, with homonymous images separated to the extent of twenty-three inches. If the two images were then allowed to coalesce, by lessening the tension of the interni, so that binocular vision was restored, the letters and light became indistinct, showing that by lessening the tension of the interni the observer lessened at the same time the tension of the ciliary muscles, so that the concave glasses could no longer be overcome. The same result followed when weaker glasses were employed, only the separation between the images was not so great. With — 2·25, as already said, the images were separated 23 inches; with — 1·75, 12 inches; with — 1·25, 3 inches; with — 1·0, the images overlapped each other. With any weaker glass, actual diplopia was not produced; but with — 0·75, if a point of light was used instead of the flame, there was a perceptible widening of the point. The fact that the distance between the images corresponded with the strength of the glasses is very significant, and lends support to the belief that for every degree of tension of the ciliary muscle there is a corresponding degree of tension of the interni; while the reason why there was no diplopia with very weak glasses was evidently because the tension of the ciliary muscle in overcoming them, and consequently the corresponding tension of the interni, were so slight as not to be appreciable with the coarse test employed.

The explanation of the above-described phenomena is very simple. In order to overcome the concave glasses a certain amount of increased tension was required of the ciliary muscle. This latter contracted under nervous influence, and vision became distinct. If it be true that all nervous action imparted to the ciliary muscle is extended to the interni, then the impulse which called the ciliary muscle into contraction would be so extended, and an increased tension of the interni would be the result. The equilibrium between interni and externi (which was perfect before this increase took place) would necessarily be destroyed, and there would be a preponderance in favour of the interni proportionate to the increase of tension in the ciliary muscle. If such preponderance were produced, it ought to declare itself under the well-known test of the coloured glass and prism. We place the coloured glass before one eye (both eyes being, of course, still armed with the concave glasses), and homonymous double images are the result—proving, beyond doubt, the existing want of equilibrium.

It may be objected to the above reasoning that, when the eyes simply look through the concave glasses, the tension on the ciliary muscle, in order to overcome them—and, consequently, the tension extended to the interni—is just as great without the coloured glass as with it; and that the eye would have the same tendency to turn inwards whether the coloured glass were employed or not. This is true; the tension on the ciliary muscle, and that communicated to the interni, are just as great, and the tendency for the eye to turn in is also just as great, in

the one case as in the other; but this tendency is resisted and overcome by a factor which is in full force when the eyes are looking through the concave glasses alone, but which ceases to exist the moment the coloured glass is added. This new factor is the intuitive desire for single vision with the two eyes. So long as the images on both retinæ are equal in intensity, the desire for each eye to perform its share in the common act of vision is so great that every attempt to destroy this by a change in the direction of the optic axes is at once vigorously opposed. As soon as the increased tension of the ciliary muscle (called forth in order to overcome the glasses) is extended to the interni, the change in the visual axes, which would be the natural result, is counterbalanced by the desire for single vision, which, in this case, can only be retained by the agency of the external recti, the natural antagonists of the interni. Thus the equilibrium of the muscles, which would be destroyed by the increased action of the interni, is reinstated and maintained by a correspondingly increased action of the externi. As soon, however, as the image on one retina is reduced and altered, by placing the coloured glass before one eye, the instigation towards single vision is removed; and as soon as the desire ceases, the necessity for the muscular effort, by means of which the desire was fulfilled, ceases also; or, more plainly, the externi cease to act. Their relaxation destroys the equilibrium between the opposing muscles in favour of the interni, and homonymous images are the result. We have only to remove the coloured glass, or, in other words, to restore the power of, and with the power the desire for, single vision, and the homonymous images immediately become united; thus proving that when the eyes look through the concave glasses alone there is the same tension of the interni, and the same tendency for the eyes to become convergent, as when the coloured glass is added, but that this tendency is counteracted by the desire for single vision. Dr. Loring next turned his attention to the influence of increased convergence-effort upon the ciliary muscles. Making his own eyes the subject of experiment, he found, on directing them to a point eighteen inches distant, that he was able to maintain distinct and single vision through either concave or convex glasses. He took as his object a word printed in the smallest type which he could read at the specified distance, so that any imperfection in the image would immediately make itself felt, and he found that the strongest convex glass which he could overcome was one of 1·75 dioptrics, and the strongest concave was one of 2·50 dioptrics. This gave him a total of 4·25 dioptrics of relative accommodation—that is to say, of power to vary the accommodation while the convergence position remained unchanged. The convex of 1·75 dioptrics showed the extent to which the accommodation could be relaxed, or the negative part of the relative range; and the concave of 2·50 dioptrics showed the extent to which the accommodation could be increased, or the positive part of the relative range. The conditions are shown in diagrammatic form at A, Fig. 19, where O represents the object of vision and the point to which the visual lines are directed, O *p* the positive part, and O *r* the negative part, of the relative accommodation. So far, as in the earlier portion of the former experiment, the results appeared to bear out the view expressed by Donders. But Dr. Loring found, when he placed a prism of 5° with its base outwards before each eye, by which the convergence was increased, that, although the object still remained distinct, it could not be said that the accommodation remained unchanged. The strongest glass for which the accommodation could be relaxed was then 1·50 dioptrics, but it could be strengthened to overcome 3·0 dioptrics. The whole amount of relative accommodation was therefore increased from 4·25 to 4·50 dioptrics, and at the same time the proportion between its two parts was wholly changed. The object, instead of lying at the intersection of the optic axes, and at the line of division of the positive from the negative accommodation, was beyond the intersection, and wholly within the negative part of the range, as shown in Diagram B, Fig. 19. These changes in the conditions of the relative accommodation are exactly similar in kind, and very nearly identical in degree, with those which would follow if the eyes were rendered convergent to twelve inches naturally, instead of by means of prisms. When stronger prisms were employed—say of 10°—the changes which took place were the same in kind, but greater in degree. A convex of 1·25 dioptrics was then the strongest glass through which the object remained distinct, but a concave of 3·50 could be overcome, making the total relative accommodation again equal to 4·25. This is shown in C, Fig. 19. When the prisms were 12·5 the convex glass was 0·75, and the concave 4·0, the entire relative accommodation being 4·75, as shown in D, Fig. 19. When the prisms were 15, the accommodation could not be relaxed at all, even for so weak a glass as 0·50, which made vision indistinct. Hence the positive part of the relative accommodation became constantly smaller as the strength of the prisms was increased, until (in E, Fig. 19) the accommodation is all negative. And whereas, in the first diagram, the object was in the middle of the range, or at the very beginning of the negative portion of the accommodation, it ultimately came to lie at the farthest extremity of this portion. If now, instead of increasing his convergence by turning the bases of the prisms outward, Dr. Loring lessened it by turning them inward, a result identical in kind followed, only the optic axes intersected farther from the eyes, and the relative accommodation was likewise removed, and the proportions between its positive and negative portions modified. Fig. 20 represents the various changes produced by the prisms, the bases being placed inwards. Weaker prisms were employed in this case, as the optic axes are rendered parallel by prisms the united angles of which amount to 15°. Consequently, those were used whose united angles amounted to 5°, 10°, and 15°; instead, as in the former case, of 10°, 20°, and 30°. It will be seen that just as O was in the former arrangement always within the negative portion of the relative accommodation, so in the second series of experiments it was always within the positive portion; and just as *r* with increased convergence gradually descends to O, so *p* under diminished convergence ascends to O. It is very true that the object was distinctly seen at the same distance with all these different degrees of convergence; but this does not prove that the accommodation had not been modified, for with every alteration in the convergence there was a manifest and calculable modification of the accommodation, equalling in the aggregate a convex glass of 4·75 dioptrics. The reason why the object remains distinct while the convergence is changed by prisms is not because the accommodation has not been modified, but because the object remains within the limits of the modification; or, in other words, within the *region* of the relative accommodation, notwithstanding the alteration in convergence. From Fig. 19 it is evident that the convergence may be increased at pleasure, and yet the object will be distinctly seen as long as it remains in the region represented by the negative portion of the relative accommodation—that is, till *r* descends to O; while, on the other hand, Fig. 20 shows that the convergence may be diminished until *p* ascends to O. When, however, in either case, O passes outside the limits of the relative accommodation, the object at once becomes indistinct.

By the results of these experiments, Dr. Loring may, I

Fig. 19.

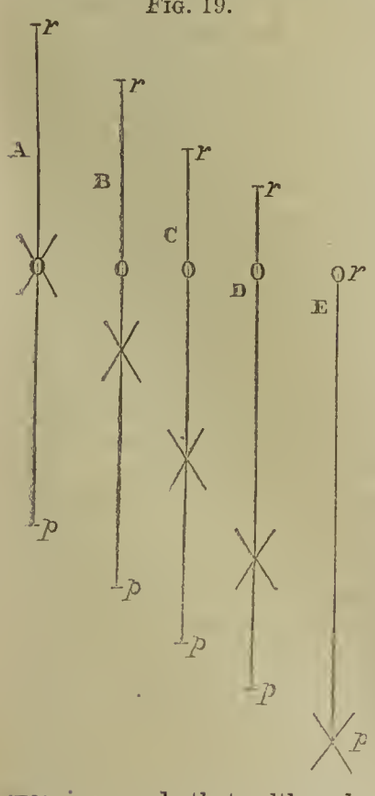
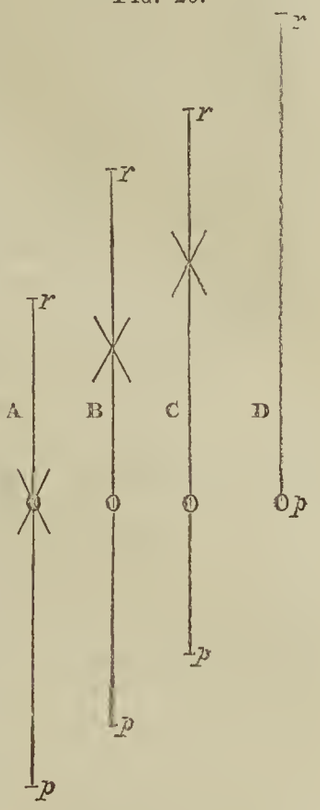


Fig. 20.



think, be taken to have proved that the earlier notion of an essential dependence between the ciliary muscle and the interni represents, at least, the physiological condition, and that the independence observed by Donders and others is more apparent than real; depending, in the case of the interni, upon the inhibitory action of the externi, and, in the case of the ciliary muscles, upon the latitude given by the extent of the range of relative accommodation. Muscular action, however, when regarded as a source of exhaustion or fatigue, must not be measured by the effect which is produced, but by the force which is exerted, and, when looked at from this point of view, I think we shall find, in the intimate and essential harmony between accommodation and convergence, and in the occasional disturbance of this harmony by the variations of either function, a full and sufficient explanation of many of the states which are productive of painful limitations of vision, and a key to their successful treatment. To these states, under the general name of asthenopia, I shall have to direct attention in a subsequent lecture.

ORIGINAL COMMUNICATIONS.

THREE CASES ILLUSTRATING SOME OF

THE VARIOUS RESULTS OF ROTATION OF OVARIAN TUMOURS.

By J. KNOWSLEY THORNTON, M.B., C.M.,
Surgeon to the Samaritan Free Hospital for Women and Children.

The three following cases illustrate so well the very different results of twisting of the pedicle of an ovarian tumour, that I think they are worth recording together. It is beyond my purpose to review the whole subject of twisting of the pedicle. Those who wish to see the present state of our knowledge will find some interesting cases and remarks on the subject in the works of Mr. Spencer Wells and Dr. Peaslee. I will first give a brief sketch of the three cases I have met with, and then endeavour, by comparing them, to bring forward some special points which may be of interest and value to us in the treatment of similar cases.

Case 1 has already been tolerably fully recorded in the twenty-seventh volume of the *Transactions of the Pathological Society*, so I will only briefly give its chief features here. The patient was twenty-eight years of age, pregnant four months and a half with her second child, the other being only fifteen months old. She was a bright, fresh-coloured, healthy little woman, but was suffering much inconvenience from the presence of an ovarian tumour along with the enlarged uterus. The cyst was in the right side, and freely movable; the uterus lay to the left and behind it. She was placed under Mr. Wells' care at the Samaritan Hospital by Dr. Parsons, of Wimbledon, and I tapped the cyst and removed ten pints of ovarian fluid on October 19, 1875. She suffered from cyst-inflammation after the tapping, and on the 26th, when turning over on to her left side, was suddenly seized with violent pain in the abdomen. I was sent for, and found her in a state of collapse. She got through the night tolerably well with frequent opiates and free stimulation, but in the morning was so ill that, after consultation with Dr. Savage (Mr. Wells being out of town), I advised immediate ovariotomy, to which she eagerly assented, saying she felt she was dying. The operation could not be performed till the afternoon, and she was then so ill I thought she would have died in my arms as I lifted her on to the operation-table. On opening the abdomen, I found the enlarged uterus in its normal position, surrounded by intestines much distended with gas, and the cyst, in a gangrenous condition, lying behind and to the left of the uterus. The pedicle was three times twisted on its axis; this twisting and the position of the cyst quite shutting off its blood-supply. There were no adhesions, but there was some red mawkish-smelling serum in the peritoneum, and its surfaces were dark and congested—a low, diffuse, and non-adhesive peritonitis. The patient rallied after the operation, and was bright and cheerful, and able to talk to her husband; then again fell into a state of collapse, and died in sixteen hours. It is worthy of remark that, during the whole illness, cyst-inflammation and gangrene, ovariotomy and death, there was no sign of abortion, and the child was alive a few hours before the operation.

Case 2.—An unmarried girl of twenty-four was sent to the Samaritan by Mr. Stevens, of Hoddesdon, Herts, in December, 1876. She resembled the last patient in being fair, with full colour and appearance of robust health. Six months before admission she had suffered from severe pain in the right iliac region during menstruation. This had recurred at the three following monthly periods, but less severely after the second attack. Mr. Stevens sent her to Mr. Wells, who discovered a small, firm, movable tumour on the right side, but was doubtful as to its nature. She came under my care on December 18, in the absence of Mr. Wells, and I kept her under observation for a month. At this time the pain at the periods was less severe, and the tumour increased but little in size; but ascitic fluid gathered somewhat rapidly round it, and her general health was beginning to suffer. On January 24, 1877, I performed ovariotomy, and on opening the abdomen found a dark-brown somewhat flaccid tumour on the right side (having much the appearance of liver), surrounded by brownish serum, free in the peritoneum. Some slight filmy adhesions to the cæcum were ligatured and divided, and the cyst tapped, dark tar-like fluid blood escaping from it. The cyst-wall was soft and sodden, and broke under the claws of the trocar. A short pedicle was then seen on the right side, tightly twisted twice on its axis; it was untwisted by turning the tumour round and round from behind forwards; it was transfixed, and ligatured in two halves, though it was so bloodless that I think it might have been simply cut and left without fear of hæmorrhage. The left ovary was represented by a small group of pediculated cysts, like a bunch of grapes; it was also removed after its pedicle had been transfixed and tied. The patient made a rapid recovery, the highest temperature recorded after the operation being 99·6° Fahr. The tumour proved on examination to be a multilocular one, all the cavities containing dark thick fluid blood, and the structure of their walls so destroyed by infiltration of blood that nothing but broken-up fibrous tissue, blood corpuscles, and granular *débris* could be found under the microscope.

Case 3.—An unmarried girl of nineteen was brought to me by Dr. De Lacy Lacy. She was a delicate, sallow-looking girl. On examination I found the abdomen large and distended, most markedly below the umbilicus, presenting on inspection the typical appearance of an ovarian tumour. No cyst-movement could be detected on deep inspiration, and dulness was continuous on the right side from the liver to the pubes, and was only interrupted on the left by what appeared to be the stomach and some adherent intestine. Both flanks were resonant. The uterus was anteflexed, and pressed down by the tumour, and closely connected with it. My diagnosis was ovarian tumour closely adherent to the parietes and closely connected with the uterus, there being no evidence as to the side from which it sprang. Mr. Spencer Wells kindly saw the patient with me, and agreed with my diagnosis. This patient had been tapped a year before I saw her, and twelve pints of greenish-yellow fluid had been removed. She recovered well after the tapping, and from first to last had never suffered any pain in the abdomen. I would call attention, especially, to complete absence of pain as of great interest when we consider the condition found at the operation. I performed ovariotomy on March 21, 1877, at the Samaritan Hospital, and was fully prepared for a difficult operation; but it exceeded all expectation. It was impossible to find any separation between the tumour and the parietes, even after my original incision of four inches had been prolonged to eight; and a large patch of parietal peritoneum was unavoidably removed on the left side before I could find any point at which to commence separating it from the tumour. I then found the cyst firmly adherent to everything it touched—parietes, omentum, mesentery, intestines, stomach, spleen, and liver. Both ovaries were involved in the tumour, and united behind the anteflexed uterus. The cyst-contents were pus and large masses of yellow lymph, which also lined all the cyst-cavities with a thick layer. The adhesions were everywhere firm and fibrous, evidently not recent. I at last freed the tumour below, after ligaturing and dividing two thick, twisted pedicles, which proved to contain the Fallopian tubes, etc. I was obliged eventually to leave portions of the cyst adherent to the spleen and liver, and both organs were somewhat peeled of their capsules. The patient seemed likely to do well for thirty-six hours, and passed a fair quantity of clear urine of good colour; then suddenly the kidneys ceased to act, and she died comatose at the end of another thirty-six hours, during which only about an ounce of urine was secreted, in spite of constant endeavours to restore the action of the kidneys.

When the tumour was examined after removal it was seen to be a large, single, rather thick-walled cyst, lined throughout by a thick layer of yellow lymph, which was also hanging into the interior in ragged membranous masses. When this material, which adhered very firmly, had been scraped off, the wall was seen covered with a dark red granulation material, and softened and friable, evidently in an actively inflamed state. Both ovaries were firmly attached to the posterior and under surface of the cyst, its peritoneal surface and theirs thick and opaque, and so smoothly continuous it was impossible to say to which ovary the tumour really belonged. The right ovary was smaller than normal, and very intimately blended with the base of the tumour, the left being plump and round, rather larger than usual, and containing healthy Graafian follicles. Both the pedicles were tightly twisted two times and a half on their axes, and in the same direction. Between the left ovary and the twisted pedicle, a small, clear broad ligament cyst about the size of a small marble was growing. No trace of the fimbriated extremity of either Fallopian tube could be found, but both pedicles were much thicker (nearly an inch in diameter) at their ovarian, and tapered towards their uterine attachments, forming, in fact, dense twisted cones of fibrous tissue, with the open ends of the tubes and vessels still to be seen when they were cut across. The compound mass which I have attempted to describe might have been either a multiple cyst of the right ovary in which the septa had disappeared; a unilocular cyst of that ovary; or an extra-ovarian cyst. I should have been inclined to adopt the latter view as most probable had the uterus not been entirely free from the tumour, except in so far as it was attached by the uterine ends of the pedicles. Had the cyst been a broad ligament, one pushing up between its layers, and thus becoming attached to both ovaries, the surface of uterus also attached must have been very extensive, and no twisting of the two pedicles would have been possible. I think the true explanation probably lies in considering the cyst as springing from the right ovary inflamed after tapping, and then adhering to the left ovary—the rotation occurring after the cyst had thus acquired its two pedicles,—a subacute inflammation, started by the tapping and increased by the rotation, continuing as the cyst gradually filled and distended the abdomen, and causing adhesion to each organ it came in contact with.

In the three cases the twisting of the pedicle led to very different results, not only before the operation, but during its performance and afterwards. I think we may trace the chief difference to the fact that two of the cases had been tapped. In them the effects of the twisting of the pedicle were very serious, though with well-marked differences.

In Case 1 tapping undoubtedly caused inflammation in the cyst; with the presence of more blood with imperfect circulation, fluid was rapidly secreted again, and the cyst became heavy, but before it was large enough to steady itself by its size, twisting commenced. This, of course, increased the inflammatory action and the weight of the cyst by hindering the flow of the venous blood. Then, before it was large enough to steady itself by contact with the parietes and surrounding organs, a sudden turn of the patient caused it to fall over and behind the pregnant uterus, and inflammatory congestion passed into gangrene. Twenty hours later the removal of the tumour and the fluid in the peritoneum which its presence had caused was already too late to save, though it undoubtedly prolonged life, and gave the patient a few precious hours of comfort, consciousness, and hope. Tapping in this case was clearly the cause of death; and I think, when we compare it with Case 2, the question at once suggests itself—Was there not something added to the simple inflammation? I will try and answer this question after considering the other cases.

In Case 2 I believe the cyst was as dead as in Case 1, and it was full of tar-like blood, and yet it remained for weeks inert in the abdomen, and only slowly, as its more fluid portion found its way into the peritoneum (which seemed incapable of absorbing it), did it affect the patient's health. It did not in itself possess sufficiently irritating properties to cause peritonitis and adhesions of neighbouring organs, and yet it must have been intensely inflamed before it became a multilocular blood-cyst, with sodden fibrous walls infiltrated with disintegrating blood. In Case 3, so far as we can read it, the sequence of events appears to be tapping, some inflammatory action, adhesion of cyst to other ovary, twisting of the mass with its two pedicles, and a prolonged and tolerably severe inflammation, causing adhesion to all neighbouring organs; the remarkable feature being that all this took place gradually and painlessly.

In Case 2, with the acute attacks of pain from which the patient suffered, one might have expected much adhesion, and there was none. How are we to account for these differences? I think it appears as if the more rapid and entire cutting off of the blood-supply, the acute process, with complete death of the tissues, is the least dangerous, provided there has been no tapping to complicate matters. In the more chronic process the whole substance of the cyst is inflamed, and still alive, and it attaches itself to all neighbouring parts by which it may maintain its life.

I cannot but think that in Case 2 the operation was happily performed when it was; for a mass of tissue such as I have described could hardly have ultimately been disposed of by nature unaided.(a) In the other two, I think, tapping must be credited with rendering two cases favourable for ovariotomy so unfavourable that the latter operation, when performed, could only be said to have failed to avert speedy death.

We may evidently have twisting of pedicle, either with or without tapping; but if the latter, it is a far more serious complication, and I think we must look to some septic mischief admitted from without to explain the difference.

No satisfactory explanation of the cause of rotation in these cases has been found, but I think it is possible that the peristaltic action of the intestines may start the process. A cyst flaccid after tapping and free from adhesions might be gradually turned over by the movements of the intestines; and so might a small tumour with a fair length of pedicle. The twist once started, the pulsations in the twisted cord would tend to increase it. This explanation would, I think, explain the most recent contribution to this subject. I refer to the case published by Dr. Malins, of Birmingham, in the *Lancet*, April 14, 1877. If the case is complicated by pregnancy, the fœtal movements may also play an important part.

CASE OF

POPLITEAL ANEURISM IN THE LEFT LEG, CURED BY PRESSURE,

FOUR YEARS AFTER SIMILAR DISEASE IN THE OTHER LEG.

By E. L. HUSSEY,

Senior Surgeon to the Radcliffe Infirmary, Oxford.

A MAN, about thirty-four years of age, rather below middle stature, a plate-layer on a railway, was admitted into the Radcliffe Infirmary, Oxford, on March 14, 1877, under my care, with an aneurismal swelling or enlargement of the popliteal artery of the left leg, about the size of a common hen's egg. It was hard, and could not be emptied by direct pressure. The deep parts around it in the popliteal space were somewhat thickened, and rather served to obscure the extent and character of the enlargement of the vessel. The pulsation can be stopped by making firm pressure over the femoral artery in the middle of the thigh; it is more easily stopped by making pressure in the groin. It is checked by bending the leg at the knee, but not completely controlled.

Upon examination made of the chest by Dr. Acland, a strong double blowing sound is heard over the region of the heart, extending along the course of the aorta and the innominata; but not any ordinary aneurismal whiz. In other respects the patient seems to be in good general health.

He had been under my care in July, 1873, with aneurism of the popliteal artery in the other limb (the right). This was cured by pressure. The particulars of the case are given in the *Medical Times and Gazette* of May 15, 1875, page 522.

History.—In the summer of last year, without previous symptoms to attract his attention, he was passing his hand down the back of his left leg, and found a small swelling under the knee. On making pressure with his fingers he found that it beat or throbbed in the same manner as the former swelling in the other leg. During the winter the foot was much swollen, and he suffered at times from pain in the back of the leg. The throbbing in the tumour was not continuous; it sometimes intermitted for several days. The swelling did not increase much in size, or did not seem to him

(a) There are undoubtedly cases on record in which a shrivelled fibrous mass, the remains of an ovarian tumour with twisted pedicle, has been found after death; but I think these must have been smaller tumours, and destroyed by the more gradual process with adhesions.

to be so large as the former aneurism in the other leg. He did not suffer from cold in the left foot, as he had in the right. Toward the end of February he became unable to continue at his work, and he applied to Mr. Drinkwater, of Bicester.

On Saturday morning, March 3, Mr. Drinkwater applied a tourniquet over the femoral artery in the middle of the thigh, and left the management of it to the patient himself. The tourniquet was kept on the thigh during the whole of the night; but the throbbing in the tumour was not completely stopped at any time by the pressure. The next morning the patient removed the tourniquet. During the two or three following days it was re-applied at different times, and for varying periods.

On Monday, March 12, a bag filled with sand and pieces of iron, weighing five pounds and three-quarters, was placed in the groin over the artery, and kept in position, under the superintendence of Mr. Drinkwater, by a relay of assistants, and at times by the patient himself. This was continued without intermission for eight hours. The pressure was attended with great pain in the leg and foot. The throbbing was not effectually stopped during the pressure. The pulsation continued after the weight was removed. Under Mr. Drinkwater's advice the patient came to the Infirmary for further treatment.

At the time of admission the skin of the thigh and groin seemed to be too tender to bear further pressure; the patient was therefore ordered to remain in bed, with the limb bent at the knee and resting on a pillow. By degrees he became able to bend the leg fully, so as to bring the heel almost to the tuber ischii, and to keep it in that position for several hours at a time. The pulsation in the swelling was checked, but never completely stopped.

March 19.—A large compress of flannel was placed under the knee upon the popliteal space, with the intention of making additional pressure upon the tumour; and the leg was bound, in the bent position, to the thigh by several turns of a flannel roller. The compress produced so much pain in and around the knee that the patient removed it in the course of the night. The large veins of the leg and thigh were observed next day to be distended; the roller was therefore removed, and the patient was trusted to keep the limb fully bent, the best way he could, by his own efforts.

On the 26th, about eleven o'clock in the morning, a narrow bag of canvas, having the pointed end filled with sand, was loaded with shot (to the weight of eleven pounds and a half), and suspended from the rod which supported the curtains at the head of the bed. A piece of wash-leather was laid loosely over the groin, and the weight, placed upon the artery where it passes over the pubes, was trusted to the patient, as on the former occasion. With the weight in position, the circulation was fully controlled. The pressure was continued with more or less efficiency during the day and in the night. The weight was not easily kept in place over the artery, nor was the pulsation in the tumour completely stopped with the limb in the bent position. After a trial of two or three hours the bent position was abandoned, and the limb was allowed to rest in an easy position, lying rather on its outer aspect.

About three o'clock in the following morning the patient thought that the pulsation in the tumour had ceased, and he took the weight off the groin. After breakfast he found the beating had returned, and he replaced the weight. In the middle of the day the swelling was examined by the house-surgeon. He found that the pulsation had ceased altogether, and he removed the weight. From this time there was not any return of it.

Although the patient was an intelligent man, taking an interest in the treatment, he became restless under a continuance of pain and confinement. A pill with morphia was given to him before the weight was put in position; it was repeated during the day and again at night. During the treatment morphia in solution was also several times injected under the skin.

On April 7 the patient was allowed to get out of bed, and to lie on the settle in the ward. He found the left foot to be much colder than the other, and he put on two worsted stockings.

He left the Infirmary on the 18th, able to walk well. The swelling in the popliteal space was much smaller than at the time of admission, hard, and not compressible. The anterior and posterior tibial arteries could not be felt at the ankle or in the foot.

Remarks.—In the former case (in the right leg) the aneurism was cured by rapid pressure, under which the flow of blood through the femoral and popliteal arteries was completely stopped during the treatment. In the present case a longer time was taken, and the exact period cannot be stated with accuracy. The pressure applied before the man came to the Infirmary helped, no doubt, in the cure.

Oxford.

A CRITICAL REVIEW OF THE

PREVAILING THEORIES CONCERNING THE PHYSIOLOGY AND THE PATHOLOGY OF THE BRAIN:

LOCALISATION OF FUNCTIONS, AND MODE OF PRODUCTION OF SYMPTOMS.

By EUGÈNE DUPUY, M.D. Paris, of New York;
Corresponding Member of the Paris Société de Biologie; Member of the American Neurological Association, etc.

Part I.

(*Concluded from page* 34.)

I HAVE come to the point where I must show that the last hypothesis of Drs. Ferrier and Hitzig, supported by pathological facts of Professor Charcot and his pupils, is only acceptable as any other former hypothesis; and even with less credit than the one with which Flourens has been accredited in science. I refer to the theory which maintains that the cortical motor centres are centres for movements *willed, executed towards an end, non-automatic.* Dr. Ferrier writes:—"It may be confidently asserted, and perhaps it may one day be resolved by experiment, that any special tricks or movements which a dog may have learnt could be effectually paralysed by removal of the cortical centres." That is equivalent to saying that all actions which are not automatic are impossible after removal of cortical centres. But even that hypothesis has no more value than the others; it is destroyed by facts. The experiment of Goltz previously cited is against it. I have between 1873 and 1876 had quite a number of dogs and cats under experiment, and I have *invariably* found these animals capable of using their would-be palsied limbs, not only for purposive voluntary movements, but for tricks. I remember a dog which would give the paw when asked, and stand on his hind legs and make salaams. I believe, therefore, that the counter-experiments which I have brought forward do not tend to show that the cortex cerebri is excitable by electricity, and also that certain convolutions in the neighbourhood of the Sylvian fissure and the fissure of Rolando contain psycho-motor centres composed of cells of grey matter.

Anatomy, normal and morbid, has furnished a good array of facts, which are brought forth to support the doctrine of localisation. That kind of evidence has been adduced chiefly by Professor Charcot and his pupils. I refer also to the discovery of giant-cells in the paracentral lobule by Betz and Mierzejewski. There is, however, no proof that those cells are motor. They are said to be motor; they are pyramidal, resemble those of the anterior horn of the spinal marrow, and they are found in a locality which is said to be motor—the paracentral lobule. But is that not again a *petition de principe?* For this is the argument: the paracentral lobule is a motor centre because it contains pyramidal cells which are motor. The pyramidal cells which are in the paracentral lobule are motor because that lobule is motor! That is the logic which has led to the adoption of the doctrine of localisation of functions on anatomical basis—from Luys and Meynert to Professor Charcot. But Professor Charcot has also pathological cases of the same nature as those of Hughlings-Jackson and Hitzig. I have not been able to collect all the cases reported, but I have carefully analysed those which are collected from different authors and gathered in the pamphlet of my friend Dr. Lepine.(a) I have found that there were *several lesions* in all the brains examined—lesions situated in *different parts* of the cerebrum. The convolutions, the crown of Reil, the several ganglia of the corpora striata and thalami optici, the pons, etc., were found diseased in both hemispheres sometimes. Yet those cases are given as proofs of the accuracy of localisation! The only reasoning which can have led to the rejection of all other lesions but those found in the convolutions of the paracentral lobule, in order to explain the production of the paralyses observed during the life of the patients, is the same through which the conclusion was gained

(a) Lepine, "Des Localisations Cérébrales," Paris, 1875.

that the said lobule is motor and that its cells are motor, and which I have just reported above; in fact, another *petitio principii*. Every one of the *other* lesions found in the brains examined, of those observations gathered in Dr. Lepine's pamphlet, have been known to produce paralysis—at all events, to have been found associated with paralysis. Why not ascribe to them also the phenomena observed during the life of the patients? There is no room for the statement that the great seeming relation of cause to effect which exists in the cases of lesions of the convolutions warrants the inferences drawn; the frequency of apparent relation of cause to effect is just as great (I was going to say greater) between the other lesions and the symptoms produced. The other cases, reported by other physicians as "illustrating the new discoveries of motor centres," etc., I found equally liable to the same criticism. Dr. Lepine has somewhere in his pamphlet said what is in the mind of all advocates of localisations, about aphasia—*i.e.*, that instead of looking out for cases of aphasia where there was no destruction of the insula or destruction of other parts, we ought to collect all the cases where there is disease of the convolutions of the insula, as the number would soon prove the localisation of speech beyond dispute. I believe now that that wish is accomplished. Cases are only reported partially, and only those which substantiate localisation; or when cases contain elements of both kinds (for and against), only those lesions which are supposed to bear out localisation are laid stress upon.

Another argument, however, has been adduced from his pathologieal eases by Professor Charcot.(b) It is, that disease of the paracentral lobule is accompanied by descending atrophy, which destroys those bundles of fibres supposed to be the conductors of the orders of the will to the muscles; and as, according to Professor Charcot, such descending atrophy is only met with in that region, therefore the eonclusion seems to force itself that the cells of the *cortex cerebri* are the centres of innervation of those degenerated bundles of fibres.

That theory cannot be entertained more than the others, notwithstanding the would-be elaborate logical inferences. It is, in essence, another example of begging the question. I explain. There are two systems of tissues to be considered here—the nervous and the connective (whatever may be the nature of this last, practically it must be considered as different from the first). The nervous tissues receive their blood-supply from vessels which penetrate into the cortex and somewhat deeper into the white matter from above, and from the arteries external of the ganglionic masses later in their progress; the connective tissues are fed by bloodvessels and capillaries, which are made up of anastomoses coming from the opto-striated system of arteries. It is now easy to understand how one kind of tissue can be *primarily* effected. To say nothing of former pathologists, let me remember that in a very elaborate paper Miezcrjewski(c) has again shown that in general paralysis, for instance (which gives rise to that kind of paresis which most resembles the one produced by destruction of so-called psycho-motor centres), the nerve-tissues become diseased only secondarily. Their supporting elements becoming diseased, they become altered and impaired. There is no temerity at all in asserting that there is no relation of cause to effect, coneerning the place where the disease of the supporting connective tissues is found, and nutritive disorder which has brought it on. Disease of the connective tissues follows no laws as to *direction* of its progress. The eases of Professor Charcot, therefore, I believe give no additional proofs that the atrophy of the fibres arose from disease of the convolutions with which they were connected. We are left in the dark as to the functions of the bundles of fibres destroyed, and unless we assume that the convolutions with which they were connected were *motor*, we cannot say what were their functions.

But it may be said that if those fibres were not motor, some other function which they did subserve would have been found impaired—which was not the case, as only motion was lost. Granted; but what physician does not know that parts can be destroyed, and yet no outward symptoms be produced? It is true that lesion of the *internal capsule* is always accompanied by loss of sensation. But the *internal capsule* is not a centre; it is only a tract of nerve fibres; it contains, moreover, blood-vessels, whieh traverse it, and go to some other region. When those fibres are destroyed, the bloodvessels are also destroyed. How can we know whether the symptoms which we observe in that case do not arise from the consequent impaired nutrition of the parts supplied by those vessels, and on the reflex or inhibitory actions which might then result? This point ought to be cleared.

Dr. Ferrier has, I am afraid, missed a fine opportunity of exercising his critical judgment through one-sidedness, when he has adduced as an argument, "*sans réplique*," the famous and much-to-be-regretted experiment of Dr. Roberts Bartholow, of Cincinnati. I am at a loss to discover how such an inaccurate observation (not to say more) can have captivated him to the point that he has laid stress upon it. He evidently believed that it constituted a good proof that irritation of the *cortex cerebri*(d) in man, in regions corresponding anatomically to the motor centres in the brain of monkeys, also gives rise to movements on the opposite side of the body.

Let us see. The experiment of Dr. Roberts Bartholow is the following, in his own words (as little abridged as possible, because I doubt that all those who quote it have read it); it is entitled "Epithelioma of the Scalp of Thirteen Months' Duration; Exposure of the Dura Mater; Experiments on the Function of the *Posterior Lobes*" (*sic*) (e):—"The part of the brain uncovered was about two inches in diameter in the postero-parietal region. The edge of the ulcer is thickened and hard; the excavation secretes a great quantity of pus. *Portions of brain-substance have been lost by injury or by the surgeon's knife, and as the brain has been deeply penetrated by incisions made for the escape of pus*, it was supposed that fine needles could be introduced without material injury to the cerebral matter. The needles being insulated too near their points, it was believed that diffusion of the current could be restricted. Observation 3. *Passed an insulated needle into the left posterior lobe, so that the non-insulated portion rested entirely in the substance of the brain.* The other insulated needle was *placed in contact with the dura mater*, within one-fourth of an inch of the first. When the circuit was closed, muscular contractions of the right upper and lower extremities ensued, as in the preceding observations; faint but visible contraction of the left orbicularis palpebrarum and dilatation of the pupils also ensued. Mary (the patient) complained of a very strong and unpleasant feeling of tingling in both right extremities, especially in the right arm, which she seized with the opposite hand and rubbed vigorously. The needle was withdrawn from the left lobe, and *passed in the same way into the substance* of the right. When the current passed, precisely the same phenomena ensued in the left extremities, and in the right orbicularis palpebrarum and pupil. When the needle *entered the brain-substance*, she complained of acute pain in the neck. In order to develope more decided reactions, the strength of the current was increased by *drawing out the wooden cylinder one inch.* When communication was made with the needles, her countenance exhibited great distress, and she began to cry. Very soon the left hand was extended as if in the act of taking hold of some object in front of her; the arm presently was agitated with clonic spasms; her eyes became fixed, with pupils widely dilated; lips were blue, and she frothed at the mouth; her breathing became stertorous, she lost consciousness, and was violently convulsed on the left side. After another experiment the patient remained in bed, and was stupid and incoherent; in the evening she had a convulsive seizure. She afterwards had profound unconsciousness, was paralysed on the right side of motion and sensation, had convergent strabismus. Autopsy: Before making an inspection of the needle wounds, the brain was placed for twenty-four hours in a solution of chromic acid. When sufficiently hardened, careful horizontal sections were made of the upper part of the hemisphere, to ascertain what injury, if any, had been done to the cerebral matter. *The track made by the needles could be distinctly traced on both sides.* On the left side the needle had entered the upper parietal lobule of Ecker, the gyrus centralis posterior of Henle, the postero-parietal lobule of Turner, one inch from the longitudinal fissure, *and had penetrated a depth of one inch.* The track of the needle was marked by some diffluent cerebral matter, two lines in diameter. On the right side the needle had entered the same convolution, but more posteriorly and one inch and a half from the great longitudinal fissure. *The needle on the right side had also penetrated to a greater depth, one and a half inch*, and its track through the lobe was marked as on the other side by a line of diffluent matter."

(b) Charcot, Soc. de Biologie, in *Gaz. Méd. de Paris*, 1876.
(c) Miezerjewski, "Des Lesions de la Paralysie Générale," in *Archiv de Phys. et Path. de Soc. de Biol.* (Charcot and Vulpian), 1874.

(d) Ferrier, *loc. cit.* The italics are mine.
(e) Roberts Bartholow, *American Jour. of the Med. Sciences*, 1874, page 305; *ibid.*, page 309; *ibid.*, page 310. No italics in text.

I have used Dr. Bartholow's *own phraseology all through* in order to be more accurate. I only beg the reader to notice that the needles being insulated up to their extremities and introduced to a depth of one inch and a half *into the substance of the brain, which had so much suffered by the surgeon's knife, etc.*, the aim of the experiment has been lost sight of, *as no cortical matter could possibly have been irritated.* I refrain from any kind of comment whatever. The case *in all its aspects* speaks too eloquently for me to say anything. This is the *experimentum in corpore vili* of which Dr. Ferrier has written(f)—"In addition to the pathological evidence of the existence of differentiated motor centres in the human brain supplied by the observations of Hughlings-Jackson and others, we have the experimental confirmation of the same in the investigations of Dr. Bartholow"!

I have another side of the question of localisation yet to examine. I have to speak of the centres of sensation, common and special. The localisation of the different senses is not supported by such an array of pathological facts as those regarding the motor centres. The sense of sight Dr. Ferrier localises in the angular gyrus. The experiments performed by him are of two sorts: he has irritated with electricity and destroyed with a cautery the area of the angular gyrus —the seat of the sense of sight. When he has used electricity, he has seen general movements of the head to the opposite side, and very often contraction of the pupils. These phenomena, he thinks, are purely reflex, consequent on the excitation of the subjective visual sensation. On destruction of the angular gyrus in both hemispheres, however, the loss of vision is complete and permanent (his animals did not survive long). I repeated the last-named experiment some time during the summer of 1875. I was successful enough to keep one dog alive several weeks, in the laboratory of the Muséum in Paris. Although the animal did not distinguish objects at first, he could see perfectly well at the end of that time. He *had his pupils widely dilated;* they returned gradually, with alternations of contraction and dilatation, to the normal state. At first no light could make them contract. In human pathology there is not a single case on record, *even unequally viewed*, of destruction of that angular gyrus followed by loss of sight. Dr. Hughlings-Jackson,(g) who the last ten years has been on the look out for such cases, says that he has never met with one. Diseases, such as tumours, produce blindness in a very *indirect* way, by leading to acute changes in the optic nerves, on which blindness may follow. There is not, he says, so far as he can judge, a particle of evidence from clinical medicine to prove that destruction of any part of the cerebral hemispheres produces defect of sight. Yet Dr. Ferrier gives it as a proven fact that there is a visual centre in the angular gyrus, and goes on to discuss the theory of decussation, complete or incomplete, of the optic fibres. He adopts Prof. Charcot's view of double decussation. How that hypothesis accounts for the various kinds of loss of sight, partial or total, I am unable to see. But one thing is certain; according to that theory, the angular gyrus of one hemisphere only animates the eye on the opposite side. I have taken out the left eyeball in a dog, and cauterised the right angular gyrus-centre. The animal *did see!* Goltz has performed a similar experiment, with identical result, I believe. Dr. Ferrier does not admit the so-called law of substitution, but he thinks that in his experiments there has been "a compensation from the centre in the other hemisphere." I only discover in that whole mode of reasoning the fatal recurrence of *petitio principii.* The experiments which I have made, and that performed by Goltz, dispose of even the theory of "compensatory action." It is needless to observe that there is no reason why the movements in the eyeballs, frequently associated with movements of the head to the opposite side, and which follow electrical irritation of the angular gyrus, as Dr. Ferrier has himself seen, should be reckoned by him to be only reflex—only due to awakening of subjective visual sensation. Unless the fact be granted beforehand that that gyrus contains a visual centre, the whole theory, as I have said, is a *petitio principii.*

The sense of hearing is found to be localised in a portion of the superior temporo-sphenoidal convolution; this conclusion has been reached through the two methods of investigation usually employed by Dr. Ferrier. Electrical irritation of this convolution in the monkey, he has found to result in certain definite phenomena—sudden retraction or pricking up of the opposite ear, wide opening of the eyes, dilatation of the pupils, and turning the head and eyes to the opposite side. All these phenomena, like *similar ones* noticed in the experiments on the sense of sight, are said to be of the same nature—reflex. Destruction with a cautery of both angular gyri renders the monkey deaf altogether. I have seen all the phenomena described by Dr. Ferrier, except the *complete deafness*, after destruction of both gyri. I have experimented on dogs and rabbits. I have seen the dogs recover the faculty of hearing after some weeks. The only cases of destruction through disease of the acoustic nerves, involving their whole course up to the fourth ventricle, in man, that I know of, have been put on record by Dr. Luys. I have reported them earlier in this paper. Luys has seen that the lesion consisted in the destruction of the grey matter of the occipital lobule; he has given a plate which leaves no doubt as to this localisation. (I do not wish to be understood to accept Luys' localisation.) I believe that it is not unjustifiable to ascribe loss of hearing, in the experiments reported above, to another cause than destruction of the centre of that sense. When I come to state what I think is the most acceptable provisional theory, I shall try to explain what that cause is. As I have no desire to swell this review into a volume, I shall enter into no further details concerning the other senses—those of tact, and of taste, and of smell. Their existence being localised in different regions of the cortex by the same order of facts as are used by Dr. Ferrier with regard to the other senses, already spoken of, the same kind of arguments can be raised against the validity of the proofs adduced.

I will, however, note one fact to show how deductions are drawn, as to function of parts, on bad premises. I choose the sense of smell, because it is a typical instance of what I advance. Dr. Ferrier, after relating the experiment of Magendie which showed disappearance of the faculty of smelling after section of the trigeminus, remarks that the experiment did not prove that the fifth nerve was the nerve of smell properly so called, but that the integrity of the fifth nerve was necessary to the due functional activity of the olfactory nerves. But he also says that when the tactile sensibility was entirely gone in the nostril, the *vapour of acetic acid* (!) caused copious lachrymation—a fact which shows that some afferent fibres still remained functionally active in the nostril, "evidently the olfactory nerves," which, however, owing to the loss of common sensation, were not of themselves sufficient to convey the impressions of odours. If, notwithstanding destruction of the sensitive nerve, *acetic acid* induced lachrymation, it must be through a reflex of the olfactory nerve, as Dr. Ferrier shows; and if the olfactory *can* give such a reflex action under such circumstances, it is evident that it is impressed in the same manner as a sensitive nerve. Now, what signifies his postulate that the integrity of the *sensitive* nerve is necessary for the conveyance of the impressions of odours?

Absence of the fifth nerve does not destroy the faculty of tasting nor the faculty of seeing. It does so in some cases where there are reflex actions at play—inhibitory actions. On the other hand, there are cases on record of destruction of the first pair of nerves, and yet preservation of the sense of smell. The celebrated case reported by Claude Bernard is in the memory of all. He mentions the case of a woman, who during life disliked the *smell of tobacco* (it requires a special sense to smell tobacco, whereas *acetic acid* acts on the fifth nerve as well!), who knew that a *sink* near her bedroom was dirty by its smell, etc., in whom the remarkable fact was discovered of the congenital absence of the olfactory nerves! How to explain this case? Is it explained in accordance with what Mr. Lewes maintains, that *neural processes* are uniform in character, the diversity of their results (sensation, motion, or secretion) depending on anatomical connexions? Is it explained by the theory of *organised past experience* of the fifth nerve from childhood upwards?

Another very original part of Dr. Ferrier's work is the one in which he treats of the occipital lobes. Dr. Ferrier believes that the viscera have fibres which transmit their special sensations to the sensorium,(h) and that the centres of these fibres are in the occipital lobe. The sense of *hunger* has its seat there. So we have a *sense of hunger.* The reasons given by Dr.

(f) Ferrier, *loc. cit.*, page 296.

(g) J. Hughlings-Jackson, "Clinical and Physiological Researches on the Nervous System," (reprint,) page xli., *note.*

(h) Compare Hughlings-Jackson, *loc. cit.*, page xv., *note, et seq.* He says that the arteries, the heart, and the different viscera, etc., are represented in the highest nervous process.

Ferrier for this new discovery are, that his animals could drink, but *refused to eat*, when the occipital lobes had been destroyed. At first sight I suspect that the animals in this experiment do not eat for the same reason that they do not when they have had both angular gyri destroyed—because the masseter muscles have been cut through or separated from their occipital-parietal insertions; which is a sufficient cause to explain the difference as to taking food between this experiment of removal of the occipital lobule, and destruction of the anterior lobes when the animals do eat (the masseters are not cut away so extensively from their insertions then). In fact, the animals cannot masticate. Dr. Ferrier says himself that one animal which was kept alive on the *fifth* day after the operation of removal of the occipital lobule, and which had up to that day refused food, "took a cold potato offered, smelt it several times, and at last, as if struck by a new idea, began to eat with great relish. From this time it began to take food, and recovered." As it is impossible to suppose that within five days after their destruction the anatomical tissues in which the sense of hunger is localised could have been regenerated, I cannot understand how the reappearance of that sense can be accounted for. Let us not forget that on anatomo-pathological evidence Luys has localised in these same occipital lobules the sense of hearing,(i) and that Dr. Joffroy,(k) one of the ablest pupils of Professor Charcot, and once a *collaborateur* of Duchenne, has localised trophic centres; lesions of that lobule, he thinks, bring on sloughing of the sacrum, etc. It is needless for me to add that there are at least twenty-five cases *above criticism* of lesion of those lobes, without any phenomena whatever but hemiplegia.

I think that with regard to the motor centres of the cortex cerebri of the monkey and of man Dr. Ferrier is at variance with what observation teaches. I have had no opportunity to experiment on monkeys, but Dr. Ferrier agrees that in the other animals the so-called lost psycho-motor functions of that region can be recuperated, while in man loss of the cortical centres leaves lasting paralysis. I do not know of one single case of destruction of the so-called motor centres in the brain of man having caused lasting paralysis. My experience goes the other way. The cases which I shall report, and which belong to those series published by Professor Charcot and others, will bear out my statements.

I have now reached that interesting chapter of Dr. Ferrier's treatise where he considers the hemispheres psychologically. I have little to say in respect to that matter on account of my little familiarity with it. It appears to me that the whole of it, in its masterly exposition, is one continuous begging of the question. All his psychological deductions, I own, are based upon physiological facts; but those facts I have proved, I trust, to have been considered only in a one-sided way—viewed unequally, as the phrase goes. I know that I am liable, on *primâ facie* evidence, to be charged with levity for this statement, considering that there is a seeming concordance between the theories of the advocates of the localisation doctrine and the deductions of Herbert Spencer, of Professor Bain, and of others. But let it be remembered that this concordance only proves that we have several valuable *similar or identical* deductions, reached through different processes of reasoning; it does not prove that any one of the theories advanced is better grounded. The two eminent philosophers whose authority is adduced by Dr. Ferrier seem to me to have availed themselves, in lieu of premises from which to evolve their powerful reasoning, of results of the physiological and anatomical researches of Professor Laycock, Dr. Carpenter, Dr. Hughlings-Jackson, Professor Broca, Professor Helmholtz, Professor Brown-Séquard, Professor Ferrier himself, Professor Hitzig, etc., —which results, notwithstanding their extrinsic value, are still *sub judice*. The foregoing considerations warrant me, I presume, in pointing out the strangeness of adducing authority of such an origin by way of philosophical confirmation of their theories by the advocates of the localisation doctrine.

Here I relinquish this theme, for fear of being lost if I once launch into a subject too unknown to me.

I have next to expose what views are held concerning speech. The question of aphasia is one which, for the last thirteen years, has agitated pathologists, physiologists, and psychologists equally. Dr. Ferrier has handled this subject in the same manner that he handled the others.

(i) Luys, *loc. cit.* See above.
(k) Joffroy, C. R., Société de Biologie, in *Gazette Médicale de Paris*, 1876, *passim*.

FATAL CASE OF HYDROPHOBIA.

By JAS. D. GUNNING,
Surgeon, Army Medical Department.

Butwee, a dhobie, aged forty years, robust, was brought to me on Christmas-day, 1876, walking. Stated that about four months before he had been severely bitten above the left knee by a dog, supposed to have been mad. The wound healed up readily, and a large scar was visible. Up to three days prior to my seeing him he had enjoyed his usual health, when he lost his appetite, could not sleep, and complained of spasmodic pain of a burning character, referable to the diaphragm. On December 24 his aversion to water was first noticed. On being handed a lotah (a brass drinking-vessel) with water, in my presence, he made an attempt to drink, but was unable to do so, throwing the vessel from him, screaming, his countenance horror-stricken, and trembling all over —a most pitable sight. I tried to induce him to come to hospital, or else go to the Charitable Dispensary, but he refused; so I determined to watch the case and do what I could in his own house. At 4 p.m. I ordered plenty of strong mutton broth to be prepared (beef not being procurable just then), and at 6 p.m. he had some, which he swallowed with difficulty, about one-half dribbling from the corners of the mouth. Thirty grains of hydrate of chloral were given. Temperature 97·2°; pulse 64. At 10 p.m. I saw him again; had not slept; chloral (thirty grains) repeated, and mutton broth to be given very frequently; the chloral to be given again at 2 a.m., and repeated at 6 a.m. if he had not slept in the meantime.

December 26.—At 8 a.m. went to see him; up to this hour he had not slept, although 120 grains of chloral had been administered. His pupils were dilated, and he had a drowsy look; complained of a spasmodic burning pain in the epigastrium. Had plenty of the mutton broth. He, however, expressed himself as much better, and to show that he was so asked for a drink of water, which he took tremblingly, but swallowed fairly, and without exhibiting the same violent emotion as yesterday; only a little escaped from the corners of the mouth. At 9 a.m. I went with Surgeon-Major Gribbon to see him. Pulse 96, weak; hands cold. While telling us how much better he was, and after showing us how well he could now drink the water, he suddenly fell back, and, after a few convulsive struggles, died in about five minutes, restoratives being administered without any avail. He never at any time exhibited any symptoms of delirium, nor was there any flow of saliva. The chloral in this case seems to have overcome the spasm of the glottis very considerably. I was very anxious to get a post-mortem, but was unable to induce the friends to allow it.

Fyzabad, Oudh, E.I.

Surgical Examinations.—The following is a copy of the paper on Surgical Anatomy and the Principles and Practice of Surgery submitted to the 200 candidates at the pass examination for the diploma of Membership of the Royal College of Surgeons on the 20th inst., when they were required to answer at least four (including one of the first two) out of the six questions, viz.:—1. Give the relations of the common femoral artery; and mention the branches by which the collateral circulation would be carried on after ligature of that vessel. 2. Mention, in order, all the structures which must be divided in excision of the eyeball. 3. Describe the methods of ossific union of simple fracture under varying conditions of movement and coaptation of the fragments. 4. Describe the injuries of the elbow-joint which are liable to be confounded with dislocations. 5. Describe the symptoms of inherited syphilis, and mention the periods of life at which they are liable to appear, and the suitable treatment. 6. In a case of strangulated inguinal hernia, state the symptoms which would lead you at once to perform an operation, and those by which you would be induced to postpone it. The following is a copy of the paper on Medicine submitted the following day:—1. Discuss the causes, morbid anatomy, symptoms, and diagnosis, together with the complications and sequelæ, of cirrhosis of the liver. 2. What are the causes, symptoms and diagnosis, and results of pneumothorax? How would you treat it? 3. What medicinal plants belong to the order *Solanaceæ?* What are their several physiological and therapeutical properties? and what the doses of their Pharmacopœial preparations.

REPORTS OF HOSPITAL PRACTICE
IN
MEDICINE AND SURGERY.

LONDON HOSPITAL.

NOTES OF A CLINICAL LECTURE ON ACNE.

By JONATHAN HUTCHINSON, F.R.C.S.

When the face is covered with pimples, some of which are red, some contain pus, and others show only black points in their centres—all kinds being present, and all slow in progress,—it is commonly agreed to call the condition Acne. If the spots are angry and suppurate quickly, it is acne pustulosa; if they are small, very florid, and not prone to suppurate, it is acne rosacea; if there is great thickening about them, and again little tendency to suppurate, it is acne tuberculata; if there are numerous black points to be seen, it is acne punctata; lastly, if no ono of these features be in excess of the others, it is common acne—acne vulgaris. Now, let us first understand clearly that these various adjectives do not denote different diseases, but merely different conditions of the same disease, which may be frequently met with in one and the same case. Next, we will observe that all forms of acne are inflammations of sebaceous follicles. I have already said that, when a follicle inflames, three results ensue—a thickening of its gland tissue, deposit and congestion of the cellular tissue around it, and accumulation of its secretion in its interior. Now, we have in acne all shades of variety as to these three results. Everyone is familiar with the little black dots so frequent in the skin of the face of those who have rather coarse complexions. In degree they may perhaps be found in the skins of most persons, especially about the nose. If you squeeze them, little black-headed "maggots" are ejected. These maggots, or grubs, are not living, but consist of half-dried sebaceous matter, which had accumulated in the cavity of the gland, and which has been moulded into the pellet form in passing through the constricted opening. The black head is the end of the pellet, which, having been long exposed at the mouth of the duct, has gathered soot.

It is not always that the end of the pellet gets blackened; sometimes, and especially in young persons, the mouth of the follicle is closed by a delicate membrane, and then the secretion collected beneath it is seen under its transparent covering, and remains quite white. In infants this distension of closed follicles constitutes what used to be known as strophulus albidus; in adults it is more frequently seen on the eyelids than on other parts.

Sometimes the interior of the follicle suppurates, and, after removal of the pellet, pus escapes. This constitutes pustular acne.(a)

It is a peculiar feature of the condition known as acne, that at one and the same time, in the same patient, you will find the follicles in all stages of disease, some simply distended and free from material irritation, others congested also, others suppurating. In this it differs much from lichen.

Acne is emphatically a disease of coarse skins; or rather, perhaps, we ought to say that the term "coarse skin" usually applies to integument in which the sebaceous follicles are larger than ordinary, and have gaping mouths. This causes the skin to look rough and pitted. It is a state of skin the tendency to which is often hereditary, and it is thus often seen in several members of the same family.

Acne spots cause more annoyance on the face than elsewhere, and hence an exaggerated impression as to their great relative frequency on this part. Although there is no doubt that the face and shoulders are their usual sites, yet, if you will examine the general surface of acne patients, you will very frequently find the spots, in smaller numbers, on the trunk and the upper arms also.

Having asserted that all persons of coarse skin are liable to have their sebaceous follicles take on occasionally the acne inflammation, we may suitably ask what are the causes which induce the more severe forms of the disease. For clinical purposes we may recognise acne chiefly in two forms—first, the acne of young persons; and second, the acne of those past middle life. It is in young persons that we meet chiefly with the pustular, punctate, and vulgaris types, whilst in the elderly we encounter the acne rosacea and tuberculata. Respecting the acne of the young, there is a very widespread opinion that it is usually the result of sexual disturbance. I have no doubt that this belief is well founded to some extent, but we must beware of exaggerating it. The eruption is chiefly met with in young celibates, whilst it is very rare under the age of puberty, and is often benefited by marriage. It is possible, however, that its comparative rarity in the married may after all be a coincidence and not a sequence, and that we ought to consider it not so much a disease peculiar to celibacy as to the special age at which a large majority of the population are celibates. It may certainly occur before puberty. I have seen it not very infrequently in children, and once in a very marked form in the face of an infant of six months. It is also frequent in married persons of both sexes, and sometimes originates after marriage. I have known it occur in ladies who were bearing children, and in whom the sexual functions appeared to be in perfect activity.

Making full allowance for a considerable number of acne cases in which there appears to be no sexual cause, there are yet, I think, good grounds for accepting the general belief that in a majority of instances such is the fact. The remarkable influence which the sexual functions exercise upon the general health and upon the state of the nervous system is amongst the secrets known unto all men. That they should have the power of making the sebaceous glands of the skin enlarge and suppurate is certainly, if thought about, one of the most strange. I suspect that, when it occurs, it is brought about through the agency of the nervous system rather than of the blood. Women who are not liable to acne at other times sometimes have a few spots appear at each menstrual period, and that whilst in excellent general health. I have been assured by gentlemen liable to nocturnal emissions that they invariably had an increase of acne spots after such occurrences, and sometimes so immediately, that it was impossible to believe that any material change in the blood had occurred. In other cases sexual intercourse may produce the same result.

It is certainly not in cases of extreme sexual exhaustion that acne is most common. I have seen many such patients, both with and without spermatorrhœa, who had not a spot of acne, but, on the contrary, had skins which were perfectly smooth—in some instances florid, in others earthy pale. It is, perhaps, rather a condition of sexual irritability than of exhaustion which produces acne. I do not think that the severity of the acne eruption bears any relation to the degree of sexual disturbance. In the worst cases that I have seen the patients often seemed to be in good health.

To dismiss this subject, we may remark that the prescriber ought, in respect to the acne of celibates, to bear in mind the possibility of a sexual cause. He will advise the adoption of measures likely to improve the general vigour, he will caution against any possible causes of debility, and he may, in some instances, suggest matrimony as the remedy most likely to prove successful. Derangements of stomach and liver stand in about the same relation to the acne of middle-aged persons that sexual causes do to the acne of early life. Manifest dyspepsia (often the result of intemperance) is present in perhaps half the cases of acne rosacea, whilst in the other half it is exceedingly difficult to assign any cause. The same remark applies also to the indurated and tuberous form of acne, which produces the thickened, bossy condition of skin familiarly known as "grog-blossoms," and usually considered to be proof of intemperance. In many cases such suspicion is most unjust. At any rate, of this you may be sure—that in persons congenitally of coarse skin very slight indulgence at the table may produce results in the way of acne, which would not ensue in others whatever the amount of provocation afforded. As I asserted in reference to sexual exhaustion, so I may say here again, it is common enough to see the most intemperate escape scot-free. Nothing would be more unjust than to allow ourselves to entertain the belief in the one form of acne, that it is certainly due to sexual causes, or in the other that intemperance or gluttony is the cause. We will freely admit a frequent connexion, but strongly deny that it is invariable. For the worst forms of acne of either variety you will be able to discover in the patient's state of health or antecedents no cause whatever, and you will be compelled, in considering your measures of treatment, to regard it chiefly as a local disease.

The rules for the constitutional treatment of acne patients follow easily from what we have said. If the patient be young he should be made to use a cold bath every morning, to take

(a) By some authors called Milium *seu* Grutum.

plenty of exercise, to live liberally as regards meat diet, with a fair allowance of stimulants; and he should be cautioned or encouraged, as the case may be, in reference to sexual matters. As to medicines, a long course of small doses of arsenic will often be of great use. If constipation be present, the habitual use of a chalybeate aperient should be prescribed. You may do all this, however, most sedulously, and gain nothing whatever, if you neglect local measures; whilst with the latter only, and without any change in the patient's habits, you may often get an acne eruption so nearly well that he will regard it gratefully as a cure. The chief local measure consists in destroying, by means of a fluid caustic, the inflamed follicles. With a fine-pointed glass brush, or a bit of soft wood cut to a point, you touch the inflamed spots from day to day. Take great care not to apply too much. In the left hand should be a roll of blotting-paper with which to absorb the fluid if it has been deposited too abundantly. The best fluid to use is the acid nitrate of mercury. It will usually be necessary to repeat the touching once a week for a month or two, carefully seeking out every fresh spot. After that the patient should still see you once a month, in order that the cure may be kept up. The acid thus used does not leave larger scars than the spots would themselves do.

In acne rosacea the use of the caustic will again serve an excellent purpose. You may not only touch the spots themselves, but also pencil out the stray vessels which add so much to the patient's disfigurement. He, or more usually she, will gladly exchange a few slight and scarcely perceptible scars for the angry and very suspicious-looking redness of face which the disease causes.

NORTH-EASTERN HOSPITAL FOR CHILDREN.

DIPHTHERIA AND BRONCHO-PNEUMONIA—SUBSEQUENT PARALYSIS—RECOVERY.

(Under the care of Dr. SANSOM.)

Annie K., aged six years, was admitted as an out-patient on January 6, 1877. Her previous history was as follows:—Fourteen weeks ago she had a severe attack of scarlatina, and had never been well since. No dropsy had occurred after the fever; but three weeks from the present time she suffered from a bad throat, similar to that which was now troubling her. She complained of dyspnœa, cough, and pain, with difficulty in swallowing.

On Examination.—Tongue very brown, with exudation on the left side, covered by white false membrane; and the left side of the buccal cavity was also thickly covered by false membrane.

Physical Signs.—Dulness over the upper and back part of the left lung; dense tubular breathing and râles. Her urine was very scanty, and contained no albumen. Prognosis seemed very bad. Broncho-pneumonia and diphtheria were diagnosed. During the next fortnight, patient greatly improved under the exhibition of the sulpho-carbolates (sodic sulpho-carbolate, gr. xij., every four hours), her throat becoming much better. On January 31 there was deficiency of resonance over right base, and dulness with tubular breathing as before at the left apex, and in addition the following interesting symptoms:—Well-marked ptosis on the left side, with contraction of the left pupil to not more than half the size of the right. From that time she improved a little; and on February 14 the ptosis was much less, while on the 28th it was almost imperceptible; but the contraction of the pupil remained for a much longer period. Ophthalmoscopic examination showed abnormal redness of the optic discs; otherwise fundus of each eye healthy.

On March 7, symptoms appeared of the palate being affected, the voice becoming very nasal, though the child's health at this time seemed a good deal better, and the chest complications were much improved.

On April 4 the uvula appeared distinctly drawn to the right side; hearing also impaired on that side, and a purulent discharge from the same ear. During the next two months she became slowly convalescent; and on May 30 all symptoms of paralysis had disappeared, the pupils were of the same size, and the patient was able to articulate quite clearly, neither was there any impairment of the hearing.

General health and appearance were also greatly improved. The treatment consisted of sulpho-carbolates during the first few weeks, followed by a long-continued course of iron and quinine.

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The Medical Times and Gazette *is published on Friday morning, Advertisements must therefore be sent to the Publishing Office not later than One o'clock on Thursday.*

Medical Times and Gazette.

SATURDAY, JULY 28, 1877.

THE CRUELTY TO ANIMALS ACT.

We live in an age of Congresses. "Association" appears to be too small a title for new societies to take nowadays, and accordingly "Congress" takes its place; and on the 19th inst. a new society, the "Domestic Economy Congress," held its first meeting, and a successful one, in Birmingham. One would perhaps have hardly looked for an address in physiology at such a congress, nevertheless the first paper read in "Section B"—we do not know the title of the section—was one, by no less a *savant* than Professor Huxley, on "Elementary Instruction in Physiology," for the pleasure of a perusal of which we are indebted to our contemporary *Nature*. The learned Professor had, of course, no difficulty in giving good reasons for his appearance on such an occasion. He pointed out how "eminently desirable" it is "that the hygienist and the physician should find something in the public mind to which they can appeal; some little stock of universally acknowledged truths, which may serve as a foundation for their warnings, and predispose towards an intelligent obedience to their recommendations." He spoke of the existence of "a strong, though perhaps an unavowed and half unconscious, undercurrent of opinion that the phenomena of life are not only widely different in their superficial characters and in their practical importance, from other natural events, but that they do not follow in that definite order which characterises the succession of all other occurrences, and the statement of which we call the law of nature;" and hence, he said, arises that want of heartiness of belief in the value of knowledge respecting the laws of health and disease, and of the foresight and care to which knowledge is the essential preliminary, which is so noticeable; and hence a corresponding laxity and carelessness in practice, the results of which are too frequently lamentable. But, in fact, there is, the Professor said, "a vast and increasing mass of evidence that birth

and death, health and disease, are as much parts of the ordinary stream of events as the rising and setting of the sun, or the changes of the moon; and that the living body is a mechanism, the proper working of which we term health; its disturbance, disease; its stoppage, death." The business of the hygienist and of the physician is to know the range of the modifiable conditions upon which the activity of this mechanism is dependent, and how to influence them towards the maintenance of health and the prolongation of life; and "the business of the general public is to give an intelligent assent, and a ready obedience, based upon that assent, to the rules laid down for their guidance by such experts." But an intelligent assent is "assent based upon knowledge, and the knowledge which is here in question means an acquaintance with the elements of physiology." Mr. Huxley then asserted that though "the most highly trained and best furnished intellect may find all its resources insufficient when it strives to reach the heights and penetrate into the depths of the problems of physiology," yet its "elementary and fundamental truths can be made clear to a child"; and that elementary physiology may be taught in such a way as not only to confer real, practical, and useful knowledge, but also to serve as a training in accurate observation, and in the methods of reasoning of physical science. Of course he insisted, however, that if children are to be taught a little physiology, the instruction must be real, "based upon observation, eked out by good explanatory diagrams and models, and conveyed by a teacher whose knowledge has been acquired by study of the facts, and not the mere catechismal parrot-work which too often usurps the place of elementary teaching." This very important and most necessary requisition is enough to explain why it is, as yet, impossible, or almost impossible, to make elementary physiology a part of general education, however desirable this may be thought: the skilled teachers cannot be had. Into this Professor Huxley did not enter, nor do we mean to. Our chief interest in his address lies in the latter part. Speaking of the teaching he advocated, he said he hoped it was unnecessary to give a formal contradiction to the silly fiction, assiduously circulated by fanatics who not only ought to know, but do know, that their assertions are untrue, that he had advocated the introduction into elementary teaching of that experimental discipline which is absolutely indispensable to the professed physiologist. And then, referring to the Vivisection Act, he added, "But while I should object to any experimentation which can justly be called painful for the purpose of elementary instruction, and while, as a member of the late Royal Commission, I gladly did my best to prevent the infliction of needless pain for any purpose, I think it is my duty to take this opportunity of expressing my regret at a condition of the law which permits a boy to troll for pike, or set lines with live frog-bait for idle amusement, and, at the same time, lays the teacher of that boy open to the penalty of fine and imprisonment if he uses the same animal for the purpose of exhibiting one of the most beautiful and instructive of physiological spectacles—the circulation in the web of the foot. No one could undertake to affirm that a frog is not inconvenienced by being wrapped up in a wet rag, and having his toes tied out; and it cannot be denied that inconvenience is a sort of pain. But you must not inflict the least pain on a vertebrated animal for scientific purposes (though you may do a good deal in that way for gain or for sport) without due licence of the Secretary of State for the Home Department, granted under the authority of the Vivisection Act." And so it comes about, he said, "that, in this present year of grace 1877, two persons might be charged with cruelty to animals. One had impaled a frog, and suffered the creature to writhe about in that condition for hours; the other had pained the animal no more than one of us would be pained by tying wet strings round his finger, and keeping him in the condition of a hydropathic patient. The first offender said, 'I did it because I find fishing very amusing,' and the magistrate bade him depart in peace; perhaps even wished him good sport. The second pleaded, 'I wanted to impress a scientific truth, with a distinctness attainable in no other way, on the minds of my scholars,' and the magistrate fined him five pounds." The Professor naturally observed that he could not but think this an anomalous, and not wholly creditable, state of things.

Mr. W. E. Forster spoke on the same subject at the distribution of prizes at the London Hospital, and we last week reported part of what he said, to which we will add that he dwelt upon the high character of the medical profession and the benevolence so widely spread among its members; and observed that "medical men, in striving for knowledge, were carrying on a desperate war against a desperate enemy, and they had to wrest out the secrets of disease and the secrets of life as best they could." Mr. Forster did not, however, think fit to explain how it was that, notwithstanding all this, he had done his utmost in Parliament to make the Vivisection Act most mischievously and powerfully restrictive on physiological research. But it must have been in the minds of some of his hearers on that occasion, and will be remembered by medical men when hampered and impeded in their efforts to "wrest out the secrets of life and the secrets of disease," that it was Mr. Forster who, at the last moment, compelled the Government, in spite of a promise to the contrary, to substitute the word "invertebrate" for "cold-blooded" in the Bill, and so to place the frog and other reptilia under the protection of the Act. The terms of the understanding upon which the opposition of the profession, and other scientific workers, to the Bill had been withdrawn having been thus broken in this most important point, the Bill passed; and, even so passed, it was accepted frankly and loyally, in the hope and belief that it would be administered in a wise and liberal spirit.

But in this respect, again, the expectations of the profession have been cruelly disappointed. It will be remembered that during the late session of the General Medical Council a communication was received by that body, complaining that applications, duly supported by certificates signed in accordance with the Act, for permission to conduct physiological or medical researches, had in some cases been refused; and in other cases the certificates had been indefinitely suspended, without cause assigned. We learn now that among the researches thus prohibited by the Home Secretary is the continuance of Professor Rutherford's and M. Vignal's researches into the action of various drugs upon the secretion of the bile, and that the research has in consequence been transferred to Paris. Thus the worst fears as to the possible effects of the Act are being realised; and it seems probable, already, that England will lose her rank among European countries as a fountain of scientific progress. The Medical Council passed a resolution expressing their regret that the Act was being administered so as to seriously impede highly meritorious cultivators of physiology and pathology in this country in their legitimate studies, and directed their Executive Committee to bring this to the notice of the Home Secretary, if complaints continued; but if this has been done, it seems, at present, to have had no effect.

THE MADRAS FAMINE.

When we last wrote, a fortnight ago, on the subject of the famine in Madras, we were able to say that "rains had already fallen in some districts of the Madras Presidency," and that there was reason for hoping that the amount of suffering and distress would be rapidly reduced. But the favourable weather lasted but a short time, and the hopes raised by it have been bitterly disappointed. The *Times* published, on the 24th, a telegram from Calcutta, dated July 22, in which the food

prospects for the Madras Presidency are depicted in the darkest colours. It says, "The latest news from the famine districts is most gloomy, owing to the almost entire cessation of the rains. The situation is critical in the extreme, and is causing much anxiety. From Madras we hear of crops suffering and pasture failing, and an extensive failure of unirrigated crops is inevitable"; and the report adds, "if rain does not fall within the next few days, in all probability the next week or two will decide whether Madras and Mysore are doomed to undergo the terrible calamity of a second year of scarcity." In Bombay and in the Malabar coast districts everything was going on satisfactorily; but from Nepaul, Assam, the Central Provinces, and the North-west, complaints of want of rain had been received; and in Calcutta prices had risen greatly owing to the large exports of rice to Madras. The telegram concludes with, "The next week or two will decide the fate of Southern India. There is still hope, but we must be prepared for the worst." Even before this failure of the monsoon rains the prospect was gloomy enough. Writing from Madras on June 22, the correspondent of the *Times*, after saying that they had had so far in Southern India "splendid rain," and that agricultural operations were being actively pursued, points out the mistake of supposing "that after good rain the tension of famine is at an end," and adds, "If one may judge from facts and figures, the distress is greater now than during the intense heat of April and May," and "for the next four months the populations of our actual famine districts, and of others that have been partially distressed, will have to depend to a very great extent on imported food." We must be thankful in the midst of this gloom to learn that one calamity, which would have been simply overwhelming, has been averted. The *Madras Weekly Mail* of June 27 tells us that, a few days before, Southern India was threatened with a water famine, and it was feared that the railway would come to a dead standstill by the failure of the wells at stations at which the engines were watered. "That would have meant nothing more nor less than the depopulation of Cuddapah, Bellary, Kurnool, and half Mysore," and excessive mortality in North Arcot and other districts. Enough rain had, however, fallen to replenish the wells and tanks "for some months to come," and grass had sprung up rapidly enough, and in sufficient abundance to save, for some time longer at any rate, the cattle that had survived the many months of drought. The danger of a loss of the great means of carrying and distributing food has, we may therefore hope, passed by; but it is abundantly clear that the supreme Government must be prepared to meet enormous demands for food for several months to come; and it does not appear that this necessity is yet at all fully recognised. The *Times'* correspondent says that in June the Madras Government was supporting one and a quarter million of the population; and it is calculated that at least ten millions of the population of the Presidency and Mysore are dependent on imported grain for their daily food; so that "it is quite possible that the next three months may demand an importation of 200,000 tons of grain per month to keep the people alive." It is easy enough to see, therefore, that there is a risk—and a very serious risk—of some millions of people being absolutely short of food; and to understand that it is idle to trust to private trade and enterprise to meet such emergencies. Yet the Supreme Government does appear to insist still on the propriety of relying on the resources of private trade. And we are told even that "the Madras Government has been soundly rated both by Lord Lytton's Government and by the Marquis of Salisbury for their very modest precaution of securing 30,000 tons of grain and placing it in regions inaccessible by railway, or by ordinary road in bad weather, as an insurance against possible calamity. Indeed, orders were sent down some time ago to sell off this stock in the open market, but the Madras Government declined." The *Times* may well add to this the comment that, if reliance on economical doctrines has been carried to this extent, it appears extremely rash.

The mortality in the famine districts has been fearful. We could give terrible reports of this from Madras papers, but we prefer to quote from the correspondent of the *Times*, as it might be supposed that the accounts in the Madras journals are coloured by the feeling that exists against the Supreme Government. It is satisfactory to know that "the Temple rate of wages" has been abandoned, but the disastrous effects of the "experiment" remain—effects which, it must be remembered, were most clearly predicted by Dr. Cornish in his Minutes. The *Times'* correspondent states that the mortality in the relief-camps was at the frightful rate of 100 per cent. In the month of May, out of a strength of 50,254 in those camps, "there were 4037 deaths, almost entirely due to starvation diseases." In other words, if that rate of mortality were continued, the present occupants of the "camps" would be entirely swept away within twelve months! No more evidence can be required to prove that the relief allowed had been fatally inadequate, and that the mass of the population had been reduced to the lowest point of vitality. The *Times* acknowledges that relief which produces such results is scarcely deserving of the name of relief at all; that we are responsible for saving the lives of the vast population who seem actually dependent on us; and that there does seem reason to fear that far more energetic—and, we may add, more liberal—measures are necessary than have yet been taken. And the *Madras Mail* observes, "It is a choice of two evils—a great outlay of public money, and a ghastly loss of human life. No time is now left for argument as to the responsibility of this or that Government, or of this or that official." There can be no doubt about what the English public will say: they will utterly repudiate any determination to incur a risk of the population of Southern India running short of food lest the Government should expend more money than may prove to have been absolutely necessary.

THE DISPUTE IN THE UNIVERSITY OF LONDON.

The extraordinary meeting of Convocation of the University of London, which is summoned for to-day (Friday), will be a memorable one in the history of university freedom. For the first time since its creation, more than twenty years ago, Convocation of the University of London will meet upon special and urgent business. Our readers have had the opportunity of following with some closeness, from week to week, the various steps of the unfortunate difference which exists between the Senate or executive body of the University and its Convocation or parliament; and these need hardly be again reviewed. Arising out of the question of the admission of women to degrees in medicine, the dispute now occupies much higher ground—namely, the respective rights of the two bodies in the introduction and rejection of changes affecting the constitution of the University. Stated concisely, the matter which Convocation will have to consider and settle to-day is, whether the Senate acted rightly, justly, and honourably, when it took advantage of an Act of Parliament to effect a change in the constitution of the University without consulting Convocation, and persisted in its course against the express desire of that body. This comprehends the substance of the dispute, although there are certain other points bearing on it which cannot fail to be dwelt upon. Thus it will probably be urged against the conduct of the Senate that the Act which it has been so eager to use is a permissive one, passed hastily through Parliament as an innocent measure; that it was drawn by a member of the Senate who is one of the most active of the unconstitutional party, and that a "university" which is enabled by the Act to use powers that it embodies is consti-

tuted, not by the Senate alone, but by all graduates. In still another aspect this matter will have to be regarded by Convocation. We understand that certain flaws have been discovered in the words of the Act, and that the special provision which it contains *against* the admission of women-graduates to a seat in Convocation is so carelessly expressed as to be virtually invalid! Convocation may be called jealous of its privileges, but we question whether even the majority of the Senate will care to proceed in their present course when they discover that it may end in giving women the right to canvass the first vacant seat amongst themselves. These several points may, as we have said, have a certain amount of influence on the minds of the graduates to-day; but the principle at stake, and which Convocation meets to uphold, needs no support from accident, from legal interpretations, or, for that matter, from Acts of Parliament. It is the principle of freedom of speech and of action in their own affairs possessed by the members of a University—the principle of the right of a body of nearly 2000 highly educated men to protest successfully against the action of a narrow majority of eight or ten senators.

It is to be feared that some of the acerbity that was developed during the discussion of the women's question has been transferred to the more general one, where it is even less becoming. Indeed, as might have been expected, the unconstitutional party, who would allow the Senate to override the privileges of Convocation, are trying their hardest to secure on this occasion the support of the graduates who may be in favour of the admission of women, by representing the present agitation in Convocation as nothing but a side move of the anti-women party, skilfully got up in order to arrest the further action of the Senate. It is much to be hoped that no member of Convocation will allow himself to be blinded by this very transparent design, and that at the meeting to-day the constitutional question will be fairly discussed on its own merits, quite apart from the other question of sex—which, we doubt not, will be adroitly introduced, but ought not to receive a moment's consideration.

THE WEEK.

TOPICS OF THE DAY.

The Council of the Social Science Association last week presented to the Secretary of State for the Home Department a document containing three resolutions on the subject of the office, duties, and jurisdiction of coroners, which had been adopted by the Council. They are as follows:—1. That in the opinion of this Council a Parliamentary inquiry into the mode of appointment, the office, duties, and jurisdiction of coroners is imperatively demanded. 2. The Council draw attention to the fact that the office of coroner is one of high antiquity and high utility; that it has been the subject of much and intricate legislation, and has come in process of time to be attended with inconveniences in respect of the constituencies by which the coroner is elected, the manner of election, the mode of administration and procedure, the place for holding the court, as well as of many points relating to functions, procedure, and responsibility. The Council are of opinion that in consequence of various social changes since the time of the original creation of the coroner's office, the expediency of obtaining a coroner's jury, either at all, or in its present form, the existing relations of the coroner to the justices of the peace, and the provision for the use of expert witnesses, have become matters requiring fresh and special arrangements. 3. That the question of inquiry into the causes of fires is one of urgency, and should be considered in regard to the appointments, duties, and functions of coroners.

A serious interruption has taken place at the outfall works of the King Sedgmoor main drain at Dunball, near Bridgwater. The new auxiliary cut, constructed at a cost of between £4000 and £5000, suddenly collapsed, owing, it is supposed, to the shifting of quicksand beneath, and to the combined action of the tide and fresh water accumulated by the late heavy rains. Several massive iron pipes, six feet in diameter, burst with a loud report. A considerable portion of the turnpike-road was carried away, and a house in the vicinity was undermined to such an extent that its fall is anticipated. Traffic on the turnpike road has been diverted for more than four miles in consequence of a bridge being rendered unsafe by the accident.

At the inaugural meeting of the Domestic Economy Congress, held at Birmingham last week, Prof. Huxley, in addressing the meeting, remarked that if anyone is interested in the laws of health it is the working-man, whose strength is wasted by ill-prepared food, whose health is sapped by bad ventilation and bad drainage, and who loses half his children by disorders which might be prevented. He further pointed out that not only does our general primary education carefully abstain from hinting to the workman that some of his greatest evils are traceable to mere physical agencies, which could be removed by energy, patience, and frugality, but it does worse, it renders him, so far as it can, deaf to those who would help him, and tries to substitute an Oriental submission to what is falsely called the will of God for his natural tendency.

The Mayor and Town Council of Leamington, acting as the urban sanitary authority for the borough, last week applied to Vice-Chancellor Sir Charles Hall for an injunction to restrain the contractors who supplied the town with water, from supplying water in an unfiltered state. In June, 1856, the defendants entered into a contract to construct works and supply the town with 500,000 gallons of water a day, properly cleansed and filtered; and the plaintiffs complained that recently, owing to the water being permitted to pass through a certain culvert, it had been by no means free from impurities. One witness had found at dinner a live leech an inch long in his water-bottle, and another was ready to testify to the presence of a decomposed eel in the water supplied to him. The defendants denied that the water was supplied in an unfiltered state, but eventually they gave an undertaking which was substantially in the terms of the notice of motion, and the motion was allowed to stand over to the hearing, with liberty to advance the cause.

The debate in the House of Commons, last week, on the vote proposed to be taken for the Broadmoor Criminal Lunatic Asylum, was satisfactory, in so far that it elicited a full explanation of what at first sight appears a very large expenditure of public money. Mr. Walter, as one of the Council of Supervision, laid before the House several particulars not before generally known. Broadmoor, he pointed out, was essentially a place for the reception of persons who were not criminal, but who had committed, in a state of insanity, acts which would otherwise have been criminal. The policy of the State had been to treat these persons not as criminals, but as patients, and unless that distinction were kept in view, they would argue the question on wrong premises. An objection was made to the dietary of the prisoners; but it was acknowledged by medical men that the recovery of these unfortunate people greatly depended on good living. Again, the attendants at Broadmoor were 20 per cent. of the inmates, whereas in ordinary county asylums the attendants were only about 10 per cent. This arose from the immense proportion of male patients at Broadmoor, and the dangerous nature of their peculiar form of malady. As a set-off the mortality is only $2\frac{1}{4}$ per cent., and there is no institution in the kingdom of a similar kind which can show so small a mortality amongst its patients. The cost of maintaining the buildings is very heavy, but the present estimate is less than that of last year, as that was less than the one preceding it. The present asylum at Broadmoor might be sold, Mr. Walter added, but

he believed the sacrifice would be very great, and any new site would be dearly purchased. Eventually the vote was agreed to.

The annual Conference of Sanitary Engineers was held last week at Bristol, under the presidency of Mr. F. Ashmead, C.E., Borough Engineer of Bristol, who delivered an address, in the course of which he reviewed the several modes of treating town sewage, arriving at the conclusion that the best and cheapest mode was by discharging it into the sea. With regard to the question of ventilation of sewers and drains, Mr. Ashmead said that Bristol stood almost alone in this matter, its sewers having been worked successfully for upwards of twenty years without ventilation. He was of opinion that if the original construction of sewers was effectual, and the supply of water ample, ventilation was rendered unnecessary. The borough of Bristol extends over an area of 4687 acres, or nearly eight square miles, with an estimated population at the present time of 202,950. For drainage purposes it has been divided into six districts. The average death-rate before the construction of these works was 28 per 1000, and for the year ending January, 1875, it was 22·7.

The Stafford House Committee for the relief of sick and wounded Turkish soldiers have determined to send out four more surgeons, in addition to the five who have already arrived in Turkish territory fully equipped. Mr. Barrington Kennet is superintending the distribution of appliances, and the establishment of hospitals, of which three are in working order under other doctors at Shumla, Varna, and Rustchuk. Mr. Pratt, of Royston Hall, Norfolk, has volunteered to proceed to the East as assistant commissioner, and will take out the next supply of stores. Lord Blantyre has also sent out a number of medical men at his own expense.

The *Gardeners' Chronicle* states that the Society of Apothecaries, in addition to the usual medals and prizes for botany and chemistry given to medical students, intends to offer a silver medal for proficiency in botany, to be competed for by ladies only.

The report of the Water Examiner for the month of June last presents no new feature of interest. Attention is again called to the fact that the deterioration of the waters of the Thames and Lea continues, sewage pollution being found in both rivers, principally from the fact that the dwellers on the upper reaches of these streams treat them as common sewers. Moreover, as the population of the districts through which the Thames and Lea flow is rapidly increasing in density, this pollution is more likely to increase than to diminish, and points to the urgent necessity which exists for at once adopting measures to prevent the contamination of the water from which most of the metropolitan water companies draw their supplies. As a result of the analyses made by him, Dr. Frankland reports that the river waters delivered by the Chelsea, West Middlesex, Grand Junction, Lambeth, and East London Companies were all efficiently filtered, and contained about the average summer proportion of organic impurity. That delivered by the New River Company was also efficiently filtered, and contained a remarkably small proportion of organic matter. On the other hand, the Southwark Company's water was slightly turbid from inefficient filtration, and the suspended matter was full of moving organisms.

It is stated that the attendance of representatives of the medical and other officers, and of the members of the provident dispensaries in London, has been invited by the Medical Committee of the Charity Organisation Society at a conference to be held at the rooms of the Medical Society, Chandos-street, with a view to consider what steps should be taken to strengthen and consolidate the movement in London. Mr. Timothy Holmes is announced to take the chair, and Dr. Ford Anderson will open the discussion.

During the week ending July 21, the deaths from small-pox in the twenty English towns included in the Registrar-General's weekly report were 41, against 37 in the previous week. Of the 41 deaths, 35 occurred in London, against 32 in the week ending July 14; 4 occurred in Liverpool, 1 in Brighton, and 1 in Leeds.

THE PURPLE OF THE RETINA.

Boll's discovery, or rediscovery, of the see-purple (*Sehpurpur*) of the retina, of which we gave a brief account in vol. i. 1877, page 291, still attracts attention, and is the subject of much investigation in Germany. Professor Kühne gives some very interesting observations of his own in the *Centralblatt Med. Wiss.*, March 17 and April 14, 1877, and points out that the red colour of the retina was first observed as early as 1839 by Krohn in the eye of the cephalopods; in 1857 it was seen by Leyden in the eyes of *Rana* and *Pelobates;* and in 1866 by Schultze in the retina of the rat and the owl. To Boll, however, is due the merit of the discovery of the distinction of the see-purple by white light, and its regeneration in darkness. Kühne finds that the purple, or red colour, which undergoes these curious changes, is only present in the outer (posterior) portion of the rods (*Stäbchendussenglieder*), and that its intensity varies directly with the proportion of rods present in a given part of the eye. It is never found in the cones; and where only the latter are present, as in the macula lutea, there is no purple; and similarly, where the cones predominate over the rods, as in the immediate neighbourhood of the yellow spot, the purple tint is very slightly developed.

In only a few animals which have been as yet examined was the see-purple found completely absent from the posterior portion of the rods—*e.g.*, in the bat, pigeon, and fowl. In the owl, and especially in one species (*Athene noctua*) which has very long rods, the purple tint is deeper than in any other animal as yet observed. Apparently there is an inverse relation between the amount of pigmentary absorptive material present on the retina, and the intensity of the purple.

The red colouring matter of the rods is due to a peculiar body, which can be isolated, both in solution and in the solid form. Its only solvent, as far as is at present known, is the bile, or a purified salt of cholic acid. The clear filtered solution of see-purple is at first of a magnificent carmine-red colour, but it quickly turns chamois-yellow in the light, and finally becomes colourless. As long as it retains any red tint at all, it allows yellow, orange, and red, and possibly a little violet, light to pass through it, but absorbs all rays from yellowish-green to violet. The solar spectrum affects it as follows:—The portion from yellowish-green to pure green bleaches it completely in fifteen minutes; from bluish-green to violet the action is less intense, and lasts much longer; yellow and orange act much more feebly; and red and *ultra*-violet, in the period above named, not at all. The purple, however, appears to be affected by very long exposure to the red portion of the spectrum.

Kühne finds that the range of vision of a rabbit's eye, whether extirpated or allowed to remain *in situ*, is from nineteen to twenty-seven centimetres. If objects cut out in black paper be placed on the ground glass cover of a black box of this height, and the sensitive eye be placed at the bottom of it, very well-defined "optograms" can be obtained, and fixed by immersion in a solution of alum. They can be preserved for a long time, if dried in the dark on slips of porcelain. In fresh ox-eyes, the pictures obtained by this method can be seen immediately after exposure, by isolating the retina in the dark, or with the aid of yellow light, in a weak solution of common salt.

The *regeneration* of the see-purple is effected in less than an hour after extirpation, and preservation in the dark, in a hog's eye previously deprived of its purple by long exposure to bright sunlight before the animal's death.

The question whether the retinal purple is visible *intra vitam* seems at present an open one, some observers—*e.g.*, Dr. Adler, of the Wieden Ophthalmic Hospital, Vienna (*Centralblatt*, No. 14, 1877),—describing cases in which it was supposed to have been seen even without the ophthalmoscope; and others—Drs. Diett and Plenk, of Innsbrück (*Centralblatt*, No. 16, 17),—denying that it can be seen by ordinary artificial light, even with Jäger's ophthalmoscope (where the illumination required is very weak), although its presence was afterwards proved by anatomical examination.

HOME HOSPITALS FOR THE MIDDLE CLASSES.

The Committee recently appointed to consider the scheme for the promotion of home hospitals for those who are able to pay, held a meeting last week at the Mansion House, under the presidency of the Duke of Northumberland. It was resolved to establish an association to provide Homes which should be self-supporting, for the treatment and cure of disease, as in hospitals, by skilled nursing, and regulated diet, under proper sanitary and hygienic conditions, with the comforts of home, for the benefit of all classes when attacked by illness who could afford to pay in various degrees for such advantages. Upwards of 200 well-known members of the medical profession and others had testified to the necessity of such institutions in a population like that of London, amongst whom a large number existed whose homes or lodgings were incapable of affording to them the comforts, nursing, and regular attention which were essential in cases of sickness. To successfully establish Homes to meet this want it would be necessary to provide sufficient funds to meet the first outlay for buildings, fittings, furniture, and other essential appliances. For that purpose the Committee decided to make an appeal to the public for funds (say £20,000) to enable them to open one or more Homes filled with every requirement of modern times. They had decided to solicit contributions either as subscriptions, conferring certain privileges, or as free gifts. They proposed that every contributor of fifty guineas and upwards should be a governor of the Association, with eligibility to serve on the committee of management, priority of admission to the Homes, and power to nominate patients; other donors to have privileges equal to the amount of their donations. It was believed that the Invalids' Home Association would thus be the means of relieving the present hospitals from much of the pressure which now existed. Should the scheme succeed, it was intended to combine Invalid Homes in town with similar institutions in the country, where the cure of convalescent patients might be completed. The Committees of Management and Finance were then appointed, and it was resolved to invite the Bishop of London, Monsignor Capel, and several other representative men, to join in the movement.

VACCINATION VIGILANCE IN WHITECHAPEL.

In publishing his report on the sanitary condition of the Whitechapel district for the quarter ending March 31 last, Mr. John Liddle, the Medical Officer of Health, attributes the comparative freedom from small-pox which that portion of London has enjoyed, during the period in question, to the satisfactory manner in which vaccination has been carried out in the district. In all cases where the inspectors ascertained that children had not been vaccinated, information was immediately given to the vaccination officer; and in nearly every instance it was found that the children referred to had neither been born nor registered in the district of the Whitechapel Union. Mr. Liddle further states that Mr. Coombes, the vaccination officer, has, during the last half-year, been the means of securing, by visitation in the localities, the primary vaccination of 360 children whose births had not been registered in the district. The inhabitants of Whitechapel are reported to be generally favourably disposed to vaccination, but the migratory habits, necessitous circumstances, and foreign nationality of many of them, involve a great amount of labour and time in explaining and effecting the desired end. Out of 1471 births registered during the past half-year, Mr. Coombes succeeded in obtaining and recording certificates of the successful primary vaccination of 1400 children. In every house where small-pox existed, parents were cautioned not to send other children to school during the prevalence of the disease; and information of the existence of small-pox was, in every case, reported to the schoolmasters and mistresses of the schools where the children attended. Consequent upon this vigilance, only sixty cases of small-pox were reported to the inspectors of the district from February 11 to May 4; of this number ten were attended by private practitioners, and four occurred in the registered common lodging-houses.

MEDICAL CORONERS.

At an inquest held at Oxford last week, by Mr. Hussey (surgeon), Coroner for the City of Oxford, the Coroner, in charging the jury, said that in that case, as they had heard, he had seen the deceased. No other medical practitioner, he believed, had seen him. After they had heard the particulars of the accident from those who were present at the time, he did not suppose they would desire to have medical testimony; but it would be for them to say so if they thought it necessary. They knew that there were many of the coroners throughout the country who were members of the medical profession; and they had, no doubt, heard it publicly suggested that, when a medical practitioner was the coroner, he should absent himself, and appoint a deputy to hold the inquest, if he (the coroner) had himself attended the patient whose death was the subject of inquiry. He need hardly tell them that the coroner's office was an office of great trust and importance, the duties of which he was bound to execute in person; and, indeed, if he were to shrink from the responsibilities incidental to the proper discharge of those duties, he would be liable to censure, and even to removal. Moreover, if he did absent himself for such a cause, he would be liable to be brought back at the instance of the jury to give his testimony as a witness, and his presence at the inquest would at once put an end to the power of his deputy, and would make the inquiry by the deputy altogether invalid. It seemed to him that it was best in such a case for the coroner himself to put the facts before the jury, and for them to say what they thought was necessary as medical testimony.

NEURIN AS A REMEDY IN DIPHTHERIA.

From experiments on the action of this body on albuminous substances, and from experience of its antiseptic action, Professor E. Ludwig, of Vienna, was led last year to recommend a trial of it as a local application in diphtheria. His advice has been followed at the Crown Prince Rudolf Children's Hospital, and, according to the reports of the physicians, Drs. Hanke, von Becker, Brezma, and Winiwater, neurin, when applied to the affected parts every two hours in a 3 to 6 per cent. aqueous solution, gave "good results, even in the severest cases." The membranous exudation was soon detached, the inflammation limited itself to the most superficial layers of the mucous membrane, and a remarkable improvement in the general appearance of the patient was observed. Similar results were obtained with solutions of tetræmethyl ammonium-hydroxide, and tetræthyl ammonium-hydroxide. Neurin, it may be mentioned, is a product of the decomposition of protagon, a phosphorised constituent of the brain, and is known to modern chemists under the prodigious name of *trimethyl*-

oxethyl, ammonium-hydroxide $(CH_3)_3N,C_2H_4O,H_2NO$. It can be synthetically prepared by the action of a concentrated solution of trimethylamin on ethylene oxide.

PETER SQUIRE.

Mr. Peter Squire, who has for forty-two years filled the office of Chemist on the establishment of the Queen, has now resigned the appointment; and her Majesty has been graciously pleased to confer it on Mr. Squire's son. This is not the time for noticing all that Mr. Squire has done for pharmaceutical chemistry, but we cannot, when recording his retirement from her Majesty's service, refrain from just referring to the fact that many important improvements in the various preparations of the Pharmacopœia are due to his practical skill and industry. Some of his own preparations, and especially his extracts, have almost a world-wide fame. The extracts of the London Pharmacopœia were entirely remodelled under his superintendence, and now the extracts of the British Pharmacopœia are made according to his processes—that is to say, mainly *in vacuo*. He rendered real and great service to the profession by the production of his "Companion to the Pharmacopœia." From the moment of its first appearance it has commanded the attention of the profession; it is met with everywhere; and the great number of large editions it has rapidly passed through attest the high value and favour with which medical men regard it. Let us add a word on our own behalf—that is, on behalf of our profession. To medical men Mr. Squire was ever most liberal, most painstaking. If there was a new remedy to be tried, Mr. Squire would get it for you, and would take the greatest interest in the investigation. Was a new or more accurate preparation of any drug wanted, Mr. Squire would put all the resources of his establishment at your service, and when you came to ask for the bill—well, there was nothing to pay.

THE CONVOCATION OF THE UNIVERSITY OF LONDON.

At a recent meeting of the Standing Committee of Convocation of the University of London, the following motion was adopted by fifteen against seven:—"That the Annual Committee request the chairman to summon an extraordinary meeting of Convocation at as early a date as may be convenient, with a view of considering how far the constitutional privileges of Convocation have been superseded by the Senate in adopting a permissive Act of Parliament by which the constitution of the University would be materially altered, without consultation with Convocation." A large number of the graduates contend that by the charter of the University the Senate are not entitled to make any decided change in the constitution of the University without the sanction of Convocation; and that the Senate have acted contrary to the spirit of the charter in availing themselves of the permissive Act of last year, under the provisions of which any of the medical licensing bodies might, if they think fit, admit women to examination; but were in no sense compelled to do so. The question in dispute between the Senate and Convocation will not now be that of the admission of women to degrees, but the more important one, the privileges of Convocation.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.

At a quarterly court of the directors of the Society, held on Wednesday, July 11, the President, Sir George Burrows, Bart., in the chair, a sum of £1324 10s. was distributed among sixty widows and thirteen orphans. The new grants made at the meeting amounted to £172 per annum. Three widows and one orphan were admitted as recipients of grants. Two new members were elected. The deaths of five members were reported, that of Mr. George Cooper, Vice-President, being one of the number.

HOSPITAL FEES IN DUBLIN.

At an adjourned meeting of the clinical physicians and surgeons of the Dublin hospitals, held at the King and Queen's College of Physicians on Monday, July 23, Dr. C. J. Nixon, one of the honorary secretaries of the movement to increase the hospital fees, reported that the honorary secretaries to the medical boards of the following Hospitals had agreed, on behalf of their respective boards, to adhere strictly to the terms of the proposed new scale on and after October 1, 1877—viz., the City of Dublin, Meath, Sir Patrick Dun's, Mercer's, Steevens', House of Industry, Mater Misericordiæ, St. Vincent's, and Jervis-street Hospitals. The Adelaide Hospital agrees to the scale, but not to the arrangement made with regard to the method of payment of the perpetual pupils' fees. The new scale is as follows:—For the winter (six months), eight guineas; summer (three months), five guineas; winter and summer sessions (nine months), twelve guineas; for perpetual pupils, thirty guineas. Perpetual pupils are required to pay at least half the fee on entrance. Pending final arrangements the meeting was again adjourned.

"GO YE AND DO LIKEWISE."

The following is from our "inestimable" contemporary, the *Home Chronicler*:—

"We wish every clergyman would follow the example of the Rev. J. Strickland, B.D., who, having made a collection on Hospital Sunday, refused to hand over the money until he had received a positive assurance that no hospital, within whose walls vivisection is carried on, or abetted, should receive a single penny of it. This pledge was readily given; and we were glad to see another 'sign of the times' in an advertisement that appeared on the front page of the *Times* last week:—'*Vivisection*.—In reply to numerous inquiries, I am instructed by the Committee to state that vivisection is never practised at the Metropolitan Free Hospital.—Geo. Croxton, Secretary, 81, Commercial-street, Spitalfields, E., June 26, 1877.' The 'Metropolitan Free Hospital' must not be confounded with the 'Royal Free Hospital,' in the Gray's-inn-road, which has not made a similar declaration."

The whole performance is so lovely that it deserves—what shall we say?—at all events a slight notice in our columns. The Metropolitan Free Hospital is in such sweet odour with the profession that it can afford to do anything; but nobody ever supposed that either the authorities or the officers would indulge in vivisection (so-called) within its threshold. The arrangements for post-mortem examinations have been so good that it must be quite unnecessary to indulge in vivisection within its walls. But let the reader read. We are quite sure that it must be a great pleasure and satisfaction to those connected with the Royal Free to be thus carefully separated from their immaculate brethren of the Metropolitan Free Hospital.

ANOTHER "BON MORCEAU."

This *Home Chronicler* is really too good! We fear it would exhaust our readers should they attempt to read it in its length and breadth, but we hardly think that select extracts administered cautiously now and again will do much harm. Well, then, for one more quotation:—

"The election of three members of Council by the Fellows of the College took place on Thursday. The Editor of *The Home Chronicler*, who is a Fellow (by examination), appended the following memorandum to his voting-paper:—'I regret that I feel myself compelled to withhold my vote from Mr. Erichsen. I will not support a candidate for the Council of the Royal College of Surgeons of England who is identified, as Mr. Erichsen is, with the practice of Vivisection.'"

We have been most cautious; we have run through in our mind all the most important Fellows (*by examination*, mind you!—none of your mere respectabilities), and our intellect has got confused. Jenner, Paget, Gull, Prescott Hewett, George Pollock, Hancock, Risdon Bennett, John Hilton, Quain—in

fact, all the names of those most eminent in medicine and surgery,—it could not possibly be that of any secondary luminary! —Oh, it is quite clear we are wrong, they have got mixed up. Could it be that Erichsen is the man after all, and that he has in this base way advertised himself as Editor of the *Home Chronicler?*

HEALTH OF H.R.H. PRINCE ALBERT VICTOR.

The course of the fever under which H.R.H. Prince Albert Victor is suffering has during the past week been favourable. The symptoms have been but moderately severe.

MEDICAL PARLIAMENTARY AFFAIRS.

Science and Art.—Mr. Chamberlain drew attention to the expenditure for the promotion of science and art, contending that the grants should not be exclusively confined to institutions in London, Edinburgh, and Dublin. He was anxious to see established in every one of our great cities a museum devoted to the art and manufacture appropriate to the district. These institutions were much appreciated by the public generally, and he thought that a portion of the money for which they were taxed ought to go to towns in the provinces. Lord Sandon said that large grants from the public funds were voted yearly for the purpose of loan supplies of art treasures to provincial museums. He reminded the House of the advantage of keeping collections in the large centres of population, in contrast to distributing rare specimens among various local museums. By the present arrangement all may in a short visit to London, etc., see much more than by travelling about to smaller towns for this purpose.

Public Health.—Foremost among the measures doomed for the current session to be thrown overboard is the Public Health Bill for the metropolis. Mr. Sclater-Booth on Thursday, the 19th, informed the House that he must withdraw the Bill for the present Session. This Bill, he said, was prepared last year, at the instance of the Statute-Law Revision Commissioners, in order to supplement the work done by the Consolidation Act of 1875, which put together the substance of thirty Acts of Parliament, so far as they applied to the country at large. This year certain provisions had been added to the Consolidation Bill that experience had shown to be desirable. Many of the local authorities within the metropolis, however, objected to the consolidation of the existing laws, and hon. members representing metropolitan constituencies were not satisfied to allow the Bill to proceed unopposed. His only object had been to introduce a measure of consolidation, but, under the circumstances, he felt it would be better to withdraw this Bill for the present session. If he were to re-introduce a Bill on this subject, he could not bind himself to make it merely a consolidation Bill, but he would feel it to be his duty considerably to amend the sanitary laws so far as they affected the metropolis.

The works at the projected "Hygieopolis" or City of Health, at Courtland, near Worthing, will probably be commenced in the autumn. The architect and engineer are both busily engaged on the plans, and estimates will shortly be obtained for making the roads and parade, and for erecting the pier and protected bathing areas.

Thermo-Cautery in Lithotomy.—Thermo-cautery seems now to be the order of the day in Paris. At a recent meeting of the Société de Chirurgie, M. Verneuil stated that he had employed it in three cases of lithotomy with advantage. It is used, however, not for effecting the operation itself, but for the performance of its preparatory stage in order to discover the urethra more easily. Its employment, which is extremely easy, facilitates this very much, while it prevents urinary infiltration. Sometimes, however, a fistula persists for a long time—viz., for seven weeks in one of these cases, and three months in another. M. Anger observed that the track caused by the thermo-cautery is a very clean one, and greatly facilitates the penetration of instruments into the bladder. The incision should be made by rapid strokes, which are to be followed by irrigation with cold water. In his case, although the wound did not cicatrise for thirty days, no urine had escaped after the tenth or twelfth day. The *passage* of urine over the wound, it is true, is not dangerous, but under the ordinary mode of procedure the different planes of the perineum are retracted irregularly, and *stagnation* of urine taking place, infiltration, or at the least maceration, of the wound may occur.—*Gaz. des Hôp.*, July 21.

THE LOCAL GOVERNMENT BOARD AND ASSISTANTS AT CAPITAL OPERATIONS.

The following letter has been addressed by the authorities to the Secretary of the Poor-law Medical Association:—

"Local Government Board, Whitehall, S.W.
July 17, 1877.

"Sir,—I am directed by the Local Government Board to state that they have had under their consideration the grounds stated in your letter of May 10 last, upon which the Council of the Poor-law Medical Officers' Association base their application for the issue of a general order fixing the remuneration of medical practitioners called in to assist Poor-law medical officers in performing capital operations.

"The Board have very carefully considered the representations contained in your letter; but, as at present advised, they do not think that sufficient reasons have been adduced to render it expedient to alter the existing regulations on the subject.

"The circumstances connected with each of the capital operations referred to in your letter are, in practice, so different as to render it impossible to lay down a fixed scale of remuneration, such as would be just alike to the medical practitioner and to the ratepayer. Moreover, the Board consider that it would be undesirable to encourage the performance in the dwellings of the poor of such serious operations, sometimes involving danger to life, as those referred to. When operations of this nature are performed at the pauper's house, neither the constant care and nursing, nor the means and appliances for carrying the operation to a successful issue, can as a general rule be provided.

"For the comparatively few exceptional cases in which it is absolutely necessary for the district medical officers to perform capital operations, and for the right means of dealing with such grave contingencies, the law and the regulations of the Board, as has been already pointed out, appear to make sufficient provision. "I am, Sir, your obedient servant,

"(Signed) H. Owen, Jun., Assistant Secretary.

"To J. W. Barnes, Esq., F.R.C.S.,
"Hon. Sec., Poor-law Medical Officers' Association,
"3, Bolt-court, Fleet-street, E.C."

NOTES ON THE

SANITARY STATE OF MOORISH TOWNS, AND ON THE CLIMATE AND DISEASES OF MOROCCO.

(*From a Correspondent.*)

Fez, June 27.

The opportunity of visiting the Moorish cities of Fez and Mequinez under favourable circumstances seldom presents itself. Your correspondent, therefore, gladly availed himself of the departure from Tangier of a Portuguese Embassy, of which he was appointed physician, to congratulate the Sultan on his accession to the throne. A short account of the experience gained, from the medical standpoint, will perhaps interest your readers.

One thing must at once occur to the mind of the medical observer in Morocco. If there is any truth in the influence of sanitary arrangements on the public health, how is it that health is preserved at all in the Moorish towns? Take, for example, this capital. Fez is a town of about 45,000 inhabitants, surrounded by high walls. So narrow are the streets that in many of them it would be impossible for two people to walk abreast. Even the principal streets in which business is conducted are not more than ten feet wide. Owing to the height of the houses, many of which are of three storeys, and the practice of covering the street on a level with the first storey with reed roofs, and often with vines, the rays of the sun never reach the streets, except here and there in some more open spots. The consequence of this is that the inhabitants of Fez—hardly ever exposed to the sun—are a comparatively light-complexioned race of Moors. Many, indeed, present a pallid etiolated appearance. The shops are mere cells, placed about five feet from the ground, and in these the

owners sit crouched up the whole day, waiting for customers. The walls of the houses and shade-roofs spoken of are covered with dust and festooned with cobwebs.

The streets are rarely swept, and bad smells are prevalent. It is noteworthy, however, that one never experiences the smell of sewage. The reason is not far to seek: Fez, like other Moorish towns, possesses a system of drains and an abundant and continuous water-supply. Every house of any pretensions is provided with a fountain in its courtyard, by which the drains are constantly flushed. Moreover, there is no communication between the streets and the sewers. The surface-water finds its way out of the streets by other channels. The closet is usually placed just inside the street entrance of the dwelling-houses, and too often makes its presence known by a vile smell. But it is, no doubt, due to the abundance of water that the bad effects of sewage fermentation are not severely felt, since the sewers open only into the houses. In proof of the absence of epidemic diseases, it may be mentioned that whereas, since his arrival in Morocco, your correspondent has been consulted in hundreds of cases, none of them except one was a case of fever, or indeed of acute disease. And in the case of the exception the remittent fever seemed to be the revival of a previous attack contracted at Jaffa. It occurred here in the person of a Jewish priest, on a mission from Jerusalem to his brethren in Morocco. Outside certain of the city gates there is a vast accumulation of rubbish, consisting amongst other things of vegetable and animal offal—dead dogs and cats, and even dead horses. The stench from these is very bad, yet the people living in the neighbourhood do not seem to suffer in health.

The drinking-water of Fez is procured from a river which flows by the town, and which receives its drainage subsequently. This water almost invariably induces diarrhœa in strangers. The members of the Spanish and German Embassies, which immediately preceded us, suffered severely from this cause. At your correspondent's suggestion, the drinking-water used by the Portuguese Embassy was conveyed from a source at a considerable distance, and we escaped almost entirely. The only casualty which has hitherto occurred to the Embassies was to a servant belonging to the German Embassy, who died from the effects of a sudden escape of the vapour of ammonia from an ice-making machine.

The journey to Mequinez, a distance of about 160 miles from Tangier, was performed by easy stages, as the weather was very hot—in one place the thermometer stood at 100° Fahr. in the tents; and it is worthy of remark that on arriving at Fez (about thirty-five miles from Mequinez), where we encamped outside the walls by the river's side, almost all our party of about 150 persons—Moors as well as Europeans—were attacked by catarrhal symptoms which continued some days.

There can be no question about the healthiness of the climate of Morocco, notwithstanding the great heat of summer in the interior of the country. And yet, unfortunately for the peace of mind of the European medical man, he is sure to have a larger practice amongst the natives than he desires. As soon as it becomes known that a *tabeeb*, or doctor, is amongst a travelling party, his fame travels before him. From this it generally happens that on arriving at a stopping-place the doctor alone is compelled to exert himself, while his companions are taking well-earned rest. The *clinique* of your correspondent was often extensive, and a few deductions and observations from notes made from time to time will probably be of interest.

It is certain that phthisis is very rare in Morocco. Three cases only were met with; one was that of a man who seemed to have contracted it from a rigorous imprisonment of thirteen years at Mequinez. This is the more remarkable, because scrofula in its external forms is not uncommon in children. Bronchitis is not unfrequent, and the same may be said of chronic rheumatism. No case of acute rheumatism was met, and diseases of the heart appear to be unusual. Dyspepsia, often of a severe kind, is exceedingly common, and is to be attributed to the voracity with which the Moors devour their *kuscusoo*, and, amongst the better classes, to the practice of drinking very hot, very sweet, and very strong green tea several times in the day. Cases of diabetes were also seen. The Moors lay great stress on fatness in their wives and concubines; and the ladies who have the misfortune to be thin form a large proportion of those applying for medical aid, with the hope of being able to attain the proper *embonpoint*. Barrenness is a frequent subject of complaint, and in the case of old men increase of virile power to a most unreasonable extent is also demanded. Skin diseases are very common, especially of the scaly class. But leprosy, which prevails in the city of Morocco, seems not to be indigenous at either Fez or Mequinez. A curious skin affection was met at Mequinez; it was that of a young man, a Jew, the cuticle of whose palms and soles had long continued to be shed in large thick flakes, as sometimes occurs after scarlet fever. He denied having had syphilis. Notwithstanding that the heads of all young males are invariably kept more or less closely shaved, scurfy ringworm (*tinea tonsurans*) is so prevalent that it may be safely said to be universal amongst children. Its commonness prevents its being regarded as worth interfering with; and one is never asked to prescribe for even the worst cases. After puberty it wears out, and it is rare to see an adult affected. Ophthalmia of a virulent and (most likely) highly contagious kind is frightfully common. Flies, which swarm everywhere, may be seen crowding round inflamed eyes, the owners of which are too indolent to be at the constant trouble of driving them away. These insects are probably a constant means of communicating the disease. The number of people who have lost an eye one meets is remarkable, and besides these there is a larger number affected with opacities of the cornea in one or both eyes. Except in the case of beggars, the totally blind are not much seen in the streets. Another thing which calls the attention of the observer is the number of people who have lost noses. This, of course, points to the prevalence of syphilis. Notwithstanding the jealous way in which women are guarded in Morocco, prostitutes, Moorish as well as Jewish, exist in all the towns, and syphilis prevails among them. In the absence of all proper treatment, the ravages of the disease are very marked.

The state of medical jurisprudence amongst the Moors may be judged of from what follows:—A young negress died suddenly in the Royal harem, and your correspondent was sent for by the Sultan to investigate the cause of death. All that could be ascertained was that the girl was in good health on the morning of the day she died, and that there were no marks of violence about the body. Particular attention was requested to be given to the neck in reference to strangulation. But the great point to be determined was whether poison had been used. This, it was supposed, one could determine by inspecting the tongue. It was in vain that an examination of the interior of the body was requested. The Sultan would not sanction a thing so contrary to Mohammedan prejudice. The cause of death remained therefore a mystery. It is more than probable that poison—in the use of which the Moors are skilled—was employed. But great caution was necessary, lest even an expression of suspicion might cost some possibly innocent persons the loss of their heads.

The American Medical Association and Total Abstinence.—In his address as President of this body, Dr. Bowditch, of Boston, at the recent meeting at Chicago, proposed that in future total abstinence from all intoxicating liquors should be observed during their annual meetings. He justified this extraordinary proposition on the following grounds:—"It seems to me that every one of us, even if he disagree to the proposition of total abstinence, and regards a prohibitory law as simply impossible, would be willing at these meetings to forego the use of any stimulants, for the sake of not leading some weaker brethren into mischief, and because such a position, taken by this great Association, would have a most important, though indirect, effect on the noble cause of temperance throughout the land. I would submit, therefore, whether we, as a body of physicians believing in a true temperance, although varying in our views of what that may mean, should not declare that hereafter we will respectfully but decidedly decline any public or private entertainment, for our whole body, where intoxicating drinks are to be offered." Respecting this singular proposal, the editor of the *Boston Medical Journal* (June 7) observes—"The proposal to forbid the use of any intoxicating drink at all social gatherings in which the members of the Association take part somewhat surprises us, for we had looked on Dr. Bowditch as the apostle of beer and light wine—of temperance, in a word, as opposed to prohibition. (He has written some excellent papers to this effect.) It seems to us that the best example that the Association can set is that of moderation in conviviality, and that if it cannot partake of wine without such a display as was witnessed in Boston in 1865, it is a conclusive proof that the Association is not formed of the proper material."

FROM ABROAD.

Teaching Pathological Anatomy.

M. Cornil, in a recent number of the *Journal des Connaissances Médicales*, of which he is the editor, thus describes the mode of teaching pathological anatomy employed by the newly appointed Professor, M. Coyne, at Lille:—

"We have several times spoken of the teaching of pathological anatomy and autopsies, and shown how in that respect our institutions are behind those of Germany, Switzerland, Italy, and all the countries of the North. We must, however, make an exception as regards the teaching adopted at the State University recently established at Lille; and we beg leave to initiate our readers in the mode of procedure adopted by Dr. Coyne, Professor of Pathological Anatomy in the Medical Faculty of that University. On accepting the chair which was offered him, he stipulated for the right of making the autopsies in the clinical services. He well knew that a merely theoretical course of lectures could not impart complete instruction or even prove interesting, and that demonstration and the technical teaching of autopsies must constitute an essential part of his functions. He, moreover, felt convinced that he ought not to confine himself to the delivery of the three hours per week regulation-lectures during one-half of the scholastic year; but that, besides his lectures, he owed it to himself and the students to continue throughout the year, in the post-mortem theatre and in the laboratory, the practical demonstration of the subjects relating to his speciality.

"In order to fulfil this programme, Prof. Cornil, who has no clinical service, attends at the hospital amphitheatre every morning, and makes the autopsies himself before the pupils, dictating the particulars, which are inserted in a special register,—the results of ulterior examination of parts selected during the autopsy being inserted opposite the general account. The whole statement is placed at the disposal of the Clinical Professor, who, on his part, supplies a note relating the case. After the autopsy, which is accompanied by practical comments of the greatest utility to the students who are present, the portions which require histological examination are put aside. This demonstration continues for a longer or shorter period, according to the number of autopsies that have to be made. About one o'clock the Professor repairs to the laboratory, and describes to the students following the laboratory practice the various parts which have been reserved from the morning. These parts are distributed among the pupils, who make preparations under the direction of their teacher. About four o'clock, just before breaking up for the day, the Professor goes round to each pupil, and examines the work they have done, and places some two or three of the preparations under the microscopes, explaining them by the aid of sketches on the board. This instruction is to be pursued daily throughout the year; and during the winter session, in his formal lectures delivered at the Faculty, the Professor endeavours to render his instruction as fruitful as possible, by exhibiting and demonstrating fresh specimens at the end of each lecture.

"This we do not hesitate to affirm," M. Cornil concludes by stating, "is the best, and, we might add, the only, manner in which pathological anatomy can be taught."

Diagnosis of Diabetes.

In a clinical lecture upon this subject (*Gaz. des Hôp.*, May 22), Prof. Hardy, after narrating the particulars of a case of diabetes, made some useful practical observations upon the signs by which it may be recognised. Some thirty years ago he observed that almost the only physical characteristic relied upon was the sugary taste of the urine; but since then the progress of science has enabled the practitioner to dispense with this procedure, chemistry having placed at his disposal a number of means, of which the most simple, which are also those most employed, may be mentioned. First, there is caustic potash, either in solution or in granules or solid fragments; heated with urine containing sugar, it immediately produces a more or less yellow or brown colour, the intensity of which is proportioned to the quantity of sugar. This is an excellent procedure, which Prof. Hardy prefers to all others, and which enables extremely minute traces of sugar to be detected. Another method consists in adding to the urine a small quantity of bismuth, potash, or carbonate of soda, when a black colour indicates the presence of sugar. Barreswill's and Fehling's solutions of copper, from which sugar precipitates the copper, are not always at hand; and another procedure which has been recommended to country doctors is the employment of pieces of wool, which have previously been dipped in a solution of bichloride of tin. If one of these be placed in the urine while it is heated, a black colour is produced, which is due to the precipitation of the tin. But this is a defective procedure.

In order to be induced to examine the urine for sugar, our attention must have been drawn to some of the circumstances indicative of diabetes. This is, indeed, a disease which is often overlooked, so that the patient may suffer from it a long time before either he or his attendant suspects its existence. Still, there are indications which ought to arouse the attention of the intelligent practitioner, some of which have been wrongly called fundamental, the others only being met with from time to time. The fundamental characters are five in number—viz., glycosuria, polyuria, polydipsia, polyphagia, and autophagia. There is only one of these that can justly be called fundamental—glycosuria,—as the others may be absent, or only so slightly marked as to escape observation. The presence of sugar in the urine is revealed by many indications. We may often recognise it by greyish patches on the clothing or linen, which are reduced to powder when scratched with the nail. In women the chemise, from prolonged contact with the urine, may become spotted and stiffened as if by drops of syrup. Another circumstance indicating the sugary savour of the urine, especially in the country, is the great number of flies or ants that will be attracted around the vessel containing it. As to polyuria, it must not be thought an easy matter to decide when a patient passes more than the normal quantity of urine, for it is very rare for him to complain of this, so that we may be led to the suspicion of diabetes only by his frequent retirement to pass urine. Polydipsia is a very important sign, concerning which patients often say nothing unless interrogated. We then learn that they are constantly thirsty, and especially at night. Persons who cannot go to bed without a bottle of water at their side are almost always diabetic. Although polyphagia exists to a very great extent in diabetics, it is not a fundamental sign, as some of them have an invincible repugnance for food. Persons who are called "great eaters" not infrequently become diabetic. Autophagia is shown by muscular debility, emaciation, and anæmia, which are observed in most diabetics. Indeed, whenever an individual manifests this condition without any cause discoverable in the condition of the organs, on examining his urine it will almost always be found to contain either sugar or albumen.

Besides these signs, there is another observed in the patient the subject of the lecture, of great diagnostic value—viz., genital impotence, which is one of the first signs of approaching diabetes; and whenever individuals are met with who, previously virile, become weak and impotent without coinciding disease, especially of the spinal marrow, diabetes will usually be found to be the cause. Then, again, valuable information is derivable from the mouth, for besides the insatiable thirst and dry mouth, some patients complain of a disagreeable taste, which is sometimes acrid, and at others faint or bitter or sugary; and it is this perverted taste which contributes to maintain the thirst. It must not, however, be thought that the taste of sugar, complained of by some diabetics, is a constant thing, for, on the contrary, it is that which is most rarely met with. The mouth also frequently exhibits an aphthous condition, while the edges and tip, and even the whole surface of the tongue, may present a red aspect, as if the aphthæ had been removed. The gums also are often softened, fungous, or bleeding; while in some the teeth become loose or fall out without being decayed, and in others become carious. The breath is frequently of a bad, acid smell, and the saliva on examination is acid instead of neutral. Another fact which is not much known, and which has sometimes led to the diagnosis, is the existence of intertrigo at the commissure of the lips. This intertrigo labialis is not exclusively connected with diabetes, but when met with should always lead to an examination of the urine. With regard to the digestive organs, bulimia on the one hand, and

a complete repugnance for food on the other, with dyspepsia, should lead us to suspect diabetes. The skin also presents some valuable indications, most diabetics having it very dry, with an absence or singular diminution of transpiration. This is, however, only observed when the diabetes is advanced and there is a considerable quantity of sugar in the urine. This is not the case with furuncles, which may recur eight or ten times in the course of six months; and with these may be mentioned anthrax, affecting the nape and other of the upper parts of the body—which is very common in diabetes. There is also an eruption peculiar to these patients, a gangrenous ecthyma, which appears on the legs, and is characterised by more or less considerable pustules, which are surrounded by a gangrenous circle. The pustule breaks, and the eschar falls, leaving an ulceration. But a much more important occurrence is the diffused phlegmon which supervenes on the slightest cause in diabetes, and frequently proves fatal. Spontaneous gangrene, chiefly occurring on the upper limbs, has long been a sign by which the existence of diabetes has been indicated. There are other cutaneous affections, which are much less known, and which are yet of importance, as their presence alone has often led Prof. Hardy to the diagnosis of diabetes. Thus, in women, there may be pruritus of the genital organs, which is accompanied at first by a kind of redness around the meatus, the erythema gradually extending to the labia, the entire vulva, the groins, and often over the whole belly. "It has happened to me to diagnosticate diabetes pretty frequently in women by the existence of erythema in the supra-pubic fold. In such cases, whether the redness exist alone, or is accompanied by a slight transpiration, always examine the urine. It is an almost constant sign of diabetes. The knowledge of the fact is of interest, because it is a means which, although indirect, is certain of arriving at a diagnosis. It has been sought to explain this occurrence by the contact of the parts with the saccharine urine, but I have seen the affection occupy regions of the body which the urine never approached. I have seen this eruption, in fact, between the two breasts, in the armpits, behind the ears, and at the commissure of the lips. There is, then, some peculiar condition of the economy and of the blood characterised by this eruption, as also by the insupportable itching which accompanies it. These phenomena do not exist only in women, as analogous ones are observed in men. Thus we observe affections of the glans and prepuce, especially when this is somewhat long. Between these there is a purulent secretion, a peculiar balano-posthitis, which induces extremely distressing itching. So also the glans may, although rarely, become the seat of a special phenomenon, a kind of greyish-white thick pseudo-membrane covering the whole or part of the glans. Frequently, also, we may observe an erythematous inflammation of the scrotum, and especially a pruritus analogous to, and in all respects comparable to, the vulvar pruritus."

As other signs of diabetes we have also affections of the eye. A variety of soft cataract is, in fact, proper to this affection. It is also often accompanied by amblyopia, due to changes in the optic papilla, deposits in the retina, etc. Lastly, in certain diabetics, intense neuralgic pains have been noticed, which are more persistent than those ordinarily observed. These pains especially manifest themselves in the calves, and in the articulations of the foot. They are prolonged sometimes for months; and if in cases of obstinate neuralgia the urine is examined, sugar will frequently be found to be present.

"Such are most of the principal signs," Prof. Hardy concludes, "which may reveal the presence of sugar in the urine. There are some among them which may seem to you at first insignificant; but still, they have a very great value if you know how to apply them. In these cases, the physician in face of his patient resembles the *juge d'instruction* in presence of the criminal: he seeks for indications on every side, and invokes the means to put him on the true path. Here the crime is diabetes, and the urine is the criminal. Search about, then, for indications in this direction, sometimes even for the slightest, adding one to another, and, especially if you take care to examine the urine, they will lead you to the diagnosis. Lastly, recollect this well—that of all diseases which are overlooked, diabetes is the most common, although its history has been written so long ago. There are cases, indeed, in which it may be unrecognised, where the disease conceals its symptoms; but it is in such cases that we find the sagacity of the physician brought into play, and that he ought to know how to profit by the slightest indication in order to enable him to establish his diagnosis."

REVIEWS.

Fownes' Manual of Chemistry, Theoretical and Practical. Vol. I. Physical and Inorganic Chemistry. Twelfth Edition, revised and corrected by Henry Watts, B.A., F.R.S., etc. London: J. and A. Churchill. Pp. 551.

Take it all in all, there is no book of chemistry like Fownes's, and it has certainly lost nothing under the editorship of Mr. Watts. It is in every way up to the time. We think the publishers have done well to divide the work into two separate parts, each complete in itself. The work thus gains decidedly in compactness and convenience. In itself it needs no commendation.

St. George's Hospital Reports. Edited by W. Howship Dickinson, M.D., F.R.C.P., and Timothy Holmes, F.R.C.S. Vol. VIII. 1874-6. London: J. and A. Churchill. Pp. 580.

The present volume of these reports has been so long delayed that we had almost fancied they had ceased to exist; even now, when they appear, we miss the names of several old and esteemed contributors. Nevertheless, the present volume contains some admirable matter. Let us cite Barnes on Retro-Uterine Tumours, Blandford on Nerve Degeneration, Clifford Allbutt on Menière's Disease, Holmes on Amputations, etc. The volume is, however, richest as regards the Annual Reports of the Registrars. Here, in a compact space, are collected a vast number of facts available for comparison and reference. The volume is very well worthy of attention, and is invaluable for reference.

Traité du Microscope et des Injections. Par Ch. Robin, Membre de l'Institut. Deuxième edition. Revue et augmentée. Paris: J. B. Baillière et Fils. 1877. Pp. 1100.

Treatise on the Microscope and Injections. By Ch. Robin, Member of the Institute. Second Edition. Revised and augmented.

M. Robin states in his preface that though but a few years have passed since the first edition of his book was published, the march of scientific microscopy has been so rapid that important alterations and additions have had to be made to this new edition. The principal alterations concern what he calls "technical micrography."

The volume is divided into three parts. In the first part, the construction of microscopes is exhaustively treated of, and it embraces the productions and peculiarities, *quâ* the microscope, of England, France, America, Germany, etc.; also descriptions of all the accessory apparatus, and the methods of using it, of microtomes, and, indeed, of the whole mechanical art of microscopy. Part II. points out the application of microscopy to anatomy, physiology, medicine, natural history, chemistry, and agriculture. It is, indeed, in this part of the work that the chief changes and additions have had to be made; it now forms more than one-half of the entire book, and embraces a very large field of work. The student or practitioner will find this chapter of the greatest value, including as it does instructions for the microscopic examination of the blood, bile, saliva, urine and urinary deposits, and fæces, as well as of parasites of all kinds, human as well as animal. Part III. treats of the subject of the manipulative part of microscopy, and especially of injections. The whole book is richly illustrated with figures, the execution of which deserves our highest commendation. We have thus given a sketch of the general plan of the work; it is a perfect encyclopædia of microscopy, and for the advanced student a work which is almost indispensable to his laboratory. For beginners it is decidedly too bulky, and contains too many methods to be of much service. There is an "*embarras de richesses*," which, while it delights a man who knows his subject practically, simply overwhelms a learner. The optical part of it, enriched with figures, is very well done, and very clearly expressed, and cannot fail to interest all who read it. We notice in the chapter on the hardening of objects ready for cutting, that the obsolete method of coction is still retained, and that the still more useless plan of desiccation finds a place. One of the chapters with which we are least pleased is that on making sections. Here it is that the variety of methods already alluded to renders selection of the proper one too much a matter of chance. There is a little too much taken for granted. Thus,

when speaking of cuttingvery delicate structures (we venture to think that all structures ought to be considered and treated as delicate), our author says, "It is seized with the fingers of the left hand, and the required sections are made by drawing the razor with its edge turned towards one, or otherwise, *according to circumstances, and the nature of the organ.*" The italics are our own: we would ask, How is a beginner to know the circumstances which require that the blade shall be turned towards him or from him? Indeed, we are quite at variance on this point: some operators cut from, while others cut towards, themselves. It is a matter purely of accident which method is adopted; but whichever way one begins with, it is probably used irrespective of the material to be cut. We should have been pleased to see the use of the microtome more generally advocated. There can be no doubt that by its aid time is saved, the art of cutting sections is more quickly attained, the sections are more uniformly thin, and they are larger. In pathology the size of a section is a matter of some moment; for it is necessary, in order rightly to appreciate the diseased part, to see it side by side with the healthy structure, and to study also the boundary-line between the two. On these, among other, grounds we strongly advocate the use of the microtome; like everything else, however, it requires practice. The chapter on micrometry is ample and clearly written. This is a subject which is often left out of such books, though it is one of the very greatest importance. We cannot go further into the book. Enough has been said to show its scope, and the manner in which the author's task has been accomplished. The book is exceedingly well got up, and does credit to the well-known firm of publishers by whom it is issued.

The Treatment of Spina Bifida by a New Method. By James Morton, M.D. Glasgow: Maclehose. 1877. Pp. 120.

Writers on spina bifida for the most part state that the tumour is covered by healthy skin, but Dr. Morton finds that in the majority of cases the skin has been more or less altered; usually it is much thinned, and hence translucent. This is our own experience also. Indeed, in many cases the skin has been so thin as to give rise to the fear of immediate rupture. The sac may be said to consist of the membranes of the cord; its neck is formed by an opening, the result of non-union in the laminæ and spinous processes of one or more vertebræ. The contents of the sac are—first, the spinal or subarachnoid fluid, an albuminous liquid, more or less watery, alleged by some to contain a saccharine substance; second, a portion of the cord itself, or cauda equina, or some of the spinal nerves. In dorsal cases the cord usually projects in the form of a curve into the sac, and usually this projection is in the middle line, and closely applied to the back of the sac. Having thus described the nature and anatomy of this peculiar malformation, our author passes in review the various kinds of treatment which have been suggested and tried. He says, "Operations may be either palliative or radical. Among the palliative may be named pressure, although the name of operation can hardly be applied to it, which has been proposed to be gradually and cautiously applied. We have heard of no good result from it, and fear it would be likely to hasten the bursting of the sac, and the mischief invariably attendant upon this. Repeated tapping with a fine trocar, followed by pressure, is said to have been followed by two successes in the hands of Sir Astley Cooper." Attempts at radical cure have been made by ligature, excision, and injection. The first of these methods is almost invariably fatal. As regards excision, Dr. Morton says, "With the knowledge now possessed of the anatomy of this malformation, surely no one would think of excising the sac; and yet we are told that it has had a few successes." Injection is obviously the treatment least open to objection; and it is the one which has been most frequently resorted to, and the most successful. Our author has placed it last on his list, because he has most to say about it. His "new method" is itself injection of an iodine solution. The fluid is also new, and he calls it "iodo-glycerine solution"—so named from its component parts. It consists of iodine gr. x., pot. iod. gr. xxx., glycerine ℥j. The main points in this treatment are—"the prevention of the continuous loss of the subarachnoid fluid, which must be regarded as essential to the integrity of the spinal cord, and a necessary part of the contents of the spinal canal," and the employment of a fluid of less diffusibility than usual for injection; and he advises the use of a medium-sized trocar and canula, on account of the thickness of this fluid. It will be seen that Dr. Morton insists on three points chiefly—the prevention of the loss of spinal fluid by the application of collodion or otherwise; the withdrawal only of a portion of the contents of the sac at one time; and the use of the iodo-glycerine solution. Dr. Morton's book contains, in the concluding chapter, statistics of the operation to the present time. The statistics of the cases subjected to this plan of treatment, so far as known or recorded, are these:—Fifteen cases in all, of which twelve have been successful and three unfortunate. All his own lumbar cases have been fortunate. Of the three cases which died, one was the case of a child hopelessly deformed and paralysed—a class of cases as yet completely beyond the resources of our art; another died from causes altogether unconnected with this special deformity; while in the third case it was not conclusively ascertained whether it was a true case of spina bifida, or a case of encephalocele, situated, as it was, high in the cervical region. Thus it will be seen that none of the three fatal cases died from the operation. Such figures speak for themselves, and best tell their own tale. The book is very suggestive, and we hope the success which Dr. Morton has had may induce others to try this "new method," for the invention of which Dr. Morton deserves no little credit, the treatment of spina bifida having hitherto been a very thankless task.

Diseases of Women. By Lawson Tait, F.R.C.S., Surgeon to the Birmingham Hospital for Women, etc. London and Edinburgh: Williams and Norgate. 1877. Pp. 304.

There are few branches of medicine our knowledge of which is more modern than is that of gynæcology; there is, therefore, much to be written about it. In the great work of Dr. Barnes we possess a book which represents the present state of science in this department, but the size and fulness of which make it a volume ill-suited for the average student. For such we want a book clear enough to be readily understood, brief enough to be quickly mastered, and yet complete and accurate.

Judging from its size, and from some advertisements which have appeared, the book we are noticing seems designed to supply this want. It is a work which treats of the diseases peculiar to women from the point of view of the practical surgeon. Anyone who opens it expecting to find a careful summary and comparison of different theories as to pathology and modes of treatment, will, however, be disappointed. But anyone who wants to know what Mr. Tait has seen, what his opinions are, and what is his practice, will find all this dogmatically stated. The diseases which it describes are arranged strictly according to locality. Mr. Tait begins at the mons veneris, and ends at the pelvic bones; and as he writes upon each part, he puts down his recollections of the different sorts of disease he has seen in it, and the treatment which he thinks has done them good. Of the pathology and the natural history of the diseases of women, of their relations to one another and to derangements of other parts of the organism, we find very little. Nor, when the author puts forth opinions not identical with those generally accepted, do we find any exposition of his reasons for doing so, except that sometimes he refers to work of his own published elsewhere.

The distinguishing merit of the book is its originality and its practical character. The subject is considered from an independent standpoint, and the exigencies of practice are always kept in mind. We find a description (the first we have seen, and certainly the first at all full account yet given) of that curious affection of the vulva, marked by exceeding tenderness, and the presence of patches of purplish-red discoloration round the vaginal orifice. But we cannot help thinking that Mr. Tait has generalised from too few cases, and has consequently described the malady with a precision that the facts as yet known about it hardly justify, for we have seen cases which did not in all points conform to Mr. Tait's statements concerning them. Nevertheless, we are much indebted to Mr. Tait for what he has given us.

While we desire to call attention to the fact that there is much good matter in Mr. Tait's book, yet we must permit ourselves to say that we think the manner is not quite that in which scientific works ought to be written. He on all points lays down the law in an *ex cathedrâ* fashion, without condescending to exhibit the foundations on which his faith is built. His

statements are at times too forcible to be accurate—*e.g.*, we are told that in chronic metritis iron is a poison. This style of writing detracts much from the value of the book. Then we are often told that this or that can only be diagnosed by means of the "*tactus eruditus*," an art impossible to convey to others; and we find the same as to treatment, certain modes being described as only safe in "skilful hands," without explanation why. "*Tactus eruditus*" in this sense may be vulgarly translated—rule of thumb. It means that the author on these subjects has only confused, unanalysed impressions, and therefore has not attained exact knowledge. We hope that, should a future edition be called for, Mr. Tait will not let the profession into the secret that this is his method of diagnosis. Passages like these make us ask, if the author cannot explain his method of diagnosis, or the principles which should guide the skilful hands, why write a book? or, if a book must be written, why not omit the subjects on which he can throw so little light? And lastly, nearly all the illustrative cases which are referred to in the book were seen in private practice, in consultation with another medical man whose name is given. As we presume they were only seen once, or, if more than once, at comparatively distant intervals of time, we cannot but think such cases inferior in value to those observed under the conditions of strict management and keen criticism which obtain in a good hospital.

This book is distinctly not one written for the public; but in the points on which we have remarked it bears an unfortunate resemblance to books of that class. We therefore hope that, should a future edition be called for, Mr. Tait will remove the blemishes which remind the reader of such works. We cannot call this a good students' book, not only on account of the want of exactness of its style, and the unscientific references to the *tactus eruditus*, but because students need a book giving what is generally accepted on the subject; not one reflecting exclusively the idiosyncrasies of the author. And further, because we expect a good students' book to not merely present facts, but to teach a scientific method of work. We fear that students who read this book will gather the idea that the only test of accuracy is the opinion of Mr. Tait, or of someone who possesses the so-called *tactus eruditus*.

But the work, representing as it does the impressions of a surgeon of considerable experience, great ability, and independent judgment, is worth the perusal of all who practise this branch, and are therefore able to judge for themselves of what is said in it.

OBITUARY.

FREDERIC TICEHURST, M.R.C.S., ETC.

IT is with deep regret we record the death of Frederic Ticehurst, Esq., which took place at his residence, Carlisle-parade, shortly before two o'clock this (Friday) morning. As most of our readers are aware, the deceased gentleman has been seriously ill for several months past. The internal malady from which he suffered was so severe that it gave little or no hope of his recovery. In his death Hastings has lost one of its most skilful medical practitioners and one of its most useful public men. For nearly half a century the name of Ticehurst has been a "household word" in the borough, and those whose memories and local knowledge extend over the period we name best know the worth of that active life which has now been brought to a peaceful close. Mr. Ticehurst was formerly one of the Medical Officers of the Hastings Union, and his unvarying kindness to the poor made him deservedly popular. He was several times elected Mayor of Hastings, for a series of years he faithfully and zealously acted as an Alderman of the borough, he has long been one of the most esteemed of our magistrates, and besides his lengthened connexion with the medical charities and other local institutions, he was Coroner for the Borough until failing health led him to resign. His death will be mourned over a wide circle in both public and private life, and the deepest sympathy will be felt for his widow and family.

THE International Statistical and Meteorological Congresses, which were to be held at Rome in September, have been postponed for a year, on the representation, it is stated, of England and Austria.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 24th inst., viz.:—

Ainsley, T. G., West Hartlepool.
Armstrong, G. R., L.K.Q.C.P.I., Kingstown, Dublin.
Ashworth, J. Wallwork, Manchester.
Briggs, H., M.B. Edin., Prestwich, near Manchester.
Devis, C. J., Birmingham.
Drinkwater, H., M.B. Edin., Sunderland.
Dumbleton, E. H., Southampton.
Evans, H., Barmouth.
Fairclough, J. J. K., M.D. Queen's Univ. Ire., Manchester.
Fenwick, B., M.B. Durham, Harley-street.
Gomes, D. A., L.R.C.P.L. and L.M., Bombay, Bombay.
Harrison, D., L.K.Q.C.P.I., Liverpool.
Jones, C. L., B.A. Cantab., L.S.A., Blackfriars-road.
Jones, R. H., Liverpool.
Jones, W. F., Bangor.
Kirker, G., M.D. Queen's Univ. Ire., Belfast.
McClelland, J., M.D. Queen's Univ. Ire., Liverpool.
Norton, T. C., Bristol.
Pilkington, J. E., Manchester.
Rose, J., Liverpool.
White, H. H., M.B. Camb., Corwen.

Five candidates who passed in Surgery at previous meetings of the Court, having subsequently obtained medical qualifications, were admitted Members of the College, viz.:—

Gristock, W., L.S.A., Blandford-sq.
Prytherch, H., L.R.C.P.E., Anglesey
Scott, W. G., L.S.A., Bedford.
Symington, J., M.B. Edin., Fenny Stratford.
Walcott, H. L., L.R.C.P.E., Tenby.

Two candidates who had previously qualified in Surgery, having passed in Medicine, were also admitted Members, viz.:

Bowen-Jones, L. M., Gwarmacwydd-Narberth.
Cooper, T. H., Hampstead.

Three candidates passed the examination in Surgery, and when qualified in Medicine will be admitted Members of the College. The other two candidates were referred to their professional studies for a period of not less than six months.

The following gentlemen were admitted on the 25th inst.:

Allard, J. H., L.R.C.P. Ed., Tewkesbury.
Bartlett, F. P., Brixham.
Benham, F. L., Gloucester-terrace.
Bowen, O., L.S.A., Llandilo.
Bradford, C. L.S.A., Birmingham.
Dennis, F. S., M.D. New York, New York.
Harris, G.F.A., Sutherland-gardens.
Jewell, C. C., Brighton.
Messum, J. A. B. G., L.S.A., Champion-hill.
Morgan, E. S., Swansea.
Prowse, A. B., Cambridge.
Shaw, C. T. K., St. Leonards-on-Sea.
Sidebotham, G. W., L.S.A., Hyde.
Smith, A. J., Ladbroke-crescent.
Smith, H. U., Basildon.
Steele, C. E., L.S.A., Liverpool.
Turner, G. R., Sussex-gardens.
Uhthoff, J. C., Penge.
Whittle, E. M. G., M.D. Dub., M.B. Camb., Cambridge.

Four candidates who passed in Surgery at previous meetings of the Court, having subsequently obtained medical qualifications, were admitted Members of the College, viz.:—

Brock, A. C., L.R.C.P. Lond., Guernsey.
Galloway, A. W., L.R.C.P. Lond., Fitzroy-road.
Langdon, J. S., L.R.C.P. Lond., Queen's-square.
Wright, A., L.S.A. Lond., Paddington.

Two candidates who had previously qualified in Surgery, having passed in Medicine, were also admitted Members, viz.:—

Prior, E. T., Talbot-square.
Vasey, S. W., Cavendish-place.

One candidate passed the examination in Surgery, and when qualified in Medicine will be admitted a Member of the College. The other six candidates were referred to their professional studies for a period of not less than six months.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, July 19:—

Flewitt, Walter, Birmingham.
Giffard, Henry Edward, Hersham, near Esher.
Weekes, Francis Henry, Auckland, New Zealand.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Baird, Andrew, St. Mary's Hospital.
Bower, Arthur E. R., St. Thomas Hospital.
Devis, Charles James, General Hospital, Birmingham.
Fairer, George Albert, St. Bartholomew's Hospital.
Fallon, Joseph Septimus, Westminster Hospital.
King, W. H. Tindal, St. Mary's Hospital.
Pardington, George Lucus, St. Bartholomew's Hospital.

BIRTHS.

ATKINSON.—On July 16, at Clydesdale, Kingston-on-Thames, the wife of Frederick P. Atkinson, M.D., of a daughter.

DUNCAN.—On July 22, at 139, Buckingham Palace-road, the wife of H. M. Duncan, M.D., of a daughter.

HAMILTON.—On July 17, at 30, Northampton-park, Canonbury, the wife of Thomas Hamilton, M.B., F.R.C.S. Eng., of a son.

PRIESTLEY.—On July 17, at Halstead, Essex, the wife of C. E. Priestley, M.R.C.S., of a son.

SIMPSON.—On July 19, at 52, Queen-street, Edinburgh, the wife of Professor Simpson, M.D., of a son (Alexander Rudolf Virchow).

SHEARMAN.—On July 17, at The Hollies, Swinton, near Manchester, the wife of W. H. Shearman, M.R.C.S. Eng., of a son.

WALKER.—On July 20, at 58, Ladbroke-grove-road, the wife of A. Dunbar Walker, M.D., of a son.

MARRIAGES.

BEVAN—COCKELL.—On July 24, at St. John's, Hackney, Richard Bevan, M.R.C.S. and L.S.A., of New Romney, to Annie, eldest daughter of Frederick E. Cockell, M.R.C.S., of Hackney.

CHAPMAN—BRIDGE.—On May 15, at St. James's Church, Southbridge, Leeston, near Christchurch, New Zealand, Henry T. H. Chapman, M.D., M.R.C.S.E., to Fanny Woodyatt, daughter of the late C. J. Bridge, Esq., J.P., of Hornebrook, Southbridge.

GIBSON—VALLANCE.—On July 19, at St. James's Place U.P. Church, Edinburgh, George Gibson, C.E., to Maggie, eldest daughter of the late George Vallance, Esq., of 1, Gayfield-square, Edinburgh, and relict of Angus Macgregor, M.D., F.R.C.S.E.

LEWIS—DOWNING.—On July 17, at the parish church, Falmouth, Lewis Lewis, L.R.C.P. Lond., M.R.C.S. Eng., to Annie, daughter of the late J. V. Downing, of Falmouth.

O'SULLIVAN—MOORE.—On June 23, at Ercaud Church, Shevaroy Hills, Madras, Patrick O'Sullivan, barrister-at-law, of Madras, to Sydney, daughter of the late William Daniel Moore, M.D., of Dublin.

PORTER—MAYON.—On July 18, at St. Mary's, Crumpsall, Charles Frederick Porter, M.R.C.S.E., youngest son of William Porter, of Fleetwood, to Elizabeth Mary (Bessie), daughter of John Mayon, of Higher Crumpsall, and granddaughter of the late George Mallalue, of Wigmore-street, Cavendish-square.

TRIMMER—WELSH.—On July 17, at St. Luke's, Westbourne-park, London, Francis Trimmer, M.R.C.S., youngest son of the late Edward Trimmer, Esq., of Gloucester, to Mary Ball, only daughter of the late Thomas Inman Welsh, M.R.C.S.E., of Southsea, and granddaughter of the late Captain George Wilson, R.N., of Kelso.

DEATHS.

ANDERSON, JAMES DOUGLAS, youngest son of Dr. J. Anderson, at 1, Newcross-road, S.E., on July 20, aged 12.

BELLYSE, EDWIN SWINFEN, M.D., F.R.C.S.E., L.A.C., at Oakfields, near Nantwich, on July 21.

COCKS, ANNIE, eldest daughter of the late Jordan Roche Lynch, M.D., at Murrumburrah Vicarage, New South Wales, on June 1.

COOPER, BARBARA, the wife of Frederick Cooper, Inspector-General of Hospitals, at the Clifton Down Hotel, Clifton, on June 23, in her 81st year.

COPLAND, JAMES HAWKINS, eldest son of James Charlesworth Copland, M.R.C.S.E., L.S.A., at Ladbroke-grove, W., on July 22.

COTTERELL, CHARLES EDWARD, M.R.C.S., eldest son of the late C. E. Cotterell, Esq., R.N., aged 43.

EATON, FREEMAN, M.R.C.S., L.S.A., at Ancaster, on July 3, aged 69.

ELLIOTT, JOHN, M.R.C.S.E., L.S.A., late of 2, Finsbury-pavement, and upwards of fifty years an inhabitant of the Ward of Coleman-street, at his residence, The Ferns, Belgrave-terrace, Upper Holloway, on July 22, aged 81.

JACKSON, EDWARD HENRY, son of the late Dr. Jackson, of Warley Barracks, Brentwood, at Victoria, British Columbia, on June 27, aged 43.

LAMBERT, EDMUND, M.D., formerly of Cheltenham, at 23, James-street, Bath, on July 20, aged 82.

LITHGOW, JAMES, M.D., F.R.C.S., at his residence, 10, Royal-terrace, Weymouth, on July 20, aged 58.

MENZIES, ALEXANDER, son of the late Robert Menzies, M.R.C.S., L.S.A., of Stamford-street, London, and of Mary Menzies, of Bedford-park, Croydon, lost in a hurricane off the Friendly Islands, while in command of the *May Queen*, with all on board, about March 19, aged 30.

PAUL, JOHN GRANT, son of James Paul, M.D., of The Hermitage, Isle of Wight, and Barnes, Surrey, on July 19, aged 32.

POPE, EDMUND, M.R.C.S., L.S.A., of Brixton, on July 15, in his 41st year.

TICEHURST, FREDERIC, J.P., M.R.C.S., L.S.A., at Hastings, where he practised for forty-five years, on July 20, in the 68th year of his age.

WINN, WILLIAM, Captain in the Royal Scots, and formerly of the 29th Regiment, son of Dr. Winn, of Harley-street, at Dublin, after a short illness, on July 18.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

HAVERSTOCK-HILL AND MALDEN-ROAD PROVIDENT DISPENSARY.—Medical Officer. Particulars may be had of the Honorary Secretary, to whom applications, with testimonials, should be sent on or before July 30.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, CITY-ROAD.—Two Assistant-Physicians. Candidates must be M.D. or M.B., and if not M.R.C.P. Lond., must undertake to become so within twelve months. Applications, with testimonials, to the Secretary, on or before July 31.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, WOLVERHAMPTON.—Physician's Assistant and Pathologist. Qualifications must be satisfactory to the Medical Committee. Salary £50, with board, washing, and furnished rooms. Appointment for one year. Applications to the Chairman of the Medical Committee, Mr. Vincent Jackson, 46, Darlington-street, Wolverhampton.

FARINGDON UNION.—Medical Officer and Public Vaccinator for the Shrivenham District. Must reside in the district, be duly registered, and enter into a contract. Salary £70, with extra fees for operations and services allowed under the Poor-law Board, with vaccination fees. He will also have to undertake the duties of Medical Officer of Health for the above district, the salary for which is £10. Applications, with testimonials, under seal, by Tuesday, the 31st inst., 10 a.m., to George J. Haines, Clerk, Faringdon.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Cosford Union.—The Bildeston District is vacant; area 16,375; population 4343; salary £78 13s. per annum.

Coventry Union.—Mr. E. Bicknell has resigned the Workhouse; salary £60 per annum.

APPOINTMENTS.

Faversham Union.—Wm. E. Dring, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., to the Third District.

Freebridge Lynn Union.—John D. Alexander, L.R.C.P. Edin., L.F.P. & S. Glasg., to the Second Eastern District and the Workhouse.

Gravesend and Milton Union.—Richard O. Arnold, L.F.P. & S. Glasg., L.S.A. Lond., to the Milton District.

Hoxne Union.—Frederick W. Friend, M.R.C.S. Eng., L.R.C.P. Edin., to the Hoxne District.

Mitford and Launditch Union.—Irvine K. Milne, B.M. and M.C. Aber., to the Shipdham District.

AT Sheffield, last week, a prosecution was instituted by the Treasury, the defendant being a medical student, by name William McIrvine, of Stockbridge, near Sheffield. He was formerly in the employ of a medical man there, but being dismissed, he commenced practising as a surgeon on his own account, and in the case of three burial certificates it was proved that he had forged the name of a medical man in Sheffield. He was committed for trial at the assizes.

CONSUMPTION OF HORSE-FLESH IN BRESLAU.—Breslau has had a public municipal horse-slaughterhouse placed under veterinary supervision since 1869. During 1875 there were 1379 horses slaughtered, 1846 during 1876, and 703 until April in 1877. Among the horses thirty-nine were slaughtered on account of fracture, and three for lameness, the rest having reached the honourable old age of from sixteen to twenty years. Forty-four were rejected on account of disease.—*Deutsche Wochenschrift*, July 7.

A SURGICAL "SEA-SERPENT."—During a discussion on the treatment of varicocele and varicose veins by the iron injection, Prof. Dittel remarked that the radical cure of varicocele is the "sea-serpent" of surgery, which from time to time was always cropping up with some new modification. Two circumstances had always prevented him from adopting these procedures—viz., the constant occurrence of relapses, and the danger to the patient from the introduction of coagulating substances into the veins. He referred to two cases of teleangiectasis in which the perchloride was injected, and in one of these it caused immediate death, and in the other sudden blindness. This production of acute thrombosis had always something so deterrent for him that he had always avoided these procedures.—*Wien. Med. Zeit.*, June 5.

CREMATION IN PARIS.—That somewhat restless body, the Paris Municipal Council, has, according to the *Gazette Hebdomadaire* (July 13), taken up the subject of cremation with great eagerness, proposing to offer large prizes for the best procedures. The Préfet de la Seine has recommended that these shall be considerably reduced in value, and moreover considers the matter to come more within the province of the Préfet de Police than his own. One of the speakers declared that no law or permission was required, for cremation is like a particular mode of embalming, for which no law is required. Another (M. Cadet) observed that the only plausible objection offered to cremation is that the detection of poisons after death would not be possible; but this is a mistake, for the discovery of poisons would be rendered more easy, and the crime of poisoning become less frequent. By experiments on animals he had found that all the mineral poisons which are met with after inhumation are found among the ashes after incineration. It will be easy to impose upon inventors the necessity of showing that such detection of poisons swallowed experimentally does take place. The resolution was carried to open a *concours* for the best mode of effecting cremation, or any other procedure attaining the same result. It must insure the transformation of organic matters without the production of smell, smoke, or deleterious gases. It must guarantee the identity and the total preservation without admixture of fixed matters; it must be expeditious and economical, and it must offer no obstacle to the celebration of religious ceremonies. The question of the prizes to be offered, and carrying out of the *concours*, to be referred to the Préfet de Police.

THE GERMAN CONGRESS OF PHYSICIANS AND NATURALISTS.—The next meeting of this body is to be held at Munich from September 17 to 22, Professors Pettenköfer, Waldeyer, and Klebs being announced as taking a prominent part in the arrangements. Quite rightly it has been determined that every predominance shall be given to the scientific character of the meeting, reducing the pleasuring to the smallest proportions. Avoiding grand festivities and entertainments, it has been resolved to renounce any of the subventions from the city or the Government which have been hitherto given, all expenses being defrayed out of the resources of the Congress.—*Deutsche Med. Woch.*, July 7.—[We congratulate our German colleagues upon the resolution they have come to; for it has always seemed to us somewhat derogatory to accept from the municipalities and governments sums of money to be spent in festivity.]

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Charity Electioneering.—We find that in November, 1868, there were 30 candidates for the Hospital for Incurables at Putney, many of whom had undergone that ordeal from ten to sixteen times. In November, 1871, there were 298 candidates, several of whom had been beaten at seventeen, eighteen, or nineteen half-yearly elections. On the former occasion forty, and on the latter only twenty, candidates were elected.

Paterfamilias.—No; in Germany one *never* sees *children* acting as monitors or pupil-teachers.

S. H. I.—The Metropolitan Board was created by Sir Benjamin Hall's Act of 1855. Prior to 1855 the administration of London was entrusted to a vast number of trusts under local Acts. There were nearly 150 such petty corporations, each having separate and independent management. In addition, there was the Sewers Commission, under district commissioners nominated in the days of Elizabeth, or earlier. There were nine Commissioners of Sewers so recently as 1847. A practical consolidation of these was effected in 1848.

*** We understand that Sir Joseph Hooker, President of the Royal Society, has gone to the United States on a botanical tour, during which, in company with Professor Asa Gray, he will examine the flora of Colorado and other regions in the north-west.

F.R.C.S., Manchester.—We are indebted to the kindness of Mr. William Allingham, the late honorary secretary of the Festival of the Fellows of the College of Surgeons, for the information you desire, and which, no doubt, will be interesting to other readers in this metropolis, from whence the next chairman will be selected—the rule being to elect metropolitan and provincial Fellows alternately. (Those gentlemen whose names appear in *italics* have all served the office of President of the Royal College of Surgeons.) The first chairman was *Mr. Benjamin Travers, F.R.S.*, in 1846, succeeded the following year by Mr. J. S. Soden, of Bath; *Sir Benjamin Brodie, Bart., F.R.S.*, in 1848; *Mr. Joseph Hodgson, F.R.S.*, of Birmingham, in 1849; *Sir William Lawrence, Bart., F.R.S.*, in 1850; Mr. J. H. James, of Exeter, in 1851; *Mr. J. H. Green, F.R.S.*, in 1852; Mr. Wilson, of Manchester, in 1853; *Mr. Edward Stanley, F.R.S.*, in 1854; Mr. Norman, of Bath, in 1855; *Mr. J. F. South* in 1856; Mr. Smith, of Leeds, in 1857; *Mr. Cæsar H. Hawkins, F.R.S.*, in 1858; Mr. Thomas Paget, of Leicester, in 1859; *Mr. James Luke, F.R.S.*, in 1860; Mr. J. Wickham, of Winchester, in 1861; *Mr. F. C. Skey, F.R.S.*, in 1862; Mr. Thomas Turner, of Manchester, in 1863; *Mr. J. M. Arnott, F.R.S.*, in 1864; Mr. P. C. De la Garde, of Exeter, in 1865; Mr. T. Wormald, in 1866; Mr. Thomas Green, of Bristol, in 1867; *Mr. Richard Partridge, F.R.S.*, in 1868; Mr. Thomas Nunneley, of Leeds, in 1869; *Mr. John Hilton, F.R.S.*, in 1870; Mr. H. D. Carden, of Worcester, in 1871; *Sir William Fergusson, Bart., F.R.S.*, in 1872; Professor Humphry, M.D., F.R.S., of Cambridge, in 1873; Professor Erasmus Wilson, F.R.S., in 1874; Surgeon-General Thomas Longmore, C.B., of Netley, Southampton, in 1875; *Mr. T. B. Curling, F.R.S.*, in 1876; and Mr. E. L. Hussey, of Oxford, in 1877. These gentlemen have been ably supported in their duties by the following honorary secretaries:—Mr. Charles Hawkins, a late member of the Council, from 1847 to 1849 inclusive; Mr. W. W. Cooper, 1850 and 1851; Mr. J. Newton Tomkins, 1852; Mr. William Adams from 1853 to 1862 (ten years, the last conjointly with Mr. G. W. Callender, F.R.S.), who was succeeded in 1864 by Mr. E. C. Hulme, who held the office for five years, as did Mr. T. C. Jackson from 1869, when he was succeeded by Mr. William Allingham, who resigned the office at the conclusion of the last banquet, when Professor B. T. Lowne was appointed.

A Tutor; A Parent.—Why not consult the advertisement-sheets of this journal?—from which you will learn that the next preliminary examination in Arts, etc., for the College of Surgeons will take place at Burlington House in September next, and not at Christmas.

Mr. Williams, Bristol.—Mr. John Birkett, the Government Inspector of Provincial Medical Schools, was elected President of the College of Surgeons a week or two ago, in succession to Mr. Prescott Hewett; he is a Jacksonian prizeman, for his essay on "Diseases of the Male and Female Breast." Formerly the Presidents of the Royal Colleges of Physicians and Surgeons respectively received a special honorarium of one hundred guineas annually from the Government as members of the National Vaccine Board.

Dr. Johnson.—The annual meeting of the British Medical Association will be held early in the ensuing month at Manchester. Write at once to Messrs. Cook and Sons, Fleet-street, who are organising interesting excursions to the Lakes immediately after the meeting.

EFFECTS OF YELLOW LIGHT IN DISEASE.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—You were good enough to call attention last week to a letter of mine in the *Daily News*, in which I suggested the use of a yellow calico blind in cases of small-pox. Will you kindly further bring before the notice of the profession the advisability of trying the same plan in cases of inflammation of the eye, whether after operation or idiopathic. I quite believe that if patients, instead of being kept in profound darkness, were placed in a room where none but yellow rays penetrated, and used *yellow spectacles*, not only great comfort would be felt, but a more rapid cure would be induced. At any rate, the plan is so simple that it deserves a trial.

204, Camden-road, N.W. I am, &c., ROBERT CHARLES CROFT.

AN OPENING.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—I beg to call your attention to the fact that in the town of Newport, containing, with its suburbs, a population not far off 4000, there are only three medical practitioners—and between two of these, I believe, a co-partnership exists. There is no resident surgeon within half a dozen miles of the town, and only five or six in the whole Poor-law union, comprising sixteen parishes, with an aggregate population of at least 16,000. There are many gentry in the district, and a large proportion of well-to-do farmers. The town is a prosperous one, and is steadily though not rapidly increasing. There is an excellent grammar-school, at present free for eighty boys resident in the town and immediate neighbourhood; and under a new scheme for its management just propounded by the Charity Commissioners, a girls' school is likely to be established in connexion with the foundation. These educational advantages are likely to attract many respectable residents to the neighbourhood. I am, &c.,

July 21. PRO BONO PUBLICO.

LEAD POISONING.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—I have three people in one family suffering from lead poisoning—one very ill. Being unable to trace the source of the lead other than by the use of zinc buckets, I shall be much obliged to you to tell me—first, if zinc will give rise to symptoms similar to lead; and second, if lead in combination with zinc is used in making the buckets before-named.

July 23. I am, &c., INQUIRER.

THE NEW METROPOLITAN FREE HOSPITAL.

The Lord Mayor presided at a meeting, held at the Mansion House on Monday, to promote the movement to rebuild the Metropolitan Free Hospital, with accommodation for not less than 100 beds. The cost of the building is estimated at £30,000, of which £11,000 is already subscribed. A site has been obtained in Half-moon-street, Bishopsgate-street.

AUCTIONEERS' CATALOGUES.

The art of making an auctioneer's catalogue is not, apparently, among those that are lost. We had a sample the other day when Albert Grant's house was for sale, but the following "bit," as painters say, cut from the *Times*, is in its way unique. The sale took place at Lancaster, and the catalogue commenced with the following headnote:—"The effects comprised in this catalogue represent an aggregation of trophies unparalleled of their kind, the fruits of Mr. Sly's life-long lore-chase, in which that gentleman's æsthetic proclivities have been plied with the assiduity of an instinctive connoisseur and a devotion that counts no cost. They are now submitted to the strife of new competitors, in consequence of Mr. Sly's retirement from business." Lot 241 was entered in the catalogue as—"Hansome (*sic*) carved oak sideboard, middle of seventeenth century, with fittings for modern convenience, including cupboards, drawers, and veined marble top, 6 ft. 6 in. long, 2 ft. 2½ in. deep, 3 ft. 2 in. high to top of marble; extreme elevation of back, 6 ft. 4 in., the front richly decorated with boldly-executed heraldic insignia." Then followed in smaller type:—"This imposing item formerly graced the mansion of Alderman Proctor, one of the early merchant princes of the then rival maritime borough of Liverpool."

"ALL THINGS TO ALL MEN."

We give the following correspondence without comment. Mr. W. E. Gladstone, M.P., has just replied to a letter from Mr. Wm. Burgess, of Liverpool, who presided at a recent open-air meeting of Deptford Working-men, agitating for the repeal of the Contagious Diseases Acts. The letter is as follows:—

"Sir,—I have been indisposed to-day, but will not waive a hasty acknowledgment of your letter. I will not fail to present the petition, and have seen no cause to change my views since the proposal of Lord Aberdare on behalf of the late Government. Apart from all shades of opinion, the feeling shown by such numbers of working-men on this question is, without doubt, most honourable to them.

"July 18, 1877. Yours very faithfully, W. E. GLADSTONE."

Some time ago, Mr. F. W. Lowndes, the Liverpool Secretary of the Association for Promoting the Extension of the Contagious Diseases Acts, forwarded to Mr. Gladstone a copy of a pamphlet on the subject, which had then been just published. The following was the ex-Premier's reply:—

"Sir,—I beg to thank you for your tract, which I have not failed to peruse. My own opinion on the subject coincided very much with the proposal of the late Government, which did not in full satisfy either extreme view, and did not become law. "Your faithful servant,

"W. E. GLADSTONE."

The proposal of the late Government was that the Acts should be modified and extended, not repealed.

AN APPEAL TO THE HUMANE AND BENEVOLENT.

This appeal is made on behalf of a lady and her little helpless children. Her husband was a surgeon attached to one of her Majesty's infantry regiments, and was obliged to retire from the service in consequence of his health having been very greatly impaired whilst on duty with his regiment in an African station. He died shortly after his retirement from the service, leaving his wife and children sadly unprovided for. She is now in urgent want of assistance to meet present necessities, and to enable her to make arrangements for earning, by her own exertions, means to support and bring up her helpless little children.

Reference kindly permitted to the following, by whom contributions will be thankfully received and acknowledged:—George W. Abraham, LL.D., etc., 2, Oakland-villas, Rathgar; E. D. Mapother, M.D., F.R.C.S. Ire., 6, Merrion-square North; Thomas M'Nally, A.M., T.C.D., 77, Lower Gardiner-street; Austin Meldon, F.R.C.S. Ire., etc., 15, Merrion-square North; Joseph Manly, Esq., Manager, Hibernian Bank, 21, Lower Sackville-street; Arthur H. Lynch, Surgeon, Army Medical Department, Killester, Raheny; Major A. H. Lynch, Killester, Raheny.

N.B.—Subscriptions will be acknowledged in *Irish Times* each Saturday.

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BOOKS AND PAMPHLETS RECEIVED—

J. Gibbs Blake, M.D., The Place of the Law of Similars in the Practice of Medicine—Harry Leach, A Bit of Bulgaria—Charles Darwin, M.A., F.R.S., The Different Forms of Flowers on Plants of the same Species—J. Beattie Crozier, M.B., L.R.C.P., etc., God or Force—L. Duncan Bulkeley, M.D., Analysis of Seven Hundred and Seventy-four Cases of Skin Disease—Dr. Whitmore's Monthly Report on the Health and Meteorology of the Parish of St. Marylebone—Thirty-eighth Annual Report of the Registrar-General of Births, Marriages, and Deaths in England—W. J. H. Lush, F.L.S., M.R.C.P., etc., Examination Papers for the Use of Medical Students—Tenth Annual Report of the Victoria Hospital for Sick Children, Chelsea and Margate.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Home Chronicler—Cincinnati Clinic—Socialist—New York Medical Journal—Boston Journal of Chemistry—Dairyman—Guardian—Medical Inquirer—Centralblatt für Gynäkologie—Journal of Anatomy and Physiology, vol. xi., part 4—Students' Journal—Canada Medical and Surgical Journal—Sheffield and Rotherham Independent—American Supplement—Berkshire Chronicle.

APPOINTMENTS FOR THE WEEK.

July 28. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

30. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

31. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

August 1. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex. 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

2. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

3. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, July 21, 1877.

BIRTHS.

Births of Boys, 1226; Girls, 1189; Total, 2415.
Average of 10 corresponding years 1867-76, 2152·8.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	737	701	1438
Average of the ten years 1867-76	809·5	724·9	1534·4
Average corrected to increased population ...	...	...	1642
Deaths of people aged 80 and upwards ...	...	...	49

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	6	3	3	...	3	...	2	...	22
North	751729	10	14	3	2	6	...	2	1	34
Central ...	334369	...	4	1	...	1	...	3	...	15
East	639111	3	15	4	1	8	1	4	3	52
South	967692	16	6	8	3	18	1	4	...	50
Total	3254260	35	42	19	6	36	2	15	4	173

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·529 in.
Mean temperature	59·1°
Highest point of thermometer	74·0°
Lowest point of thermometer	48·0°
Mean dew-point temperature	51·2°
General direction of wind	S.W.
Whole amount of rain in the week...	0·84 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, July 21, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending July 21.	Deaths Registered during the week ending July 21.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2415	1438	74·0	48·0	59·1	15·06	0·84	2·13
Brighton	102264	43·4	64	42	70·1	49·5	58·8	14·89	0·55	1·40
Portsmouth ...	127144	28·3	79	38	69·0	54·0	59·0	15·00	0·81	2·06
Norwich	84023	11·2	50	33	73·5	50·0	59·6	15·34	1·16	2·95
Plymouth	72911	52·3	53	26	68·5	50·5	57·6	14·23	1·10	2·79
Bristol	202950	45·6	128	69	66·8	50·2	57·4	14·11	0·80	2·03
Wolverhampton ...	73389	21·6	50	41	65·4	45·3	55·4	13·00	0·75	1·90
Birmingham ...	377436	44·9	255	155	...	...	...	...	...	...
Leicester	117461	36·7	82	35	...	...	...	...	...	...
Nottingham ...	95025	47·6	75	44	70·6	44·2	56·9	13·83	1·17	2·97
Liverpool	527083	101·2	358	236	65·1	51·3	56·0	13·33	1·04	2·64
Manchester ...	359213	83·7	229	173	...	...	...	...	...	...
Salford	141184	27·3	125	59	69·4	42·0	54·3	12·39	2·39	6·07
Oldham	89796	19·2	76	54	...	...	...	...	...	...
Bradford	179315	24·8	134	76	67·8	47·0	55·8	13·23	2·70	6·86
Leeds	298189	13·8	234	107	69·0	47·0	57·3	14·06	2·12	5·38
Sheffield	282130	14·4	196	88	69·0	43·0	56·5	13·61	0·33	0·84
Hull	140002	38·5	107	46	71·0	47·0	58·3	14·61	0·37	0·94
Sunderland ...	110382	33·4	81	36	71·0	48·0	56·7	13·72	2·05	5·21
Newcastle-on-Tyne	142231	26·5	100	47	...	...	...	...	...	...
Edinburgh	218729	52·2	134	71	68·6	45·7	57·8	14·34	2·12	5·38
Glasgow	555933	92·1	517	260	65·5	46·7	57·2	14·00	1·09	2·77
Dublin	314666	31·3	160	153	68·4	43·0	58·4	14·66	1·04	2·64
Total of 23 Towns in United Kingdm	8144940	38·3	5702	3327	74·0	42·0	57·3	14·06	1·25	3·17

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·53 in. The lowest reading was 29·07 in. on Sunday morning, and the highest 29·87 in. on Saturday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

THE HUNTERIAN LECTURES FOR 1877.

ON DEFECTS OF VISION WHICH ARE REMEDIABLE BY OPTICAL APPLIANCES.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

By ROBERT BRUDENELL CARTER, F.R.C.S.,
Late Professor of Surgery and Pathology to the College; and Ophthalmic Surgeon to St. George's Hospital.

LECTURE III.—PRESBYOPIA.

MR. PRESIDENT,—Having in the former lectures briefly sketched the chief features of the three great factors in sustained vision—the refraction, the accommodation, and the convergence,—and having described the manner in which these may severally be estimated and measured, I may now pass on to the consideration of the principal forms of what I have already termed "conditioned vision," that is to say, a state in which the patient, although able to use his eyes at certain distances, or for limited periods of time, is not able to use them at all distances, or for all periods; and is constantly reminded of their existence by the very fact of the bounds which are set to his power to employ them. The form of conditioned vision to which I shall first refer is the least important of any as regards the structural states on which it depends; but it may be considered the most important on the ground that it is common to the whole human race, and that it befalls the eyes of all persons who reach middle age, whether those eyes are normal or abnormal, emmetropic or ametropic. I refer, I need hardly say, to the condition of presbyopia, or aged sight.

I have already mentioned that the faculty of accommodation, the power to adjust the eyes for clear vision at distances nearer than their far-point, is gradually curtailed as life advances, and I have already shown you (see Fig. 15) the diagram in which Donders has traced out the natural progress of the change. The cause of the change is probably diminished elasticity of the crystalline lens, which obviously undergoes progressive molecular changes of a marked character. In infancy and childhood it is brilliantly transparent, and even its presence can scarcely be recognised by any kind of direct examination. After a few years, if we dilate the pupil and throw a fine pencil of rays into the eye, we shall observe more or less fluorescence in the lens-tissue, the light breaking up against its inequalities, and the blue waves being returned to the spectator. Later still, if we examine our own eyes by looking at diffused light through a very fine perforation, we shall see, besides floating fibres or bodies in the vitreous, stationary granules in the lenticular substance—granules which, being opaque by comparison with the parts around them, cast shadows upon the retina and appear as dark spots in the illuminated field. Later still, the fluorescence passes into what appears to be a very manifest cloudiness by reflected light, although to transmitted light the lens may yet be perfectly transparent; and this cloudiness is often traversed by brighter lines which mark the divisions of the sectors of which the structure is built up. Later still, the lens becomes more or less of a yellow or an amber tint, even though it may never undergo the changes which constitute cataract. Assuming, as already stated, that the increased convexity of accommodation is the result of a change of shape which occurs spontaneously as soon as the lens is released, by the action of the ciliary muscle, from the restraint exercised upon it by its capsule, it is easy to understand how alterations in its molecular structure may involve a progressive loss of its elasticity; so that, although the capsule may be relaxed, the change in the curvature of the lens may become less and less, and ultimately altogether ceases. Hence, at the same time, the refractive power which the changed curvature was wont to add, becomes diminished in a corresponding ratio; and the near-point of distinct vision recedes slowly but steadily from the eye. During many years, although this change is occurring, it is not felt to be a source of inconvenience; but by-and-by a time comes when very small objects, in order that they may be clearly seen, must be held so far away that they either subtend a visual angle which is too small to allow them to be recognised with facility, or else sufficient light for the requirements of vision is no longer reflected from their surfaces. The amount of light reflected from any point, and falling upon a given area, such as the pupil of the eye, varies, it need hardly be said, as the square of the distance between the two; so that an object which is only twelve inches distant gives the pupil four times as much light as it would do if it were removed to a position twenty-four inches away. Hence, those who are becoming presbyopic in an inconvenient degree first feel the effect of the change by twilight, or by artificial light of any kind, which, however good it may be, and however dazzling when near the eyes, never approaches in its general illuminating effect to that of even a feeble degree of diffuse daylight. By the age of forty-five, or thereabouts, it is generally necessary for the possessor of emmetropic eyes to hold very small print so far away (especially in the evening) that it becomes difficult to decipher. It will help us to realise the progress which has been made, during the present century, in the art of artificial lighting, if I remind you of Dr. Kitchener's well-known saying, that people who were fifty years old began to "bless the man who invented snuffers." At the same period, or somewhat later, we often see an artificial light held between the reader and his page, so as to increase the illumination of the latter to the utmost, without unduly taxing the accommodation.

The term presbyopia, in former times, has been used with a good deal of latitude, or rather with a complete absence of anything like scientific precision; but now, in accordance with the teaching of Donders, it is used only to signify the alteration of vision which is produced by the recession of the near-point, or the gradual curtailment of the power of accommodation, which is incidental to advancing life. It is evident, therefore, that the term, used in this sense, cannot be defined except in an arbitrary manner; for the degree of presbyopia which is felt as an inconvenience will be mainly determined by the nature of individual pursuits or employments, or even by such an accidental circumstance as the character of the illumination of the room which is chiefly inhabited. In order to meet this difficulty, Donders suggested that presbyopia should be looked upon as established when the binocular near-point had receded to eight inches; that is, when it was no longer possible, by any effort of voluntary adjustment, to read the smallest type, such as No. 1 of Jäger's scale, at a shorter distance than eight inches. This limit is probably as good a one as can be fixed, and it has the advantage of attaching a definite meaning to the word.

By the time that the binocular near-point has receded to a distance of eight inches, the convenient near-point at which any visual effort can be sustained will have gone a good deal farther away. It is seldom possible to use more than half of the actual range of accommodation for more than a short period of time; and hence, if a person has only five dioptrics of accommodation—the amount which would bring the near-point to eight inches,—he will only have two and a half dioptrics, or say a near-point at sixteen inches, really available for continuous effort at his occupation. For some occupations this may be sufficient, but for others it will clearly not be sufficient; and in cases of the latter kind, remembering that accommodation is practically the addition of a convex lens to a passive eye, we supply by art the deficiency of nature, and give such lenses as may be enough to bring back the near-point, without effort to the user, to the place or distance at which it is wanted. We say that the patient requires spectacles; and in a vast majority of instances we see that he can be effectually supplied with them by a sort of rule of thumb of an extremely simple character. Those who deal in spectacles sell what they call glasses of first or of second sight; and they recommend one or other of these accordingly as the patient has or has not worn spectacles before. In many instances the necessary relief is at once obtained; and the patient feels no farther inconvenience for perhaps two or three years. After some such period of time his former difficulties return, and he again obtains relief from them by using glasses somewhat stronger than those which he procured in the first instance.

It has long been a tradition among opticians that people who were advancing in life should be very chary of employing spectacles of too great magnifying power—partly because it was believed that such spectacles were likely to be injurious to the eyes, and partly lest the desire of the eyes for more power should grow with indulgence, until it might at last outstrip the resources of the spectacle-grinder. These opinion were much confirmed, and were widely diffused among th

public, by an elaborate essay on spectacles which was published in the *Quarterly Review* some sixty years since, and which was commonly attributed to the late Sir David Brewster. The writer, whoever he may have been, was not in advance of his time, and had little or no knowledge of the changes which occur in the eye, or of the altered conditions of vision which they entail. He approached his subject from a standpoint of pure optics, and did little more than give a new lease to some prevalent errors and misconceptions. Convex spectacles, of whatever power, cannot do more than place the far-point at the distance of their own focal length; and, in an emmetropic eye, with restricted accommodation, the near-point would not be very much within the far-point. The only harm done by spectacles which were too strong, or stronger than was needful, would be so to approximate the visual distance as to call upon the internal recti for a fatiguing effort of convergence in order to maintain binocular vision; and this effort would in any case be relinquished, because it would be fatiguing, long before it could by any possibility become injurious to the eyes of a person of mature age. The excessive convergence which, as we shall see, is incidental to the higher degrees of myopia, is often injurious in youth, when the ocular tunics are yielding and extensible; but seldom or never becomes so at an advanced period of life, if no harm has previously been occasioned by it. Apart from forced convergence, the use of high magnifying powers is absolutely harmless. I have often had occasion to remark to students how rarely it happens that we see at the hospital any persons who follow the trades, such as watch-making, wood engraving, and the like, which require the constant use of a single magnifying-glass; and I believe the tradition about the ill-effect of powerful convex spectacles is mainly due to the fact that a premature and rapidly increasing presbyopia, such as to call for constantly stronger and stronger glasses, is one of the early symptoms of approaching glaucoma. The demand for strong spectacles has itself, in these cases, been merely a sign of the impending destructive disease; and, before the symptoms of the disease were understood, the resulting blindness, although perfectly independent of the spectacles, was often erroneously attributed to their influence.

We may therefore, as far as the safety of the eyes is concerned, give to the presbyopic person spectacles which are strong enough completely to supply his deficiency; so that, without any strain upon his accommodation, his work may be brought near enough to be seen under sufficient illumination. The annexed table, taken from Professor Donders, but translated into dioptrics, gives approximately the strength of the lens which will be necessary for an emmetropic person at each age of life, and also the strength which will be required for those whom the author regards as having been originally emmetropic, but ultimately the subjects of acquired hypermetropia; a doctrine upon which I shall have more to say in the sequel. A third column states the distances at which the specified glasses should give clear vision.

Table IV.

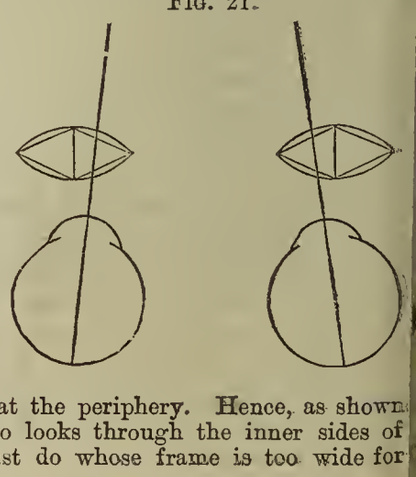
Years of age.	In present emmetropia. (Dioptrics.)	In original emmetropia. (Dioptrics.)	Distance of distinct vision in inches.
48	0·75	0·75	14
50	1·0	1·0	14
55	1·25	1·50	14
58	1·75	2·0	13
60	2·0	2·25	13
62	2·50	3·0	13
65	2·75	3·50	12
70	3·50	5·0	10
75	4·0	5·50	9
78	4·50	7·0	8
80	5·0	8·0	7

I have never myself found it necessary or useful to prescribe glasses so strong as those here suggested for emmetropic persons of seventy years old and upwards; and it must, of course, be remembered that age does not by any means furnish a certain criterion of the power of the accommodation. Before prescribing, it is always necessary to test the state of the patient, and to be guided by the distance to which his near-point has actually receded.

It will often happen, however, that the lenses which a presbyopic patient would himself choose by reason of their immediate effect, and which may afford him the best and most comfortable vision for a time, will yet become sources of strain or inconvenience if their use is continued; and this result is usually traceable to the way in which the glasses disturb the previously existing relation between accommodation and convergence. As presbyopia becomes declared, its inevitable tendency is to call for a stronger effort of accommodation than before, in order that the eyes may be adjusted for any given distance; and, in this way, as the measure of the accommodation exerted must be the amount of effort, and not the amount of result, it is manifest that the patient will be called upon to exert a greater amount of accommodation than before, for any given amount of convergence. In other words, for any given convergence, say to eighteen inches, he will have to strain the positive part of his relative accommodation; and the effort to do this, although in itself more or less irksome, would within certain limits become more easy by practice. Let us now suppose that he puts on a moderately strong pair of spectacles, which enable him, at the same distance of eighteen inches, to read almost without exercising his accommodation at all. The relation between the two muscular functions is suddenly reversed; and, having for some time been gradually accustoming himself to use accommodation in excess of his convergence, he is all at once compelled to maintain a degree of convergence which is in excess of his accommodation. In other words, his work is almost wholly in the negative part of his relative accommodation; and this, especially whilst it is a new condition, is apt to be a very irksome one. I may somewhat vary the illustration by pointing out that, when presbyopia first becomes an inconvenience, the book or newspaper, held at eighteen inches distance, requires as much accommodation effort as would have sufficed a short time before for a distance of thirteen inches, but it still requires, of course, only the old convergence effort for the actual distance of eighteen inches. The eyes, therefore, may be regarded as accommodating for thirteen inches, while they are only converging to eighteen. Convex lenses outside the eyes rest their accommodation by rendering an equivalent quantity of increased convexity of the internal lenses unnecessary. Convex lenses of three-quarters of a dioptric almost precisely represent the difference between accommodation for thirteen inches and for eighteen, and such lenses, therefore, restore the equilibrium which has been disturbed, and render the accommodation effort and the convergence effort the same in quantity. Anything weaker than these would fail to remedy the inconvenience; and anything stronger—lenses of a dioptric and a half, for example—would afford over-compensation, so as to require an accommodation effort less than that of the convergence, and to produce strain by this new disparity. If presbyopia were a fixed instead of a progressive affection, the lenses of 0·75 would cure it once for all. In actual fact, they only correct the accomplished portion of a progressive change, and they leave the eyes still on the threshold of presbyopia, compelled to use a considerable accommodation effort. After a short time, this again creeps so far ahead of the convergence effort that the disparity once more becomes painful, and then stronger spectacles are required in order to redress the balance.

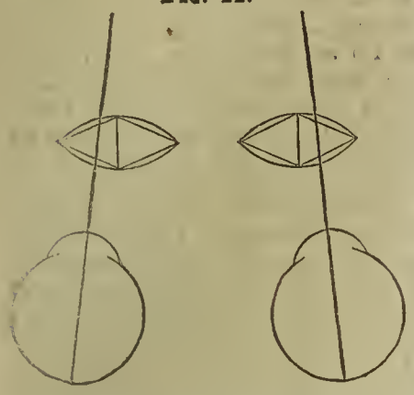
It has long been known to opticians, as a matter of empirical observation, that the discomfort arising to the presbyopic from glasses of too high a power is much increased if these are mounted in frames a little too wide for the patient, so that the eyes look through the outer sides of the lenses instead of through their centres; and also that the discomfort is diminished, or is less likely to arise, if the frames are somewhat narrow. When the relation between accommodation and convergence became known, the action of misfitting frames was rendered easily intelligible. A convex lens, within its curved surfaces, may be regarded as being made up of an infinite number of prisms with their bases meeting at the centre; and a concave lens is in like manner made up of an infinite number of prisms with their bases outwards or at the periphery. Hence, as shown by Fig. 21, a person who looks through the inner sides of convex lenses, as he must do whose frame is too wide for

Fig. 21.



the distance between his eyes, is looking not only through convex lenses, but also through prisms with their bases outwards; and he who looks through the outer sides of the lenses, as happens when the frame is too narrow, and as shown by Fig. 22, looks through prisms with their bases inwards. The former arrangement, it will at once be manifest, calls upon the convergence muscles for still greater effort, notwithstanding that the accommodation is almost entirely relaxed; and the latter rests the convergence together with the accommodation. Dr. Giraud-Teulon was, I believe, the first to suggest that this action of eccentrically placed lenses should be systematically utilised in the manufacture of spectacles; and after him the same subject was carefully considered by Dr. Hermann Scheffler, of Brunswick, whose treatise on ocular defects I translated nine or ten years ago. Dr. Scheffler approached the subject almost entirely from a geometrical point of view, and I gather from his various writings that he is not even a practitioner. He expresses the opinion that "the accommodation and the convergence are two primitive independent visual faculties, directed to the attainment of two wholly distinct and definite purposes, through efforts after wholly distinct and definite sensory impressions. By reason of the original independence of these faculties, every pair of eyes possesses the power to accommodate more or less with the same convergence, and to converge more or less with the same accommodation; as also to exert accommodation and convergence voluntarily, without the stimulus of light or of an external object of vision, and to increase the degree of this voluntary exertion by practice. Notwithstanding this original independence, the two faculties pass into a secondary dependence upon one another, caused either by congenital organisation, or in consequence of their usually coincident exercise, or as the result of an induction framed by the sensorium, as a higher central apparatus dominating over all the visual processes. From this secondary dependence, it follows that, in voluntary convergence, even when the eyes do not fix any object, the accommodation, if unstrained, involuntarily keeps pace with the convergence; and inversely, that in voluntary accommodation without the stimulus of light, the eyes involuntarily assume a corresponding degree of convergence. So long as this secondary proportionate dependence between accommodation and convergence, in regarding an object, is such as corresponds to the normal relative proportion of the functions in the pair of eyes concerned, the visual process is carried on without strain and with entire completeness. So soon, however, as the eyes are called upon for an abnormal relative proportion, the visual process is attended by strain."

Fig. 22.



In order to bring this view of the matter to a practical bearing, Dr. Scheffler suggested that every spectacle-lens should be used eccentrically, and should be looked upon as a combination of a convex or concave lens, destined to influence the refraction or the accommodation, with a prism destined to influence the convergence, and that each of these two elements should be studied and calculated, in every case, with an equal degree of care. He described, as a standard combination, spectacles which he called "orthoscopic," and which require a moment's consideration. It is manifest that every prism, say with its base inwards, will produce a certain definite degree of divergence, or at least of alteration from convergence, of the visual lines, just as every convex lens will place the far-point at some definite distance. Orthoscopic lenses are pairs in which the two elements are so combined that they are precisely coincident in their action—that is, that the prisms produce convergence of the visual lines precisely to the distance of the principal focus of the lenses. An instance of such a combination is furnished by two convex lenses, each of 1·25 dioptrics, ground upon prisms of four degrees and a half of angular measurement, and combined in a spectacle-frame with their bases inwards. A person wearing these spectacles, and looking at an object eighty centimetres distant, would have absolute repose both of the convergence and of the accommodation. The prisms would render the pencils of light which reached the two eyes from an object at that distance precisely parallel, so that the visual lines must also be parallel in order that single vision might be maintained; and the lenses would render the component rays of each pencil also parallel, so that an emmetropic eye would not be called upon for any effort of accommodation. The eyes would be perfectly passive, directed to the horizon and accommodated for infinite distance; and yet clear and single vision of an object thirty inches distant would be obtained. Such spectacles are, in fact, component lateral parts of a larger lens, out of which they may be cut; and the same effect is produced when we look with both eyes through a large lens, such as forms part of the instrument called the graphoscope, at an object placed in its principal focus. Each eye then looks through a lateral part of the lens; and, if we were to cover most of the lens with paper, leaving two holes at a proper distance apart for the two eyes to look through them easily, we should have the same thing as a pair of orthoscopic spectacles. Hence the two lenses, whatever their angles and foci, are only orthoscopic when fixed at some definite distance apart; and a simple test of the orthoscopic character of any spectacles is furnished by the fact that, if they are so, the two images of a flame, thrown upon a screen by the two lenses, will be combined into a single image at their focal length. This again follows from the fact that the two lenses are parts of a larger one. The larger one itself would cast only one image, and two of its component parts, when they retain their original relations, act in a precisely similar manner. The annexed table shows six combinations of lenses and prisms which are orthoscopic when the centres of the glasses are sixty-six millimetres apart.

Orthoscopic Combinations.

Dioptrics.	Degrees.	Dioptrics.	Degrees.
0·5	1·30	1·75	6·0
1·0	3·0	2·0	7·30
1·25	4·30	2·50	9·0

The orthoscopic spectacles were not found, in practice, to fulfil the expectations of their inventor, because they possess a property upon which he had not sufficiently reckoned. When we look through the lens of a graphoscope, at a painting or other plane surface bounded by straight lines, the surface appears convex, and the boundary lines appear concave. Orthoscopic convex spectacles produce the same effect. They are necessarily very heavy, from the thickness of their basal sides and from the amount of glass which they contain; and they cause the centre of a page to appear prominent, while at the same time they distort its outlines. To spectacles which are composed of lenses and prisms, but which are not orthoscopic, Scheffler gave the name of combination glasses; and he went so far as to assert that they should be used in almost all cases. His general principle was that we should test, for every pair of eyes, the full amount of their convergence range, and for each eye singly the full amount of its accommodation; and that we should then give such a combination that the pair, for any desired distance at which the objects of vision were to be held, should use exactly half of their accommodation and exactly half of their convergence. The principle will not admit of being fully carried out in practice, for the reason, if for no other, that the range of accommodation is constantly being curtailed as life advances, and that the combination necessary to fulfil Dr. Scheffler's requirement would therefore be constantly changing; but it is none the less worthy of being held in remembrance, on the ground that a disruption of the accustomed harmony between accommodation and convergence is in most cases at the root of any discomfort which emmetropic persons, when they become presbyopic, receive from spectacles, especially if the latter are at all stronger than they need be. Such discomfort may often be relieved by the simple expedient of having the centres of the lenses displaced inwards, so that they exert a prismatic action of a kind to diminish the convergence strain. When I myself first used spectacles, and had all my needs fulfilled by glasses of one dioptric, I have often tried the experiment of putting on stronger ones, say of two dioptrics, and I invariably found, after using them during a few minutes for objects at their focal length, that weariness and discomfort of the eyes was produced. If now I added to the lenses a pair of prisms of seven and a half degrees, with their bases inwards, so as to form with the lenses an orthoscopic combination, all discomfort was at an end. There was the nuisance of weight, and there was the nuisance of the convexity and altered shape

of the page; but, except for these, the comfort was complete. I have read for hours with such glasses without experiencing a single sensation which could remind me that I had eyes. As a general rule, we may satisfy all the wants of the presbyopic by glasses of such moderate power that the consequent disruption of the previously existing relation between accommodation and convergence is not sufficient in degree to be a source of discomfort; but we shall sometimes meet with a case in which the patient is unusually sensitive upon this point, or in which the nature of the occupation is such as to render an unusually high magnifying power desirable. In either of these cases we may overcome the difficulty by having the glasses decentered—that is to say, so cut that the patient, at the accustomed line of his convergence, does not look through the centres of the two lenses, but through a portion at the outer side of the centre of each, in the manner shown in Fig. 22. It is immaterial how much the lens is decentered, the effect being much the same as long as the visual line passes through it to the outer side of its axis. Each glass is then a prism with its base inwards, and the pair enable the eyes to obtain single vision of an object which is nearer to them than the point to which they are actually directed. In other words, the prismatic element in such spectacles diminishes the demand for convergence, just as the convex lens element diminishes the demand for accommodation. It is not necessary that the lenses should be orthoscopic, should diminish the two demands precisely in the same degree, because there is, as we have seen, a certain play, or relative range, of each function independently of the other. As long as we keep the two so nearly together that the limits of this range are not exceeded, nor even too nearly approached, we shall find that the eyes, supposing them to be emmetropic and presbyopic, can be used for all ordinary purposes and for any reasonable time.

On the grounds thus stated, therefore, I should put aside entirely, as an exploded error, the still prevailing notion that middle-aged or elderly people, previously of good sight, are liable to injure their eyes by the use of strong spectacles; and instead of allowing them to remain—tottering, so to speak, on the brink of their constantly increasing presbyopia, I am accustomed, as soon as the change becomes an inconvenience, to prescribe glasses sufficiently strong to relieve them completely, and for some little time to come. If I may venture to quote a passage which I have already published, it will be to point out that the effect of the gradual impairment of accommodation becomes harassing, to persons who are engaged in sedentary occupations, generally between the forty-fifth and the fiftieth year; but very frequently the use of glasses is still improperly deferred. It is important for it to be understood that spectacles, instead of being a nuisance or an encumbrance, or an evidence of bad sight, are to the presbyopic a luxury beyond description, clearing outlines which were beginning to be shadowy, brightening colours which were beginning to fade, intensifying the light reflected from objects by permitting them to be brought nearer to the eyes, and instantly restoring vision to a standard from which, for ten or a dozen years previously, it had been slowly and imperceptibly, but steadily, declining. This return to juvenility of sight is one of the most agreeable experiences of middle age; and my general principle, therefore, is to recognise presbyopia early, and to give optical help liberally, so as to render the muscles of accommodation not only able to perform their tasks, but able to perform them easily. When, as will happen after a time, more power is required, the stronger glasses should at first be taken into use only by artificial light; and the original pair should still be worn in the daytime. If the glasses fail to relieve discomfort, or if they become sources of discomfort themselves, the strength of the convergence muscles should be taken into account, and an endeavour should be made to give relief by means of decentred or prismatic lenses. It is seldom worth while to begin the treatment of presbyopia with lenses weaker than a dioptric; and lenses stronger than three dioptrics will scarcely ever be required, except possibly in extreme old age. Between these limits I generally make four gradations—namely, 1·5, 1·75, 2·0, and 2·50. With these six powers nearly every case of emmetropic presbyopia may be successfully treated; and the ametropic forms will require a separate consideration.

When I first called your attention to the diagram in Fig. 15, in which Donders has drawn the curve of gradually failing accommodation which constitutes presbyopia, I mentioned his belief that the emmetropia of adult age often, or even generally, passes into hypermetropia as life advances. In other words, we often find that, after the age of fifty, distant vision is in some slight degree improved, or at all events is not impaired, by looking through a weak convex glass. The smaller curve of the diagram shows what is the ordinary course of things; that is to say, that a convex quarter dioptric is tolerated at the age of sixty, half a dioptric at sixty-five, 0·75 at seventy, 1·0 at seventy-five, and 1·50 at eighty. There can be no doubt about the facts; but I venture to think there may be doubt about the right interpretation of them. I am disposed to regard such cases not as instances of acquired hypermetropia, but as instances of manifest hypermetropia which was previously latent, or entirely concealed by the accommodation. Donders assumes that emmetropic eyes are not uncommon; I almost doubt whether they exist. I use the term, in common parlance, to include all those very small degrees of hypermetropia which are not disturbing to vision, and which are perhaps too slight to be readily estimated or even identified; but, speaking with precision, I can hardly imagine an eye that is truly emmetropic. We talk about men who are six feet high, but the chances against any particular man being precisely of that height are so great as to be almost incalculable. So they are, as it seems to me, against the focal distance and the axial length of any eye being precisely identical; and, of the two forms which ametropia may assume, hypermetropia is greatly the more common. When Dr. Cohn first investigated the refraction of children in the schools at Breslau, he found only 239 in 10,060, or 2·38 per cent., who were hypermetropic; but it has since been well established that the tests which he used were not fine enough for the discovery of the slighter grades of the condition; and that, in children who are not myopic, a slight degree of hypermetropia is the rule. I have lately been told, by Dr. Hirschberg, of Berlin, of some investigations, the precise reports of which I have not yet been able to procure, but according to which the hypermetropic eye is the normal formation in children, and in all the lower animals as far as they have been examined; and I strongly incline to the belief that it must also be regarded as the normal formation in the human adult, and that we must be content to look upon emmetropia as a merely ideal standard, constantly and closely approached, but seldom or never attained. We shall often find that even high degrees of hypermetropia are completely concealed, and rendered latent, by the accommodation; and it need not be a matter for surprise if the slighter grades, even up to an advanced period of life, remain entirely unsuspected.

We have already seen, in the first lecture, that the measure of hypermetropia is the power of the lens which will correct it; that is to say, which will render parallel rays just so far convergent that the refracting media of the passive eye may bring them to a focus upon the retina. We have also seen that the effort of accommodation is practically the addition of a lens to the eye; and, for the correction of hypermetropia, it is a matter of indifference, optically speaking, whether the required lens be added externally, by art, or internally, by natural effort. The eye shown in the second line of Fig. 16, which is hypermetropic to four dioptrics, would be undistinguishable from an emmetropic eye if it were exerting four of its nine dioptrics of accommodation; and, as with an emmetropic eye, its vision for distant objects would be impaired by even the weakest convex glass, unless a part of the accommodation effort could be relaxed. It would only be distinguishable from an emmetropic eye by the circumstance that it would have less than the normal amount of accommodation for divergent rays; so that its near-point would be farther away than that of an emmetropic eye at the same period of life. Taking the conditions shown in the figure, it would have only five dioptrics of working accommodation, and its near-point would be at eight inches instead of at four inches and a half. Even this condition might be due to weakness of accommodation; and, while it could hardly fail to excite suspicion of hypermetropia, it would by no means afford certainty. Such cases would be sources of great embarrassment in practice, were it not for the power which we possess of paralysing for a time the accommodation by the application of atropia; so as to obtain an absolutely passive eye, the refraction of which may be accurately tested. It is manifest, however, that the examinations thus made will be misleading, if any part of the accommodation should be still retained, in cases in which it was supposed to be entirely set aside.

Now, Donders taught, and writers generally have followed him, that the instillation of a drop of a solution of sulphate of

atropine, of the strength of four grains of the salt to the ounce of distilled water, would completely paralyse the accommodation of the eye so treated. He says that the accommodation begins to diminish in from twelve to eighteen minutes, that the diminution is still trifling at the end of twenty-six minutes, that it then proceeds, at first rapidly and afterwards more slowly, until, at the end of one hundred and three minutes, the near-point and the far-point coincide, and the accommodation is *wholly removed*. This statement was published in 1864, and it is repeated, word for word, and without comment, by Mauthner, one of the most recent writers upon the subject of the defects of accommodation. At the Royal London Ophthalmic Hospital, however, it has long been the custom of the staff to act upon the assumption that Donders was in error, and that the accommodation cannot be completely paralysed thus easily. It is not uncommon for them to apply a solution of atropine three times a day for a week or longer; and they confidently affirm that in this way they bring out, and render manifest, degrees of hypermetropia which were still concealed by the accommodation after a single application. I am not aware that anything has been written upon this subject, or that any precise data have been placed on record with regard to it; but I have myself often followed the practice of saturating the eye with atropine, and I entertain no doubt that this practice affords the only means of paralysing the accommodation entirely. I think that the eye clings, so to speak, to the last shred of its accommodating faculty, and surrenders it tardily and unwillingly; and I feel sure that many eyes have been pronounced to be emmetropic, because they rejected the weakest convex glass for distant objects after a single application of atropine, which were really hypermetropic to the extent of a dioptric, or of a dioptric and a half. The latent hypermetropia of such eyes would be disclosed by perseverance in atropinisation; and it is disclosed also, in course of time, by the total loss of accommodation which occurs at advanced periods of life. It must be remembered that the optical effect of a dioptric, or of a dioptric and a half, of hypermetropia, would be extremely small. A reference to Fig. 16 will show that a hypermetrope of one dioptric, with nine dioptrics of accommodation, would have his near-point at five inches instead of at four and a half; and that an additional half-dioptric of defect would remove the near-point only one-third of an inch farther away. With ordinary accommodation such a degree of hypermetropia as this would entail no inconvenience; or at most would cause presbyopia to become declared a year or two sooner than in an emmetropic eye.

It may further be remarked, with reference to the view expressed by Donders, that this appears to have been founded upon experiments upon the eye of his assistant, Mr. Hamer; and it by no means follows that what was true of Mr. Hamer must be true universally. It follows still less, because Mr. Hamer is in a slight degree myopic; and the recent researches of Iwanoff tend to support the belief that the structure and strength of the ciliary muscle, in the two forms of ametropia, differ materially and in opposite directions from those of the emmetropic standard. Fig. 23, which is taken from Iwanoff's

Fig. 23.

drawing, represents a diagrammatic section of the ciliary region of the eye, and shows the outline of the muscle in emmetropia, in myopia, and in hypermetropia. The thick continuous line shows the emmetropic muscle, the dotted line the myopic, and the broken line the hypermetropic. It will be seen that the anterior border of the emmetropic muscle is nearly at right angles to the sclerotic; while that of the hypermetropic muscle comes more forward, and that of the myopic muscle recedes. The hypermetropic muscle is more bulky than the emmetropic by the whole mass of the triangle A; and the emmetropic muscle is more bulky than the myopic by the whole mass of the triangle B. The anterior portion of the muscle, moreover, contains nearly the whole of the circular fibres; which in the hypermetropic eye are more numerous, and in the myopic eye less numerous, than in the emmetropic; and it is reasonable to suppose that these circular fibres may be the chief agents in the work of accommodation, and that in this muscle, as in all others, work is a stimulus to development. It is intelligible that in the hypermetropic eye, which has constant need to exert its accommodation, the muscle subservient to the function should be stronger, better nourished, and less ready to yield up all its power under the influence of atropine, than the corresponding muscle of a myopic eye, in which the demand for accommodation would be only of an occasional and comparatively trivial nature. So far as this we should be led by reasoning, even if Iwanoff's investigations had not been made; and it must be admitted that these investigations still need confirmation, and that Iwanoff himself does not assert that the proportions above stated are of invariable occurrence. He asserts that they are the rule; but the rule is not without exceptions. Still, even if the sections made by Iwanoff were wholly deceptive, any error into which he may have fallen would not invalidate the evidence of analogy; and on the ground of analogy alone the frequent latency of the smaller grades of hypermetropia must be regarded as highly probable. The higher grades of this form of defect, which are discoverable always and without doubt, must be reserved for consideration in the next lecture.

SELECT LECTURES ON MEDICAL JURISPRUDENCE.

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Lecture XVII.—WOUNDS—*Continued.*

(*Concluded from page* 29.)

As regards *the mere colour* of the blood, too much stress should not be laid on the distinction betwixt *blood recently effused* and that which is *older*, as sometimes drawn from the respective appearances of different stains or blood-spots. For, while it holds good generally, that recent stains are *red*, and older stains *brown*, the change of colour is influenced by other circumstances than *age alone*. Thus, the same change is more speedily induced by *warm* than by *cold weather*. Thus, too, the colour will more speedily darken where the layer of blood is thick, than where it is thinner. The nature of the stuff, and that of its surface, will further influence the shade of colour of the stain. "Thus," from their relative *porosity* or *the reverse*, as well as from contrast, "marks of blood upon *white stuffs*, and upon *light wood*, are *paler* and *duller* than those *on articles of greater density*, as varnished or painted wood, iron, and stone."—(Wharton and Stillé, page 557.)

To Ollivier d'Angers we owe the notice of the important fact, that "on coloured stuffs, especially on those which are brown, blue, or black, the spot is more easily recognised by *candle-light* than by *daylight*. He had been directed to re-examine the room of a person accused of murder. Having already visited it in the day-time, his second examination was conducted at night; and he *now discovered*, by holding a lighted candle near to the paper-hangings, which were of a pale blue colour, a number of drops of an obscure dirty red, which by day had the aspect of small black specks, and were lost in the general pattern of the paper. On a further examination, other spots of the same kind were found on the furniture. On the chimney-jamb, which was painted blue, there was a large stain of blood, which appeared red by the light of the candle. The next day, by daylight, Barruel and Lesueur could not find these spots, and were obliged to make use of artificial light to discover them.—(*Id.*, page 557.) "The same remarks will, of course, apply to spots of blood upon dark woollen cloth."

It is necessary, however, here to suggest to you that broad daylight *should, in the general case*, be preferred to artificial light in the search for obscure traces of blood. I have failed

to detect some of these stains at night which came out distinctly on the following day. Once more, it may not be useless to warn the medical jurist to search for traces of blood in places where it would be apt to escape the notice of a person wishing to obliterate all traces of it; such as in the seams of clothes, the soles and seams of shoes, etc.

Every such stain or appreciable trace of blood, unless washing or friction has been previously had recourse to, will present some sensible characters which may be deserving of being attended to. "Thus," as remarked by Dr. Taylor, "the crimson stain of blood is unlike that of any other colouring matter, and when the stained portion presents the character of a dry coagulum, the stain cannot be easily mistaken by a practised eye for that caused by other red colours."—("Principles and Practice," page 445.) To bring this out, where the stain is of minute size, recourse may require to be had to a strong light, under the low power of the microscope. In this case, on the stained part, or at least on its fibres, if on cloth, a shining glossy film will either be detected, or a dried jelly-like clot will be seen investing the cloth or its fibres, these having a more or less deep shade of redness.

Some other stains, however, approach on some points to those of blood.

Thus, as pointed out by Lassaigne, *the dejections* of *fleas*, *bugs*, and *flies*, on undyed stuffs, correspond pretty closely with the stains produced on these by small drops of blood, as far as their ground tints are concerned:—

The stains from the flea and the bug agree with those from blood, in yielding to water a rich colouring matter and traces of albumen. The respective shades of colour differ somewhat, however: that from the parasites being *a currant red;* while that from blood verges more or less to a *brownish or greenish red.* A better distinctive mark is afforded, according to Lassaigne, by the characteristic odour of the two insects, which is brought out readily by merely moistening the stain with water.

The reddish *stain produced by crushing the common fly between folds of cloth*, Lassaigne found to be caused by the escape of the red-coloured *aqueous humour* from their *large compound eyes.* From *its appearance alone*, he found that this could not be distinguished from the stain caused by a drop of blood. On macerating it in water, however, the water took an *orange-yellow tint*, and was found to contain *no albumen*, leaving the original stain of a *yellowish brown.* The colour of the fluid, thus obtained, was *discharged by chlorine*, without affording any precipitate. On touching the fly stains with various agents, this observer also obtained characteristic results, such as a *deep violet* with sulphuric acid, and a *bright red* with nitric acid.—(*Ann. d'Hyg.*, January, 1866, page 204.)

When due care has been taken to obviate chances of mistaking such sources of reddened stains as the above, and where the quantity of blood has been such as presents its more obvious characters, nothing further than a mere inspection may be required. It will often happen in practice, however, that, either from the minuteness or indistinctness of the stains, or from their having been interfered with by wetting, rubbing, or otherwise, more rigid methods will be required for their verification and discrimination.

For the ready verification of doubtful blood-stains on articles of dress, the following steps may, in the first instance, be taken. The stained portion of the stuff should be cut out and suspended by a thread in a small test-tube containing as much distilled water as will cover the stain. On standing, if the stain is from blood, the colour speedily detaches from the cloth and gravitates to the bottom of the tube, leaving the supernatant fluid nearly clear, and any fibrine which may have been present originally on the cloth remains still adherent to it in the form of a soft greyish or slightly reddish film. The reddish fluid at the bottom of the tube, on being now heated, if a mere trace of albumen merely is present in it, becomes milky; but if albumen is more abundant, it will yield a coagulum of a dirty greyish or greenish colour, all trace of redness in the fluid having by this time disappeared. The clot re-dissolves on the addition of caustic potass, the solution taking on a reddish-yellow hue by refracted, and a green colour by reflected light.

In order to strengthen the proof of the colour of the stain being from blood, other processes supplementary to or in lieu of the above procedure have been advised. Of these, writers on chemistry and physics have spoken with most confidence of—

(1.) *Teichmann's test*, which, as modified by Buckner and Simon, is substantially as follows:—The stained portion of the stuff is to be cut away from the rest—if recent, *macerated*, and if old, boiled with an excess of glacial acetic acid, till the acid is coloured, when it is to be evaporated to dryness on a watch-glass. When now placed in the field of the microscope, the matter in the watch-glass will be found to present *hæmine*, in the form of rhomboidal tabular, or indeterminate crystals, varying in colour from a faint yellowish red to a deep blood red. As the presence of *the saline matter of the blood is* requisite to the success of this process, and as this may have been previously all washed away, the advice has been given, to add a *very small particle* of common salt to the acetic acid before the maceration or boiling, in order to insure the appearance of the crystals.—(Caspar, vol. i., pages 199-201.) Dr. Taylor and others have dispensed with *the common salt* in this process, as unnecessary, and as liable to encumber the field of view with cubic and other crystals of chloride of sodium.—("Principles and Practice," page 261.)

(2.) In 1861, Schönlein announced a new test for blood. He found that *peroxide of hydrogen or antozone* had *no action* on *tincture of guaiacum*, but that in the presence of blood in the fluid a blue colour was produced. Hence, he concluded that there could be no blood present when there was no blue reaction, and that the production of a blue colour, though it might not lead to a positive conclusion as to the presence of blood, yet was a sufficient corroboration of other tests of blood.—(*Ann. d'Hyg.*, vol. xxxiv., pages 431-2.)

Dr. Taylor goes farther than this, and adopts Schönlein's conclusion without any qualification. He employs an etherial solution of the peroxide of hydrogen, and takes up the blue precipitate with an excess of alcohol or ether, when he obtains a deep sapphire blue solution.—("Principles and Practice," vol. i., page 527.)

(3.) Some reliance was formerly placed upon the colour test brought out by the addition of caustic soda to the stain taken up with water, which brings out a play of colours, from brown to green, and these changes occupying some time. The same effect is producible with concentrated sulphuric acid; an effect, however, which is equally yielded by this acid with albumen alone, or the bile acids, and even fat.

(4.) Some chemists have proposed to extract first the animal matter from the stain by potass, to throw it down by nitric acid, and subsequently to take up the iron from the colouring matter by hydrochloric acid, and to test the solution for this metal by ferrocyanide of potassium.

(5.) Once more: it has been proposed to apply the process of *spectrum analysis* to the detection of the blood in suspected stains.

Now, to the best of these tests it has been shown that serious, if not fatal, objections admit of being urged. To bring out their expected results, the quantity of colouring matter on the stains falling to be examined would require to be more considerable than is sometimes found to be present on those stains submitted to the medical examiner. Nor is this the sole objection to their use on such occasions. Teichmann's test, for instance, has been shown by Roussin and Kunse to be liable to much uncertainty. Both these persons have come to the conclusion that spots of human blood, or even the fluid itself, in appreciable quantity, may fail to yield any hæmine crystals whatever, or only such as are of so indefinite character as to be utterly worthless as a diagnosis.—(*Sydenham Society's Year-book*, 1864, page 456; Roussin, *Annales d'Hygiène*, vol. xxiii., page 142.) Similar failures have been found to follow the attempts at bringing out the polychroism of the blood, even in the hands of competent experimentalists. In the hands of Liman, again, and others, Schönlein's test yielded very doubtful results; while they found that the many substances belonging to the three kingdoms of nature yielded the blue reaction with guaiacum. The whole question has recently been examined by Pinard in France with substantially the same results.—(*Ibid.*)

As regards the *spectrum analysis*, it has been admitted by those who have examined it in connexion with blood-stains that they found it difficult to extract the *cruorine*—the colouring matter on which the process hinges—from stuffs of various kinds; and further, that *with the cruorine*—even when successfully extracted—foreign matters are usually found mixed, whose presence either hinders the production of the spectrum altogether, or renders the fluid so turbid as to interfere with its distinctness.—(*Journal of Science*, No. 1, pages 212-3.)

All this being admitted, it has been proposed by Roussin, who has carefully investigated the subject, to *dispense altogether with the chemical proof* of doubtful blood-stains, and to trust entirely to the *microscopical examination.* For this purpose,

this expert advised "that the stained stuff should be carefully examined; that a separate, distinct, and well-defined spot should be selected, choosing a part which has escaped traction and friction; that from this a portion not exceeding the breadth of a twenty-centime piece (the breadth of the nail) be cut out with blunt-pointed scissors, or the point of a scalpel, and spread out on a glass slide. On this from a pipette is to be dropped a few drops of a fluid composed of three parts by weight of glycerine, one part of concentrated sulphuric acid, and as much distilled water as will bring the compound to the specific gravity of 1028, leaving the stuff to imbibe the fluid for about three hours. At the end of that time two glass rods drawn out to fine points are to be used to press the stuff and move it about, and afterwards to disentangle its separate threads; when the threads are to be collected and withdrawn, and the fluid immediately covered with a cover-glass, when it is ready for placing in the field of the microscope."

By this process, the blood-globules will be easily recognised, of their natural size and shape, with a stain of even a smaller size than that prescribed by Roussin, provided the stain be recent and tolerably distinct. As admitted by its author, the success, however, will be interfered with where the stuff has been previously submitted to traction or friction. I have found, also, that it succeeds best with recent stains.

In practice, on some occasions, I have attempted to combine the whole or the greater number of the above tests as follows:—

The stained portion of the cloth is to be cut out, and suspended by a fine thread in a test-tube containing distilled water. If the stain has been from *rust or red paint*—the peroxide of iron—the cloth will yield *no colour* to the water; the addition to the contents of the tube of hydrochloric acid will destroy the colour of the cloth and render the fluid yellowish; and the yellow fluid, on the farther addition to it of ferrocyanide of potassium, will indicate the presence of perchloride of iron by the production of Prussian blue.

If the stain has been *from blood*, the colouring matter will detach itself from the cloth in the form of reddish striæ, and collect at the bottom of the tube, while the water will assume a reddish colour more or less pronounced.

(*a*.) A portion of the contents of the tube may now be used for the spectroscope. (*b*.) Two or three drops of the fluid from the bottom of the tube may be cautiously withdrawn by a pipette and placed in the field of the microscope, and the slide examined for blood-discs, epithelial scales, or fragments of capillary tubes. (*c*.) Two or three more drops similarly withdrawn from the bottom of the tube may be placed on a glass slide, glacial acetic acid added, and be left to spontaneous evaporation, or gently heated, and when dried looked at by the microscope for traces of blood-crystals. (*d*.) A little of the fluid may be dropped on white filter-paper and submitted to the guaiacum test. (*e*.) A little more of the fluid, after the addition of ammonia, may be watched for any change other than a heightening of its colour. (*f*.) The remainder of the fluid in the tube may now be heated, without or with nitric acid, for albumen, which if present will render it milky or throw down a coagulum from it, of a dirty grey colour, leaving the water without any trace of red. (*g*.) The turbidity or coagulum, if from albumen, will disappear or be re-dissolved on the addition of caustic potass, and assume a brownish-red by refracted, and a green colour by reflected light. (*h*.) When a stain has arisen from a layer of blood of perceptible thickness, the cloth, after maceration, may exhibit a soft, white, greyish, or rosy adherent matter, which, when removed and placed under the microscope, will prove to be the fibrine of the blood.

If, in place of stains on clothes, *a liquid, supposed to be blood*, has to be submitted to examination, by adding a drop or two of the suspected fluid to distilled water in a tube, the various steps of the above method will give the same results, with, of course, the exception of the last, or *the discovery of the fibrine*.

To insure the success of the above method several precautions require to be taken, and allowance made for some modifications or shortcomings in the results. To obviate these, the quantity of water employed should be as small as possible, and but little delay in the examination of the contents of the tube permitted. Thus, the fresher the fluid the better will the colour tests come out. Again, with (*b*), while the blood-discs in any case will not, as in Roussin's process, be found to have retained their natural size and form, from their imbibition of water and endosmose, they may be expected, if the examination is delayed, to be found of irregular shape, or even altogether broken up. Once more, to render the spectroscope (*a*) available in this way, the contents of the tube may require previous dilution, or their transference to a tube of very thin glass.

In the *detection of blood on weapons or instruments*, the medical examiner has to guard against some chances of mistake. Thus, on steel instruments, the presence of *rust spots* and *certain vegetable salts* of *iron* present very much the aspect of blood. A case in point is adduced by Orfila:—

A man in Paris was suspected of having murdered another; and a knife, apparently spotted with blood, was found in his possession, and regarded as a strong circumstantial proof of his guilt. The weapon was sent to the Laboratory of the Faculty for examination, when it was ascertained that the supposed spots of *blood* were nothing more than *citrate of iron*. The instrument, it appears, had been used some days previously for the purpose of cutting a lemon. Not having been wiped before it was put aside, a simple chemical action had gone on between the acid and the metal, which gave rise to the appearance in question.

Though, as already pointed out, the distinction is easily established betwixt stains of blood and stains by the salts of iron, when *either of these exists singly* on weapons, Lesueur and Robin, in 1856, found that some difficulty may be encountered in deciding on the real character of a stain on a weapon compounded of the two. To obviate this, in a case in point, they scraped off a portion of the stain, dropped it on a solution of sulphate of soda rendered slightly alkaline by caustic soda or potass with or without the addition of glycerine, when the substance examined under the microscope resolved itself into blood-discs on the one hand, and brownish-red particles of carbonate of iron on the other.—(*Ann. d'Hyg.*, July, 1856, pages 134-5.)

Lassaigne found that blood-stains on articles of steel, kept for six days in a humid atmosphere, failed to yield albumen or its colouring matter to water, from, as he supposed, the hæmatine and albumen forming with peroxide of iron a compound insoluble in water, and that such stains on wood containing much tannin—such as the common birch—may yield no albumen to water, owing to the previous formation of the two. To obviate this last difficulty, he suggests that the surface of the stain only should be employed; the compound in question originating only with the portions of the blood which have had time to penetrate below the surface of the wood.—(*Id. op.*, January, 1856, page 199.)

The medical jurist may be called on, in some instances, to discriminate betwixt *blood and other animal matters*, such as cerebral matter, menstrual fluid, etc.

(1.) In the case of cerebral matter, Orfila, besides the use of the microscope, proposes that the stain should be moistened, when hydrochloric acid will give a dull reddish grey with the brain matter, passing, ultimately, into a Malaga red; and sulphuric acid a violet colour, without any charring. Lassaigne considers the sulphuric acid test sufficiently characteristic, and found that it first yielded a sulphur yellow, speedily passing into a vermilion red, followed in two minutes by violet, which disappeared on exposure in about half an hour.—(*Ann. d'Hyg.*)

(2.) The question of the possibility of distinguishing betwixt *menstrual blood* and that which had flowed from an *ordinary wound* was mooted in a trial in France in 1858. In this instance, a person had been found dead, at some distance from his own house, with numerous large wounds on the head, shoulders, and other parts. Circumstances, not detailed, led to the suspicion that the murder had been committed *in the man's house*, and the body subsequently *carried to the spot where it had been found*. Large spots of blood were found in *the bed usually occupied by the man and his wife*. The woman was suspected of the murder; but on being charged with the crime she affirmed that the blood in the bed had proceeded from herself, and that she had been recently *menstruating*. This circumstance led, amongst other inquiries, to certain experimental researches on the part of MM. Mannoury, Salmon, and Robin, with the view of deciding as to the true source of the blood in question; the result of which was that in all their investigations, they found—first, that *menstrual blood* differed from that drawn from the vessels of the body, in containing a mixture of *epithelial cells and mucous globules*, the former derived from the utero-vaginal lining, the latter from the mucous covering of the genital membrane; secondly, that these bodies were never found in blood issuing directly from the vessels of the body; and thirdly, that by comparing the two forms of blood by the microscope, their respective characters could always be distinctly ascertained.—(*Ann. d'Hyg.*, 2me série, vol. x., pages 434-5.)

Few experts, however, I imagine, would be disposed to rely on such a test. I have met with epithelial cells in blood-stains from different parts of the surface, while mucous globules so closely resemble colourless blood-corpuscles, that if not, as held by some, identical, they differ so little from them as to render the discrimination of the two all but impossible.

(3.) No difficulty would present itself in the discrimination of the blood on a stain, whether from the mammalia other than the camel and the blood of fishes, birds, and reptiles, the shapes of the discs differing so much from each other. When, on the other hand, the discrimination has to be made betwixt human blood and that of the mass of the mammalia, the only assistance would lie with the determination of the respective measurements of the discs—a task which none but a practised microscopist would be authorised to attempt, even if he could do so successfully, dealing, as he would have to do, not with fresh blood, but with that altered by drying.

In the case of the murder near Kintore, previously referred to, the accused alleged that stains on his frock coat had been caused by swine which he had been carrying for a flesher a few days before, and we declined to give our opinion on the point raised in consequence on the precognition.

ORIGINAL COMMUNICATIONS.

STATISTICS OF DISEASE IN KING WILLIAM'S TOWN, BRITISH KAFFRARIA.

By CHAS. JAS. EGAN, A.B.T.C.D., M.R.C.S., etc.

In examining the statistics of disease in this country, in reference to its fitness as a health-resort for phthisical patients, it is of most importance, first, to consider the diseases of the respiratory organs.

The total number of cases of these diseases, attended in the six years 1870 to 1875, and from which the following statistics are drawn, are 1837—divided as is shown in the following table:—

Table I.

	1870.	1871.	1872.	1873.	1874.	1875.	Total.
Disease of respiratory passages	102	89	85	122	86	150	634
Bronchitis	33	67	100	85	111	111	507
Pneumonia	21	5	20	32	23	31	132
Croup	1	5	3	4	8	26	47
Influenza	17	81	109	53	121	95	476
Phthisis	4	9	8	4	5	11	41
	178	256	325	300	354	424	1837

Under the heading of diseases of the respiratory passages are included cases of common catarrh, relaxed throat, chronic and acute tonsillitis, cynanche pharyngea, and cynanche laryngea (with the exception of croup).

Table II. shows the number of these cases that occurred in each quarter of the year (the quarters being the same as given in the meteorological statistics at page 362 of the last volume of this journal), and the percentage for each quarter on the whole number of cases:—

Table II.—*Respiratory Passages.*

	1870.	1871.	1872.	1873.	1874.	1875.	Per-centage.
Spring	27	15	13	31	23	46	24·45
Summer	16	15	19	24	28	30	20·80
Autumn	30	30	25	45	21	32	28·70
Winter	29	29	28	22	14	42	26·86
	102	89	85	122	86	150 = 634	

This table shows that this class of disease is most common in the autumn months—viz., March, April, and May—which is the season in which the most sudden changes of temperature take place, and when fogs at night are most common. At this time of the year the epidemic "house sickness" is prevalent, which is a form of acute bronchitis or suffocative catarrh.

The number of deaths registered under this class was only 2, giving a percentage on the total number of cases of 0·31. One of these fatal cases was of a very unusual character; death resulting from hæmorrhage, derived from ulceration of an artery in the throat, with rapid sloughing of the right tonsil.

The other death resulted from cynanche laryngea in a boy fourteen years of age, on whom I performed the operation of tracheotomy.

The disease next in order to the above is bronchitis, of which 507 cases were attended during the six years. In this number, of course, there are included very mild as well as severe cases, and both acute and chronic.

Table III. shows the distribution of these in the different quarters of the year, and the percentage on the whole number:—

Table III.—*Bronchitis.*

	1870.	1871.	1872.	1873.	1874.	1875.	Per-centage.
Spring	10	28	34	19	21	36	29·20
Summer	5	13	31	31	27	17	24·50
Autumn	5	9	22	18	26	24	20·51
Winter	13	17	13	17	37	34	24·00
	33	67	100	85	111	111 = 507	

The number of deaths that occurred among these cases was 4, or about 0·79 per cent., which shows that bronchitis cannot be considered a very fatal disease in this country.

The next table shows the statistics of pneumonia:—

Table IV.—*Pneumonia.*

	1870.	1871.	1872.	1873.	1874.	1875.	Per-centage.
Spring	10	1	8	12	14	14	44·70
Summer	1	1	4	4	4	3	12·88
Autumn	5	1	3	8	2	5	18·18
Winter	5	2	5	8	3	9	24·24
	21	5	20	32	23	31 = 132	

From this we find that while diseases of the respiratory passages are most frequent in the autumn months, bronchitis and pneumonia are more common in the winter and spring. The number of deaths that occurred in this class was 14, or 10·60 per cent.

Croup is the most fatal of these diseases, and I have therefore separated it from the diseases of the respiratory passages, and given a separate notice of it.

Many cases of this disease, of which no registry is kept, take place in the country districts, where the disease comes on suddenly, and death ensues before any medical assistance can be obtained; and some are brought into town in a hopeless and dying state, which circumstance increases the mortality shown in these reports.

Table V.—*Croup.*

	1870.	1871.	1872.	1873.	1874.	1875.	Per-centage.
Spring	—	—	—	—	1	4	10·62
Summer	1	—	1	—	5	7	29·78
Autumn	—	—	1	2	2	11	34·06
Winter	—	5	1	2	—	4	25·53
	1	5	3	4	8	26 = 47	

The number of deaths that occurred from this disease was 13, or 27·66 per cent.; and it will be seen that it is most prevalent in the autumn and winter, the same seasons in which the respiratory passages are most affected by disease.

Nearly every year some cases of influenza occur, but occasionally a regular epidemic sets in, as in the years 1872 and 1874, when nearly everyone in the community suffers more or less from it. This very year (1876) there has been a widespread epidemic of the disease all over the colony, attacking both natives and Europeans.

Of course the number of cases attended by me, and reported in these statistics, does not show the number of cases that actually occur, as all the milder ones take care of themselves, without applying to any medical practitioner; and often when called to see one member of a family, the prescription given is used for each succeeding case that may occur.

The following table gives the statistics of influenza:—

Table VI.—*Influenza.*

	1870.	1871.	1872.	1873.	1874.	1875.	Per-centage.
Spring	4	37	76	24	38	17	41·35
Summer	4	21	22	—	22	2	14·96
Autumn	6	15	—	12	39	30	21·09
Winter	3	8	11	17	22	46	22·55
	17	81	109	53	121	95 = 476	

One death occurred among these cases, giving a percentage on the whole number of cases of 0·21.

Having now given statistics of the principal diseases of the respiratory organs, I come to phthisis, the disease for which especially patients are recommended to come to South Africa.

The total number of cases of this disease that have come under my notice in the six years 1870 to 1875 is 41, and of these 13 cases were colonial-born persons, and 28 came from England, some of them especially on account of disease of the lungs.

According to my experience, cases of phthisis in colonial born persons are more rapid, and give less hope of amelioration by treatment or change of climate, than in home-born persons.

Patients who come here with slight deposits of tubercle at the apex of the lung, but where softening has not taken place, and cavities have not been formed, have a very good chance of a healthy life by taking ordinary care of themselves: by not exposing themselves to the night-air after a hot day, nor suddenly changing their clothing because the weather has taken a sudden change, and especially by always wearing, both in summer and winter, flannel underclothing—underclothing made of *wool*, not mixed with any cotton.

No person should be recommended to come here in whom the disease is much advanced. The climate is good for such cases, but the manner of living here is much rougher than at home; and to a stranger coming here the want of home comforts cannot be supplemented.

Travelling by cart over rough, stony roads is very wearisome to a person in health, and the jolting is peculiarly bad for invalids.

The hotels, except in the large towns, are not comfortable for invalids; and, even in the best hotels, very little trouble is taken to make an invalid comfortable. Besides, the cooking is not of a very superior character—well enough for persons in health, but unsuited for a phthisical patient with a weak digestion.

Travelling by bullock-waggon, as described in a recent work on South Africa as a health-resort, is very pleasant for persons in health, and even for an invalid while the weather keeps fine; but should rain set in, all the pleasure will disappear. Besides, the pleasure of such travelling depends on the number of your servants, and cannot be easily undertaken without a good outlay of money.

To asthmatical patients, who have no organic disease of the lungs, this open-air life of waggon travelling is very beneficial. I have met cases of this kind, who never had a single attack of asthma while living in a waggon, but who suffered severely as soon as they resided in a house.

Among the native population (the Kaffirs), cases resembling phthisis are often met with; but I believe that most of these are cases of pneumonia becoming chronic through neglect. This is more especially the case among the Christianised Kaffirs, because the wild Kaffir wears only a blanket, and when he gets wet, as soon as he returns to his hut he throws off his blanket, and does not sit or sleep with the wet blanket round him, but lies naked on a mat before a fire. But the Christianised Kaffir, who wears European clothes, does not change them when he gets wet, as it is too much trouble, but keeps them on and sleeps in them, and is thus, through the help of civilisation, more subject to bronchitis and pneumonia, the latter often, through neglect, terminating in abscess of the lung.

The Hottentots and Bushmen are nearly all scrofulous, and phthisis is very common among them.

To sum up this paper on the diseases of the respiratory organs, we find that, out of the total number of cases of disease observed in the six years (viz., 1837), 369, or 20 per cent., occurred in the summer months; 440, or 23·9 per cent., occurred in the autumn; 458, or 24·9 per cent., occurred in the winter; and 570, or 31 per cent., in the spring; but the most serious forms of the disease, except croup, occurred in the winter and the autumn.

The total number of deaths that occurred, including 13 from phthisis, was 47, or a percentage of 2·55 on the whole number of cases. As an appendix to the diseases of the respiratory organs, I may mention that pertussis, which is such a dangerous disease at home, is not at all so here when children are taken ordinary care of. There was an epidemic of the disease during the spring and December, 1870, and January and February, 1871, during which I attended over 100 cases of the disease, and only three deaths occurred; and during the autumn and winter of the year 1876 there has been another epidemic, and at the same time a violent epidemic of influenza, and yet I have not heard of any deaths. In my own practice I have been called to see over 120 cases. I hope shortly to be able to add to these statistics reports of disease of the abdominal organs.

King William's Town, British Kaffraria.

CASE OF ACUTE ORCHITIS.(a)

By H. K. HITCHCOCK, M.D.,

THE case which I have the honour of bringing before your notice this evening is one of acute orchitis occurring in, and influenced by, a strumous diathesis.

Acute orchitis, as I need scarcely remind the members of this Society, is generally a sequel of gonorrhœa, occurring coincidently with the cessation or diminution of urethral discharge, usually terminating in resolution, seldom going on to suppuration. Orchitis also less frequently results from local injury (a blow or kick) to the testicle. I make these preliminary remarks because this case differs in several important points from an ordinary acute orchitis, both in its history and course, inasmuch as (1) it was not connected with gonorrhœa, (2) it did go on to suppuration within the testicle, and (3) for some few days I was unable to obtain any history of local injury.

On February 16, 1877, I was called to see W. P., aged fifty-four, married, with grown-up family, an auctioneer, house-agent, etc., a rather stout, flabby man, of average height, with fair complexion, reddish-brown hair, etc.; has a phthisical family history, several brothers and sisters having died of phthisis, and all the members of his own family exhibit more or less signs of struma. He has had very fair health, chiefly suffering from external piles, which he has had the last sixteen years. On this date (February 16) I found him in bed, complaining of pain in the right testicle, which, on examination I found slightly enlarged, red, very hard, and exceedingly painful to the slightest touch. There being no urethral discharge, and the man's history putting gonorrhœa out of the question, I endeavoured to obtain some history of local injury, but he could remember none, merely saying that for a day or two previously the testicle had ached very much, and then suddenly became worse. Every day I jogged his memory, until at last (about the fourth day) he told me that he was in the habit of collecting rents and putting the money into his right trousers pocket, where, oftener than not, he had two or three large door-keys, and that he had often noticed, when moving about quickly, this weight swing and strike the testicle, causing it to ache for some little time after; and he also said that eight days ago his dog sprang heavily against it, causing him to feel so sick as to oblige his sitting down. So there was the local injury established. I ordered four leeches to the right scrotum, followed by linseed-meal poultice, and pil. opii gr. j. statim sumendus.

February 17.—The leeches had bitten well, and poultices had been constantly applied, but the testicle was still enlarging and acutely painful. In the evening, the swelling and pain increasing, I adopted Mr. Henry Smith's plan, and punctured the testicle at its lower and back part with a tenotomy-knife, which was followed by the escape of some black, treacly-looking blood. Linseed-meal poultice was then applied; pil. opii. gr. j.

19th.—He told me that the agonising pain disappeared soon after the puncture of the previous evening, enabling him to sleep, and had not returned since, the pain now being dull and aching; size of testicle, an average hen's egg. Linseed-meal poultice continued.

23rd.—Testicle still continued large, but scarcely any pain, even on handling; so I strapped it, hoping to reduce its size. He bore the strapping well, and the scrotum was suspended in a bag.

25th.—Strapping removed; size about the same. From the tension, redness, and swelling not subsiding, although no acute pain existed, I concluded that some deep-seated suppuration must be slowly going on.

28th.—There has been a gradual increase in size, but very little pain; it is now equal to a *large* hen's egg, and at one place, high up, the scrotum appears thinning and shiny. Mr. Wagstaffe, of St. Thomas's Hospital, saw the patient with me in the afternoon, and with a very narrow lancet (one-eighth of an inch in breadth) punctured the testicle from above downwards, in perhaps a dozen places, inserting the blade trans-

(a) A paper read before the West Kent Medico-Chirurgical Society, at Greenwich, Friday May 4, 1877.

versely. From all the punctures very dark blood escaped, mixed at some points (especially the upper) with curdy pus. The blood coagulated almost directly, and was in quantity, I should think, about five or six ounces. The patient bore the operation well, without chloroform or ether spray. Linseed-meal poultices were then re-applied.

From this date (February 28) no further punctures were required, for those made kept on discharging pus in small quantities, gradually closing, one after the other, from the bottom of the testicle upwards. Three of the first-made punctures at the top remained discharging long after the rest, and from these *débris* of convoluted tubules escaped. These finally closed, and on April 5 the scrotum was quite sound, and, except that the testicle was a little shrunken, nothing abnormal could be perceived.

The treatment during this long period (from February 28 to April 5) comprised poultices of various kinds—viz., carrot, linseed, bread, yeast, figs, etc.,—alternating with warm water and olive oil dressings, and, finally, cold sea-water baths; tonics internally, and purgatives when required. I may mention that the amount of nourishment consumed by the patient appeared enormous, and yet he seemed unable to do with less. I will now, gentlemen, draw your attention to what I consider points of interest in the case. First, its obscure origin shows what slight injury will, if continued, suffice to set up inflammation in a strumous subject, and it also shows the importance of making diligent inquiry of the patient; secondly, what a low type of inflammation, insidiously going on to suppuration, occurs in these cases; and thirdly, what a long time suppuration continues—well exemplifying the pyogenic tendency in struma.

With regard to treatment, I wish, first, to call attention to the rapid relief (without return) of the intense pain afforded by puncturing the testicle in the acute stage; and secondly, to the splendid results obtained by the multiple punctures carried out by Mr. Wagstaffe—a result which, I think, could scarcely have been obtained by any other means, inasmuch as each lobule of the testicle being separately tapped, afforded a free and simultaneous exit for all discharges until the end of the case, thereby obviating any skin-sloughing or fungoid growth, either of which results are common in suppurative orchitis, and would, I fear, have inevitably occurred in this case, either if the abscess had been allowed to break spontaneously, or if it had been lanced in the usual way by free incision; thirdly, the advantages of ringing the changes on poultices of different materials, and alternating them with water or oil dressings, as the patient tires of one dressing so long continued, and I believe the changes, by preventing soddening of the skin, obviate skin-sloughing.

St. Clare, College-park, Lewisham, E.C.

CASE OF

CYANOSIS, WITH GREAT DEVELOPMENT OF THE RIGHT SIDE OF THE HEART;

INTER-AURICULAR SEPTUM PERFECT, AND NO INTERMIXTURE OF ARTERIAL AND VENOUS BLOOD.

By R. SHINGLETON SMITH, M.D. Lond., B.Sc.,
Physician to the Bristol Royal Infirmary.

T. W. J., AGED thirteen, an errand-boy, admitted to the Bristol Royal Infirmary on December 19, 1876, with cardiac symptoms. His mother says that he has always been delicate, and that he was always "of a blue colour." He states that his breath used to be good, and that he could run uphill well till within the last two years. Was not laid up at all till two months ago, when he caught cold, had "bronchitis," and soon after lying up it was noticed for the first time that the feet were swollen.

On admission he was observed to be a thin, ill-nourished, and small-sized cyanotic boy. There was excessive œdematous swelling of both legs, and a considerable degree of ascites. He complained of dyspnœa, and was not able to lie back. The heart's impulse was found to be entirely on the right side of the sternum; there was marked percussion resonance over the normal cardiac area, but a dull patch was found on the right side, extending from the third rib down to the line of liver-dulness, and continuous with that of the liver, its outer limit being a vertical line though the right nipple, its inner limit being the middle line of the sternum. A diffused heart-impulse was felt over this region, and a distinct thrill could be felt to the inner side of the nipple. A loud systolic bruit was heard over the cardiac area, loudest below, but indistinct above; the point of greatest intensity was an inch below and half an inch to the inner side of the right nipple. The chest expanded fairly. Total size round the line through the nipples was twenty-eight inches; the right side measured fourteen inches and a half, and the left side thirteen inches and a half. The left side was unduly resonant everywhere, almost tympanitic; the right side beyond the cardiac area had normal resonance. Occasional rhonchus was heard on both sides, front and back, and some loose crepitation at the bases; but in front, in the infra-clavicular regions, loud puerile breathing was audible. The boy always lay on the right side; the right elbow and the right hip had become sore from his constantly lying in this one position. He complained of troublesome cough. Pulse was very small and compressible; 120. Hands and feet felt cold. Tips of the fingers were very blue, and there was a marked condition of clubbing, with incurvation of the nails. The veins in neck were much distended, and pulsated synchronously with the heart's action. Urine was acid, clear, specific gravity 1025, free from albumen. His temperature was 96° Fahr. Measurement round abdomen was thirty-two inches.

January 8, 1877.—The swelling of the legs had decreased, and he could lie down in bed more comfortably, but the abdomen measured thirty-three inches at the largest part. He passed twenty to thirty ounces of urine daily. His mental condition had improved; he seemed much brighter and more cheerful than on admission. There was no marked irritability or irascibility. The temperature varied from 96° to 97°.

13th.—He was not so well; was very drowsy, and much more blue. Had been sick frequently, and his bowels were much relaxed. Anasarca had increased; the abdomen measured thirty-four inches, both hands had become œdematous, and the face also was puffy. Pulse 108, very small and weak.

18th.—Drowsiness had passed off. Urine scanty (only about sixteen ounces), and contained a trace of albumen. The hands were not swollen, but prepuce was so swollen that it was freely punctured. Abdomen measured thirty-four inches and a half.

25th.—An incision was made above each ankle. Temperature 95·8° in the evening.

26th.—A large amount of fluid had drained away. The hands and feet were very cold, and pulse was only just perceptible; but he seemed more comfortable. Urine clear, specific gravity 1015, with no albumen.

29th.—Fluid still draining freely. Can now lie on his back and move about a little in the bed. Breathes very comfortably, and is less blue. Abdomen measures thirty inches and a half.

February 1.—His strength very gradually diminished, and he died at 10.15 p.m.

Post-mortem Examination, fourteen hours after Death.—Pericardium and both pleuræ full of serum. A small quantity of lymph (œdematous) on the parietal surface of left pleura. Heart situated entirely on the right side of median line; anterior surface formed entirely by the right ventricle; apex hidden; heart's area large. Right ventricle much larger than the left, and its walls equal in thickness to those of the left. Right auricle also dilated and thickened. Tricuspid orifice much dilated, admitting five fingers; the other valves healthy. Foramen ovale perfectly closed, the inter-auricular septum being unusually perfect; there was no interventricular communication. Pulmonary artery was of normal calibre, and its valves perfect. Lungs congested and œdematous. There were patches of emphysema along the anterior margins. The lobes were arranged in the normal manner. Numerous enlarged bronchial glands occupied the root of both lungs. Liver, spleen, and kidneys were healthy.

Remarks.—This case appeared during life to be a typical one of cyanosis, dependent on intermixture of blood through a patent foramen ovale. It seemed probable, too, that the pulmonary artery was small in size, and that this condition had given rise to hypertrophy of the right ventricle, tricuspid regurgitation, and general venous engorgement. The apparent malposition of the heart supported the idea that this organ must be imperfectly or abnormally developed. It was, however, noticed as a remarkable fact that although the heart seemed to be located entirely to the right of the median line, there was no evidence of transposition of any other viscus. After death it was found that no communication existed

between either the two auricles or the two ventricles; there was no contraction of the pulmonary artery; but the whole of the right side had been developed to an unusual extent, and to this chiefly was due the apparent malposition of the heart. There was no abnormality in the lungs to account for the hypertrophy of the right ventricle, as the existence of a few enlarged bronchial glands in the root of the lungs could scarcely be a sufficient cause. The inference was accordingly adopted that the great development of the right side of the heart must be considered as the primary morbid element; and the history of the patient warrants the conclusion that this abnormal development was congenital in its origin. The very great dilatation of the tricuspid orifice, the marked venous pulsation in the neck, and the very loud bruit heard over the heart's area, which was probably caused by tricuspid regurgitation, indicate the mechanical difficulties in the circulation, which became at last altogether insurmountable. The condition of the finger-tips and nails bears out the view that the difficulties in circulation dated from or before birth; a very marked condition of clubbing, combined with incurvation, and an extremely cyanotic condition were observed during life, but were much less distinct after death.

CROUP AND DIPHTHERIA:

A CONTRAST.

By RICHARD B. SEARLE, L.R.C.P., Lond. M.R.C.S., etc.

As a general practitioner of twenty-three years' standing in West Cornwall, I have had opportunities of becoming acquainted with a large number of cases of croup—simple and malignant,—and have arrived at the conclusion that the latter is an asthenic form of the former, and that they bear a similar relationship to each other that typhoid or congestive fever does to typhus or nervous and ataxic; requiring, consequently, the most opposite treatment. On my first coming into Cornwall I found simple or tracheal croup, like typhoid fever, *endemic* to the district, as indeed the latter still is—the one due to the great humidity of the atmosphere, the other to impure water from faulty drainage. Cases of diphtheria, like typhus, were exceedingly rare; but for years past simple croup has nearly disappeared from the district, as far as my experience goes, and diphtheria as an *epidemic* seems to have taken its place. Having changed its type, the disease has shifted its locality. Both commence with catarrhal symptoms—the former bronchial, invariably attended with hoarseness of the voice from the onset, and with a peculiar bark-like cough; the latter of the naso-pharyngeal tract, attended with coryza of an ichorous, sanious character, accompanied with difficulty in swallowing. It is due to this last symptom that parents apply at an early stage to the doctor; whereas in croup, from the child not refusing its food, but continuing cheerful until symptoms of impending suffocation ensue in due course, when they apply the period for successful antiphlogistic treatment has slipped by, and the services of the medical attendant are chiefly available in order to furnish a certificate, and thereby avoid the necessity of a coroner's inquest.

Owing to the neglect of primary symptoms, the mortality from croup is greatly in excess of diphtheria—the latter in my experience being barely 10 per cent., whereas the former is full 25 per cent.,—though more amenable to treatment, as I do not recollect ever failing to cut short an impending attack of croup by a liberal administration of tartar emetic, followed, it may be, with leeches and a warm bath: whereas the mortality from diphtheria cannot be calculated as capable of further diminution than one-half; a large proportion of cases from this disease having been of some days' duration before one is summoned. As an example, eighteen years since I was called to a case where there was laryngeal symptoms and great dyspnœa, and, on inspection, the palate and fauces were covered with false membrane, the uvula (elongated one inch and a half) presented the appearance of the finger of a soiled white kid glove, of a yellowish-white colour.

During the past year I have had six cases of diphtheria, the two earliest being the only children in the same family; they recovered under my usual plan of treatment—liq. ferri perchloridi fort. to the throat and tonsils, and a diluted solution of the same injected into the nostrils. Six years previously the parents lost a child from simple croup, the disease being limited to the larynx, trachea, and bronchial tubes, there being no false membrane appreciable on ocular inspection, no swelling of neighbouring glands, nor any hæmorrhage, which is of such frequent occurrence from the mucous membrane affected in diphtheria. The third case of diphtheria occurred in a child four years of age, and proved fatal on the fifteenth day of my attendance, from general exhaustion, attended with paralysis of the muscles of deglutition, all trace of false membrane having disappeared for some days previously. The father stated that he had previously lost two other children from a throat affection of a similar character, but which were more rapid in their course, being of a few days' duration. Two other cases in another family came under my care three months since. The first, a child twenty months of age, having become attacked with catarrh of an influenza character, together with conjunctivitis of both eyes, symptoms of diphtheria soon developed themselves, the disease extending to the inflamed eyes, which rapidly became distended with false membrane, and the sight of one eye was lost from sloughing of the cornea; the second child, four years of age, soon also became affected with diphtheria, and had hardly recovered from the exhaustion due to the disease, and from the aphonia which so frequently ensues, when scarlet fever set in, which also attacked the youngest child. Both are now recovering.

I have had of late about thirty cases of scarlet fever, some mild, many of the anginosa variety, attended with inflammation of the throat of a bright red colour, and enlarged tonsils, followed by ulceration, in one so severe as to penetrate the soft palate. The topical treatment has been a strong solution of argenti nitras, which I found very efficacious applied with a camel-hair brush to the soft pultaceous tonsils, but which has no effect upon the membrane of diphtheria when it has become tough and leathery, which it speedily does. I have had no death as yet from the present epidemic of scarlet fever. The sixth case of diphtheria has recovered perfectly under my usual treatment.

Both croup and diphtheria are probably infectious diseases, but the intensity of infection varies considerably, that of simple croup not exceeding that of phthisis, which is generally considered non-infectious, but is not absolutely so, though such has been by some denied; whereas diphtheria, in my past experience, has attacked several members of the same family in such rapid succession, that, like typhus—which I have known prostrate a whole family—its power of infection must be admitted; and both alike do not limit themselves to age, attacking principally the poor and ill-nourished, requiring consequently from the onset a nourishing and stimulant plan of treatment. Croup, like typhoid fever, on the contrary, is more restricted in its ravages, the former attacking the robust and well-nourished child, the latter the plethoric and the well-to-do adult; and should it casually attack any of a weak constitution or suffering from organic disease, it is an exceedingly rare case that such die from the visitation. The latter fever, as a rule, consequently requires an unstimulant plan of treatment; and, whilst combating local congestions by leeching and counter-irritants, a milk diet has insured the most satisfactory termination.

Viewing the state of ataxia now so prevalent, especially among the labouring portion of the community, typhus may be expected ere long to resume its former sway.

CASE OF STRANGULATED UMBILICAL HERNIA—RECOVERY.

By J. HOYSTED COURTENAY, L.K.Q.C.P., L.R.C.S.I.,
Government Medical Officer, Jamaica.

Reading in your journal of October 14, 1876, of two cases of strangulated femoral hernia successfully operated upon by Dr. Savage, of Birmingham, both cases occurring in persons of advanced years, it struck me that the following case might present some interesting features, being, as it is, a further corroboration of Dr. Savage's opinion that age should not have too great an influence in deterring one from operating in cases of strangulated hernia.

Ann W., a negro woman, aged sixty-eight, was admitted to the Lucea Parochial Hospital, on December 18, 1875, suffering from a strangulated umbilical hernia. She was in a very weak condition when admitted, her face having the characteristic anxious expression and sunken appearance of the eyes so indicative of prostration in cases of this kind. Stercoraceous

vomiting came on immediately after her admission, so no time was lost in putting the patient under chloroform, trying to reduce the hernia by the taxis. Having failed to reduce it by that means, I made an incision about two inches in length over the neck of the tumour, and by breaking down the adhesions, which were very dense, succeeded in reducing the hernia without opening the sac. I may mention that my patient's strength was so much reduced that forty minims of chloroform were sufficient to keep her under the influence of that anæsthetic during the time I was employing the taxis and performing the operation—about twenty minutes altogether. Immediately after the operation the pulse improved. I then ordered one-grain doses of opium and quinine, together with half an ounce of brandy, to be given every four hours, and beef-tea every two hours. The following day, although very weak, there was considerable improvement in my patient, and on the evening of that day the bowels acted of themselves. On the evening of the 20th (two days after the operation), a slight rigor having come on, I removed all the sutures, and a small quantity of pus exuded from the lips of the wound. I immediately ordered linseed-meal poultices to be applied at intervals. Under this treatment the wound became perfectly healthy and healed completely, and in a month from the date of her admission, being provided with a suitable truss, my patient was discharged from hospital. In conclusion, I may confess that, taking into consideration the advanced years of my patient (for sixty-eight is considered extremely old in the West Indies), at first I felt extremely reluctant to operate; but the thought of being a passive spectator of what must be the inevitable result of such a case, if left to itself, determined me in operating, and, I am happy to add, with a successful result.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

LONDON HOSPITAL.

ON THE MODE IN WHICH LUPUS SPREADS.(a)

(By Mr. JONATHAN HUTCHINSON.)

The mode in which lupus extends itself, and more especially the manner in which multiple patches are developed, is well worthy of investigation. My impression is that the processes are by cell-infection, and very closely similar to what we observe in cancer. When we see a patch of lupus spreading at the edge by the production of fresh tubercles in continuity with the original ones, we can have little doubt that the process is one of contagion by continuity. The diseased structures grow into the adjacent healthy skin. This is exactly what we observe in cancer of the skin, and more especially in that form of it which is known as rodent ulcer. In some forms of rodent ulcer we even observe a tendency to heal in the parts where the skin has been destroyed, closely similar to the process which is so constant in lupus. The two differ in this: that whilst the lupus cell-growth appears unable to maintain itself excepting in the skin-tissues, the cancerous growth, although it may have originated in skin, can grow deeply into the fascia, muscle, bone, etc. Yet let us note that although cancer can do this, it often manifests a remarkable tendency to restrict itself to the skin in which it was first developed.

The cases of multiple lupus, or what we have sometimes called "psoriasis-lupus," may be explained either on the hypothesis that nuclei or cells have been transferred from the original patch of disease through the lymphatic system or the bloodvessels, or by mere cell-travelling, to the parts secondarily affected; or, secondly, that some altered condition of the blood generally is the cause of the more or less simultaneous outbreak at different parts of similar processes of diseased action. The facts seem to me very strongly in favour of the first of these suggestions. If lupus were originally a blood-disease, it ought, like common psoriasis, to arrange itself symmetrically. Now, I believe that, with the exception of the rare and peculiar form known as erythema-lupus (*L. erythematosus*), it never does so. I have seen many cases of multiple or psoriasis-lupus, but scarcely any in which the similarity to psoriasis was maintained in this particular. On the contrary, the deviations from symmetry are often very great. Thus, you may find one limb severely affected, and its fellow exempt; one cheek covered with lupus patches, and none at all on the other. Psoriasis never does this. Again, we see the resemblance to cancer in the way in which the secondary deposits of lupus are often seen in close proximity, although not absolutely continuous with the original ones. I have often asked your attention to this fact in cases of cancer, and appealed to it as evidence that cancer is in the first instance a local disease. The secondary manifestations do not occur at random, and are not manifested with equal profusion at a distance and near to the original growth. Thus, in the case of cancer of the breast, we often find a number of little glossy nodules developed in the skin overlying the tumour. It is impossible to explain why they should be here, and not on the opposite side, on any theory of blood-origin, or, I think, upon any hypothesis whatever, other than that which teaches that they are due to the direct travelling of germs derived from the original infective source. It is precisely so with lupus: we constantly see a number of tubercles produced at a little distance from the border of the original patch, and it is comparatively exceptional to find them spread irregularly over the surface of the body. To these exceptional cases of multiple lupus we may suitably compare the rare examples of multiple cancer, usually the melanotic form, in which the new growth shows itself by a copious development of perfectly distinct tumours. I have seen cases of melanosis in which the patient was spotted over like a leopard with these growths; and in all such I believe they are secondary to an original one.

If we accept this theory of the mode of spread of lupus, we shall have to admit that facts favour the belief, either that individuals differ very much in their liability to permit such spread, or that the nature of the disease-product varies much in its capacity for migration. But neither of these involves any improbability, and they are both of them facts to which we are obliged to make frequent reference in explaining the phenomena of cancer.

You will see that the correctness or incorrectness of this theory is of considerable importance, as indeed all theories are, in its bearing upon practice. If lupus be, as I hold that it is, an infective tissue-malady rather than a blood-disease, we have a strong additional reason for vigour in the use of those methods of treatment which are likely to eradicate its first local manifestations. We apply to it the same rule that we so constantly reiterate in reference to cancer—"Stamp out the very first indications of flame, in order to prevent the spread of the fire."

(a) Part of a clinical lecture delivered in November, 1874.

HÔPITAL ST. LOUIS, PARIS.

CASES ILLUSTRATING THE TRANSMISSION OF SYPHILIS.

(In the Service of M. FOURNIER.)

[Reported by Dr. ALLEN STURGE.]

Case 1.—A. M., aged thirty-two, was admitted May 19, 1877. Patient has been married ten years, and is the mother of a family. Her last child was born March 8, 1876, and died on February 2, 1877, in a convulsion. There is no history of syphilis of any kind in the family. The patient after the death of her child, having a good breast of milk, gave suck to the child of a neighbour. This neighbour was a woman who had formerly been a sufferer from syphilis, and had been a patient at the Lourcine Hospital under the care of M. Fournier. She noticed that the child always had a cold in its head, that there was a good deal of discharge from the nose, and that it had upon its lower lip some hollow round holes. When spoken to about this the mother of the child said that it often scratched itself. About three weeks after beginning to suckle the child, the patient presented upon her right breast, on the outer side of the nipple, a small superficial and indolent erosion, which soon increased in size until it presented the appearance of a syphilitic chancre. Indeed, its induration did not escape the notice of the patient herself, and a sympathetic enlargement of glands occurred in the axilla, which can still be felt. About nine weeks after the first appearance of the chancre, and about a fortnight before admission into the hospital, she began to complain of feverishness and of headache coming on in the evening, and since then she has gradually passed into the condition which she presented on admission. There

was seen at the spot where the chancre had been situated a moderately large hypertrophied syphilide—the chancre itself being almost healed. There was an eruption over the whole body, consisting of large papules of a coppery-brown colour, and there were numerous large hypertrophied papules round the vulva. There were hard swellings of the lymphatic glands to be felt at the back of the neck, in the axilla, and in the inguinal regions.

History of the Mother of the Child nursed by the above Patient.—She is twenty-two years old, and the child in question is the only one she has had. Five years ago she was admitted into the Lourcine Hospital (a hospital set apart for prostitutes suffering from specific disease), under the care of M. Fournier. She was then suffering from a severe specific sore throat, and presented an indolent bubo in the left inguinal region. She was treated with protiodide of mercury for five or six months. Four months after leaving Lourcine she suffered from an eruption on the neck, which gave rise to large crusts. Since then had a miscarriage at an early stage of pregnancy. Her present child was born in May, 1876, and was nursed by its mother, who at the same time nursed another child, which died in a cachectic state aged four months, after having been nursed by her for three weeks. Three months ago she began to have violent pains in the head, much worse in the evening; and at the same time she had a scaly eruption of the back and front of the right forearm, slightly of the left forearm, and on both thighs. This eruption persists. It consists of serpiginous patches elevated above the surrounding skin, dull red in colour, dry and scaly. The child was presented at the consultation. It was cachectic, and was suffering from a nasal discharge, the bridge of the nose being flattened. It presented an erosion, evidently specific in character, on the upper lip. There were enlarged and hard glands in the occipital region and in the groins.

Case 2.—E. C. B., aged thirty-four. The patient has always enjoyed good health. She was married eight years ago, and has had six children, three of whom are dead. One died aged six months, of bronchitis; one aged eight months, of measles; and the last child was born in July last, and died in February, of small-pox. After the death of her child she became wet-nurse to the child of a neighbour. This infant was premature, having been born at the end of eight months, and it was three weeks old when the patient took charge of it. It was very small, and suffered from constant running at the nose, and its lips and tongue were inflamed and covered with yellow patches. While patient was nursing the infant it became very yellow, and grew thinner and thinner, until at last it appeared to be nothing but skin and bone. Patient nursed it for six weeks, when it died, having had frequent convulsions for three weeks before its death. Fifteen days after beginning to nurse the child she noticed a little pimple on the left breast at the areola surrounding the nipple. This grew bigger, until it was about the size of a half-franc piece. It then ulcerated, and a little crust formed on its surface, which dropped off, being replaced by a fresh scab. Three weeks after the first appearance of the sore place on the left breast, a similar one appeared on the right breast, in the same position as that on the left—viz., on the areola just above and outside the nipple. She presented herself at St. Louis on April 4, and the sores on both breasts were well marked. They were indolent, slightly ulcerated patches, presenting the characteristic induration of a syphilitic chancre; and M. Fournier had not the slightest hesitation in pronouncing both of them to be primary syphilitic sores. There was indolent enlargement of the glands in both axillæ. She has had an eruption on the skin, presenting the characters of a secondary syphilitic eruption. She says this first came out a fortnight after the appearance of her first chancre. She attended at St. Louis till April 28, when she was discharged, the chancres being cured, and there being no trace of rash at that time.

Case 3.—A. B., female, aged about twenty-eight, had been nursing a child of her own for thirteen months, which was then weaned. Mother and child in perfect health. Having still a great deal of milk, she offered to nurse the child of a neighbour which was sickly and weak. This child had some patches in the mouth, which its mother said were due to thrush. A. B. nursed the child for a month, when it died, as is allowed, of syphilis. Eleven days after the death of the child, two pimples came out on the nurse's right breast close to the nipple, and five on the left breast. These enlarged and became hard. She was treated by a chemist with strong mercurial ointment applied to the breasts. The result was that the sores took on a phagedænic form in both breasts, and when she presented herself at St. Louis there were deeply excavated sores surrounding about two-thirds of the nipple of each breast, with hard, slightly elevated margins, and unhealthy, sloughy-looking floor. The neighbouring parts of the mammæ were red, swollen, and very tender. The patient was treated in a purely emollient manner, so as to allow the inflammation to subside. At the end of ten days the sores were reduced to about half the original size, and were filling up from the bottom; the neighbouring inflammation, moreover, was entirely subdued. There has been throughout indolent enlargement of the glands in both axillæ.

A patient recently at the Hôpital St. Louis was an example of the converse of the above cases—viz., of the transmission of syphilis from an infected nurse to a healthy child. The patient, who was an ordinary wet-nurse, was suffering from secondary syphilis, one of the manifestations being mucous tubercles on the lips and tongue. The child of whom she had charge had the habit of putting its fingers into the mouth of anyone who was nursing it, and afterwards into its own mouth, and *viee versâ*. M. Fournier was called to attend this child for a sore on the tongue, and on investigation he found this to be a primary syphilitic sore. The child had been continuing its practice of inserting its finger alternately into its own and into other people's mouths, and in this way it had infected several persons, including both its father and mother and grandmother, all of whom presented, after a short time, syphilitic chancres of the lips or tongue.

Remarks.—These cases, though presenting considerable clinical interest, are of even greater importance from a social point of view. Their importance socially will at once become evident when we state that all these three cases have occurred at the St. Louis Hospital in the short space of six weeks; and in speaking of them M. Fournier was able to refer to a large number of similar cases he had seen both in hospital and private practice. The relations between the child and nurse give rise to a means of transmission, insidious and quite unlooked-for, of this horrible disease into respectablo and well-conducted households; and when once introduced, there are unusual facilities for the spread of the infection, because the sores occur on parts which may be brought so easily and frequently into contact with other people. In this way may occur what M. Fournier terms "epidemics of syphilis." In the third case referred to above, several other members of the family were infected before they could be warned of their danger. In another case which came under the notice of M. Fournier, a nurse who had become infected by one child went to her own village and nursed other children, and from herself, or from the children who had contracted the disease from her, no less than twenty-four persons became infected. When, moreover, a wet-nurse has been employed for one child who has died, she frequently engages herself to nurse another child almost immediately. Now, if the first child has died of congenital syphilis, the nurse may be in the period of incubation of syphilis, and after nursing the second child for a few days a chancre may appear on the breast, and by this means she will transmit syphilis to the second child. M. Fournier has seen a certain number of cases of this description, and he lays it down as a rule that whenever a child nursed by a wet-nurse has died, unless its antecedents and cause of death can be accurately ascertained, the nurse should not be allowed to take another baby for at least a month. Where it is known that the father of a child has had syphilis, or where a child has presented the slightest sign of hereditary syphilis, it is of the utmost importance that only the mother shall suckle the child. It was pointed out by Colles, and the observation has been repeatedly confirmed since, that the mother of a syphilitic child, even though she may never herself have had syphilis, does not contract the disease from the child during lactation, whereas an uninfected wet-nurse will do so at once. If the mother has no milk, the child must be brought up by hand, or, what is better, as such children rarely survive if nourished simply by the bottle, with goat's milk, the child being trained to suck the milk directly from the goat. This is a plan that M. Fournier has repeatedly tried with good success, and he affirms that there is no difficulty whatever in the matter. Should a wet-nurse have become infected from the child, M. Fournier lays down that it is the imperative duty of the doctor to do all he can to retain her in the family, both for the sake of the child and to avoid the chance of her spreading infection elsewhere. This is often a difficult and delicate task, and he will in many cases fail in his attempt.

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Medical Times and Gazette.

SATURDAY, AUGUST 4, 1877.

THE FORMATION OF FAT IN THE ANIMAL BODY.

There have been few more interesting chapters on the history of physiology than that which deals with the development of force within the human frame. Since Mayer first enunciated the proposition *Ex nihilo nihil fit* as applicable to the animal as well as the purely physical world, much has been done. But nothiug has been more clearly made out than this: that, on the whole, albuminous substances are applied to the repair of waste; whilst hydrocarbons are either directly burnt up and appear as force, or are laid up as a reserve in a new and modified form. The form in which they are thus laid up in plants is starch; in animals, fat. Here, however, as far as animals are concerned, we enter ou the borders of a most difficult question—that is, the relations of the substance called glycogen produced in the liver; but this, in the meanwhile, we must put on one side. No men have done more in their own peculiar way thau Messrs. Lawes and Gilbert to elucidate practically the applications of abstract physiology to overyday life, or perhaps we might put it *vice versâ*. To those acquainted with scientific farming little has to be said —to them the names of Lawes and Gilbert are familiar; but to our professional brethren they are not perhaps so well known as they might be. Be that as it may, these two gentlemen have for many years devoted their attention to applied physiology, especially as regards farming operations, and in the last number of the *Journal of Anatomy and Physiology* they supply a kind of *résumé* of their results with respect to the formation of fat in the animal body.

It was first advanced by Liebig that a great part of the fat of the animal body was derived from hydrocarbons other than fat. This view was strenuously combated by none more than by the two distinguished Munich Professors—Pettenkofer and Voit. As every physiologist knows, Pettenkofer had a large air-tight chamber constructed, in which a man might live, and by means of which the various gases excreted by the human body might be collected for analysis. As regards the formation of fat, the experiments made by these gentlemen were on a dog—rather, we should think, an unfortunate selection. In the result they found, as they thought, that the fat deposited in the animal resulted—first, from fatty substances contained in the food; secondly, from the decomposition of albumen; that starch or sugar only saved the alb uminous materials of the body from being partially converted into fat.

The experiments long ago undertaken by Mcssrs. Lawes and Gilbert led to a totally different belief. They were partly made with regard to the feeding of ruminants, and partly with regard to the feeding of pigs. In 1866 they announced their results in a short paper published in the *Philosophical Magazine*, which we noticed at the time; but these results have been called in question, as above indicated. The authors have since reviewed their investigations, and the result is to be found in the article just referred to. They find that, as far as ruminants go, the results are not decisive, these animals having no special predisposition to the formation of fat; but in pigs it is otherwisc. In dcaling with pigs, the proportion of nitrogenous to non-uitrogenous substance in the food used was cousiderably higher thau is recognised by experience as the most suitable in the fattening food of the animals. More nitrogenous substance was available for fat-formation than was necessary to supply the estimated amount of produced fat. In the cases in which the nitrogenous substance was not so excessive, but still more than is the most appropriate, there was a considerable proportion of the total produced fat which could not possibly have been derived from the nitrogenous substance of the food. Lastly, when the proportion of the nitrogenous to the non-nitrogenous substance in the food was the most appropriate for fattening, there was a much larger proportion (about 40 per cent.) of the total produced fat which could not possibly have had its source in the nitrogenous substance consumed. Striking as are these results, it is obvious that a still larger proportion of the produced fat would appear to be formed from the carbo-hydrates, if it were assumed, with Henneberg and Voit, and as is doubtless nearer the truth, that 100 parts of albumen will not yield more than 51·4 parts of fat, instead of about 61 parts.

As the outcome of all these experiments, the authors say:—

"It is, then, perfectly clear that neither the amount of food consumed in relation to a given live-weight within a given time (which of course covered the requirements for increase as well as sustenance), nor the amouut taken to yield a given amount of increase in live-weight (which in its turn covered the requirements for sustenance also), was at all in proportion to the amount of the nitrogenous constituents it supplied. It is quite obvious that the consumption, both for sustenance and for increase, was much more nearly in proportion to the amount of digestible non-nitrogenous constituents supplied; but it was more nearly still guided by the amount of the total digestible organic substance—nitrogenous and non-nitrogenous together—which the foods contained.

"That the great variation in the amount of nitrogenous substance consumed was not due to a deficiency of it in most of the foods employed, is shown by the fact that it was in the experiment in which the food contained the lowest proportion of it that the smallest amount of nitrogenous matter was not only consumed in relation to a given live-weight within a given time, but was required to produce a given amount of increase. It is obvious that where two or three times as much nitrogenous substance was consumed it was much in excess of the normal requirement. In fact, the animals consumed, almost regardless of the amount of nitrogenous substance supplied, until they had obtained a sufficiency of non-nitrogenous, or of total organic substance. It is further obvious

that the range of variation in the amounts of non-nitrogenous constituents consumed would have been very much less but for the very variable amount of nitrogenous substance necessarily taken with it, the variable amounts of fat in the foods, and the greater amount of indigestible matter in some of them than in others. The indication is, indeed, that the excess of nitrogenous substance consumed substituted a certain amount of non-nitrogenous constituents; that, in fact, within certain limits the two classes of constituents may, for the purposes of respiration and fat-formation, mutually replace each other.

"Lastly on this point, not only did neither the amount of food consumed, nor the amount of increase in live-weight yielded, bear any relation to the amount of nitrogenous substance supplied, but the more excessive the supply of it the greater was the tendency to grow, and the less the tendency to fatten. There is, of course, a point below which the proportion of nitrogenous substance in the food should not be reduced, but if this be much exceeded, the proportion of the increase, and especially of tho fat increase, to the nitrogenous substance consumed, rapidly decreases; and it may be stated generally, that, taking our current fattening food-stuffs as they are, it is their supply of digestible non-nitrogenous, rather than of nitrogenous constituents, which guides the amount, both of the food consumed, and of the increase produced, by the fattening animal."

Finally, they conclude that, as far as pigs are concerned, more fat was produced by various feeding than could possibly be derived from the albumen of their food, and that both experiment and experience in feeding point to the fact that carbo-hydrates must be of essential service in the production of animal fat.

Of course these results are not new—they are only advanced by the authors as confirmatory; but it is none the less useful to recall them to the minds of our readers. They have here in a concrete and practical form the knowledge acquired in very different ways. We are sure we need not point out its practical application.

THE DISPUTE IN THE UNIVERSITY OF LONDON.

When we wrote last week upon this subject, Convocation of the University of London was on the eve of one of the most eventful days in its history. That day has passed, and will be remembered with satisfaction by the independent members of the University, and by every lover of constitutional freedom. During the agitation (which, we trust, has now been brought to a close) we have had frequent occasion to express our opinion upon the points at issue. While the question of the admission of women to degrees in medicine occupied the attention of the University, we urged that the women should be treated with all fairness, and that no obstruction should be placed, or even left, in their way towards the attainment of perfect equality with men. But, as we pointed out last week, the question at issue in the University of London lately has become, not one of sex, but a question of the rights and privileges of Convocation; and in this the graduates have had our cordial sympathy and support; and now, in addition to these, we have, we rejoice to say, to offer them our congratulations. On Friday, the 27th ult., by a majority of 114 to 71, Convocation passed a resolution expressing its regret at its recent treatment by the Senate; and, by a majority of 88 votes to 52, a second resolution, empowering the Annual Committee to confer with the Senate on the subject, and to request them to take no further action on the admission of women to degrees in medicine. We recommend to our readers the perusal of the report (which will be found elsewhere in our pages) of the proceedings of the meeting, furnishing as it does the leading arguments by which the result was secured. The speeches of Dr. Tilbury Fox and Dr. Curnow, while powerfully vindicating the rights of Convocation, and protesting earnestly against the conduct of the Senate, were delivered in a calm and friendly spirit, which gave the best possible tone to the whole proceedings.

Dr. Fox stated the charges against the Senate with remarkable clearness, force, and eloquence. Admitting that the Senate had a legal right to compel the University to accept the provisions of an Act of Parliament, he showed how the spirit of the Charter and the privileges of Convocation had on this occasion been violated. Russell Gurney's Act was a purely permissive Act; Convocation had specially requested the Senate not to proceed under it for the present; and only three years before, the Senate had apologised to Convocation for similar treatment of its privileges, and had promised amendment. For each of these reasons, and inasmuch as they were aware that by their action they were doing for the Faculty of Medicine what they could not do in the other faculties without a new Charter,—or, in other words, inasmuch as they were superseding the powers of Convocation by means of a *quasi*-new Charter,—the Senate might have paused instead of proceeding. Morally and equitably they were wrong. Having proved this point, Dr. Fox proceeded to read two letters from Mr. Farrer Herschell, whose opinion was received with the greatest attention, and produced a very marked effect upon the meeting. Mr. Herschell's opinion was distinctly adverse to the Senate, and that for reasons identical with those just stated. But Mr. Herschell drew special attention to another point with respect to Russell Gurney's Act, which we mentioned last week, and which proved to be of such serious importance that alone it would probably have determined the vote of Convocation, and cannot fail to arrest the further action of the Senate in this matter. We refer to the proviso contained in the Act against the admission of future women-graduates to Convocation. By this clause women-graduates are not to be entitled to take part in the government of the University by reason of "registration" (!)—a provision which is in the first place absurd, and secondly perfectly invalid, inasmuch as it does not enact that the same privilege shall not be conferred on women by their "degree." Far as the Senate may strain their powers, they surely would not attempt to force upon Convocation a new set of members of the opposite sex! The meeting was manifestly greatly relieved by the statement of Mr. Herschell's opinion: its anxiety gave place to amusement when Dr. Fox read the confession of the law officers that there was "a slip in the words" of the proviso; and amusement found vent in something like ironical applause when Mr. Russell Gurney's opinion of his own Act was heard. The two last points in Dr. Fox's speech were very happily introduced together. On the one hand, he reminded Convocation of the number and status of its members, and of their ever-increasing interest and importance in the University. On the other hand, he drew a picture of the Senate attempting to work a constitutional change because a single woman had requested them to exercise the powers of a permissive Act of Parliament. Truly the affair in this light is "too monstrous to be discussed for a moment."

In their speeches in defence of the Senate, Mr. Hensman, Mr. Shaen, Mr. Fitch, and Mr. Osler dwelt upon the perfect legality of the step that had been taken; on the "responsibility" that rested upon the Senate to adopt an Act that was believed to be for the best interests of the University; and on the recent resolution of the Senate to obtain a Charter which should enable them to admit women to degrees in all faculties. Mr. Shaen charged the minority in the Senate, who were opposed to the adoption of the Act, with having been silent on the rights of Convocation during the early part of the discussion in the Upper House. To this charge Dr. Quain replied. As one of the members referred to, he said tha

they had not failed to inquire into the subject fully, but not until the Senate had deliberately disregarded the wish of Convocation: and that the medical graduates had naturally expected their legal friends to take care that the constitutional rights of Convocation were respected. Dr. Quain repudiated the idea of the present resolution being a vote of censure; it was an expression of regret. He urged that the Senate should cease to act on the permissive legislation, which cast no responsibility upon them, and should raise the question of the admission of women to degrees in all the faculties by asking Convocation to assist in obtaining a supplementary Charter giving them power to do so.

The second amendment, which was defeated like the first, was hardly stronger than the resolution sent up from Convocation in May, which the Senate treated so cavalierly. The second resolution was the natural practical application of the first. The first expressed an opinion, the second determined action. The Annual Committee of Convocation will confer with the Senate, and request them to take no further action under Russell Gurney's Act. And it seems to us that there is no other course left open for the Senate to pursue. The serious and altogether unexpected position in which they have found themselves, in resolving to adopt an Act of which neither they nor its promoter himself knew the significance until now, furnishes a sufficient reason why they should withdraw with perfect consistency and dignity from the course that they have hitherto pursued. But, while this is so, the Senate of the University of London cannot afford to forget their recent experience. They have learned that the Convocation of a great University is able to know its affairs, to express its opinion upon them, and successfully to assert its rights in spite of every opposition. The Senate of the University of London contains at least four members of the last Liberal Government, and yet it defied the spirit of independence, which is flourishing with so much promise amongst the graduates of every university in the land. We congratulate Convocation of the University of London on the success that has attended its efforts. The medical members who have devoted so much time and trouble to this struggle have been well rewarded by the brilliant victory that they have gained, and the thanks of the profession will surely be gratefully accorded to them.

THE THERAPEUTIC ACTION OF SALICIN.

In a lecture lately delivered before the Berlin Medical Society, Professor H. Senator summed up his experience of the use of salicin in more than seventy cases of different kinds, in which the aggregate number of individual observations amounted to at least 500. The following abstract of the lecture, which is published in full in the *Berliner Klin. Wochenschrift*, No. 14, 1877, contains the most important conclusions at which he arrived. The quantity of salicin necessary to produce a definite effect on an adult ranges, on the average, between eight and ten grammes, but even larger doses may be taken without any injurious result. The drug is best given in powder enclosed in wafers (*Oblaten*), each containing from 1 to 1·5 gramme. Solutions, each tablespoonful of which contains from 0·8 to 1 gramme, are also convenient, but require a large admixture of sugar to cover their strong bitter taste. Senator's observations deal with (1) the antipyretic, (2) the antiseptic, (3) the specific, and (4) the sedative action of salicin. Its antipyretic action was tested in typhoid fever and phthisis pulmonum, the temperatures being taken in the morning between 7.30 and 8.30, and in the afternoon between 4.30 and 5.30, the thermometer being usually placed in the axilla. Comparisons were made from time to time between the effects of salicin and those of salicylate of soda and salicylate of quinine. The latter drug, which Dr. Senator has constantly used for nearly a year and a half, almost always exerts a decided action on the temperature when given in doses of 1 to 1·5 grammes at a suitable time. Nine cases of typhoid were treated with salicin, in all seventeen times, and with one exception with decided reduction of the temperature. The greatest fall observed was 2° Cent.; in other cases all that was noticed was, that when the salicin was given in the forenoon, the expected evening elevation of temperature either did not occur, or was relatively very slight. The largest reductions of temperature appeared to follow the administration of the drug in the evening. The reduction was not always proportionate to the dose, perhaps owing to individual peculiarities, and to the varying severity of the cases. The action of salicin was often prolonged for twenty-four to thirty-six hours, whereas that of quinine is ordinarily over in ten, or at latest twenty hours, and that of salicylic acid still earlier. Salicin never reduces the temperature so powerfully as quinine or salicylic acid. Its use is never followed by copious perspiration.

In phthisis the action of salicin (administered once or more in fifteen cases) is much more variable than in typhoid fever, and is sometimes scarcely at all appreciable. The greatest reduction observed was 3° Cent., in a patient who previously had only had morning remissions of 1·5° to 1·8°. The chief advantage which salicin possesses over quinine and salicylate of soda in phthisis is the absence of the unpleasant after-effects, such as nausea, vomiting, and a feeling of persistent weakness, which not unfrequently follow the use of the latter remedies, and cause phthisical patients to object to their further trial. Salicin can also be given for a long time without affecting the digestive powers; nor does it, either in typhoid fever or phthisis, intensify diarrhœa if present, or increase the night perspirations in phthisis, as do salicylic acid and salicylate of soda. In pleurisy, parametritis, and other febrile diseases, the antipyretic action of salicin is similar to that in typhoid fever and phthisis. In some cases the first effect of its administration is to *raise* the temperature.

The antiseptic action of salicin internally administered was tested in one recent and two chronic cases of cystitis, but the ammoniacal condition of the urine was unaffected by its use. Senator's own experience is in favour of the treatment of vesical catarrh by the balsams, and especially by *balsam of Peru*, which seems to be better tolerated than copaiba and turpentine, and which can be readily taken dissolved in ether, spirit, or wine. With regard to the *specific* action of salicin in acute rheumatism, Senator entirely agrees with Maclagan and the other English writers who have published their experience of its value. In one point only he differs from Maclagan, for he denies that it entirely prevents cardiac complications. He gives details of a very interesting case in which endocarditis developed while the patient was under observation, and after he had taken large doses of salicin and salicylate of soda. Senator recommends medical men not to give large doses of salicin in rheumatic fever, but rather to let the patient take 0·5 to 1·5 gramme at intervals of one to three hours. In several cases of chronic rheumatic joint-inflammations following rheumatic fever, as well as in two cases of rheumatoid arthritis, and in two cases of true gout, salicin rendered decided service, not only in reducing the pain (sedative action), but also in reducing the swelling of the parts. In fifteen recent cases of intermittent fever treated with salicin, eight were cured, or exactly the same proportion as have been benefited by salicylic acid. In two cases of diabetes—a slight and a severe case—seven to twelve grammes of salicin per diem were absolutely without effect.

In concluding his lecture, Prof. Senator stated that at present there was very little chance of salicin being widely used, at any rate in Berlin, owing to the exhaustion of the supply by the great run that had been lately made upon it. The

price of salicin in Berlin is as high as, or higher than, that of quinine.

THE WEEK.

TOPICS OF THE DAY.

Last week a very scantily attended meeting took place at St. James's Hall, to celebrate the anniversary of the Society for the Total Abolition and Utter Suppression of Vivisection. The chairman, the Rev. Charles Grove, having expressed his entire approval of the object of the Society, called upon the Honorary Secretary and Treasurer, Mr. G. R. Jesse, to read the report. The latter gentleman proceeded to deliver a lengthy address on the history and aim of the present organisation. It was established, he said, to make clear to the world the uselessness for any scientific purpose, and the unphilosophical nature, of the practice of vivisection. As a rather singular proof of the "success" of the movement, it was stated that the Society had already enrolled 600 subscribers—not a very large number when the energetic efforts of the agitators is taken into consideration. Mr. Jesse proceeded to offer an opinion that the Government Vivisection Act was a virtual, if not an intentional, surrender to the advocates of vivisection, and that, in point of fact, it for the first time legalised this inhuman practice. He denounced in very strong terms the report of the Royal Commission on the subject, and criticised very severely the statement relative to vivisection said to have been made by Mr. W. E. Forster, M.P., at the meeting of the Medical College connected with the London Hospital, held on the 18th ult. Judged by the small amount of interest which this meeting seemed to excite, the anti-vivisection outcry would almost appear to be dying out; and in such case no one would grudge any official or supporter of this Society the empty pleasure of an indulgence in denunciatory language, "severe" criticism, or self-laudation.

The annual anniversary dinner in connexion with St. Bartholomew's Hospital took place on the 25th ult., in the Great Hall of the institution, Sir Sydney Waterlow, M.P., the Treasurer, presiding. A large number of the governors attended upon the occasion, and speeches were made by Mr. Walter, M.P., Sir James Paget, and Sir Sydney Waterlow, the latter of whom gave a short retrospect of the work done by the Hospital during the past year, concluding with an appeal on behalf of a Convalescent Home for Women, the Hospital already possessing a Convalescent Home for Men.

The proprietors of the Widcombe-bridge, at Bath, by the fall of which ten persons were killed and fifty injured, appear to have taken a sensible view of their liabilities. In order to save the important item of law costs, they have invited those who contemplate seeking compensation to submit their claims to a committee, to be mutually appointed by the proprietors and the sufferers, whose decision is to be final, all actions in the meantime to be stayed.

A meeting was held last week at the Society of Arts, for the purpose of organising a body of volunteer sick-bearers; Colonel Loyd-Lindsay presiding. The proposal was to obtain a number of gentlemen, medical officers of volunteer corps, who were ready to undergo the course of field surgery as practised in the Army Hospital Corps at Aldershot, and thus qualify themselves to instruct a certain proportion of men in each regiment in the important duty of attending to sick and wounded in the field. The chairman observed that the object under consideration was desirable, and as his Royal Highness the Commander-in-Chief was favourable to the scheme, and the funds could not be expected from the Government, it was for them to see that these were not wanting. It was important that at the least they should have a school in London, and then they could apply to the Government for a capitation grant. In reply to a question as to how much time it would take the instructor to teach the members of the corps, the chairman said that it would be like musketry instruction. Dr. Platt remarked that, speaking of his own corps, the commanding officer threw cold water on the scheme; in his own case he had been refused the use even of a "medical field companion," which would cost only about seven guineas. The following resolution was then proposed by Major Duncan, R.A., and adopted:—"That in the event of the Volunteer Sick-Bearers' Association finding an average nightly attendance of twelve medical officers, non-commissioned officers, or privates, the Secretary of State for War be requested to detail a competent medical officer and sergeant to be quartered in London for the purpose of superintending the drills. In return for this indulgence, the Association would be glad to place any means at their disposal, or to arrange their hours of attendance, so as to admit of the regular troops sharing in the drill. No expense save the pay of the instructors to be caused to the Government, while it is hoped that the efficiency of so many drilled men will more than compensate for the expenditure. A sub-committee was then appointed to carry out the objects of the meeting.

At the meeting of the Barnet Rural Sanitary Authority held last week, a letter was read from Dr. Saunders, Medical Officer of Health, who said he had investigated the case of three deaths which occurred in one house at Kenwood's Farm, Finchley. One child was attacked with erysipelas, another with inflammation of the umbilical cord (a newly-born infant), and a third with diphtheria. The house in which these cases occurred was a farmhouse, occupied by a labourer employed on a farm rented from Lord Mansfield. There was nothing in the sanitary condition of the dwelling to account for the disease, but the water-supply, which was pumped from a well in Lord Mansfield's park, was polluted. This well also supplied Lord Mansfield's dairy and house adjoining it, and he had obtained some evidence from the occupiers that they had suffered from diarrhœa at different times, and notably at the time the labourer's children were suffering. The Board ordered a copy of the report to be sent to Lord Mansfield.

A correspondent of the *Times* recently pointed out that the patients in Charing-cross Hospital suffered greatly from the noise made by the market-carts proceeding in early morning to Covent-garden Market, and suggested that, as the Strand and King William-street had recently been paved with wood, some exertion should be made to obtain the paving of the other streets round it with the same material. The Treasurers of the Hospital now report that they have arranged with the Board of Works of the Strand District to have a noiseless pavement laid down at a cost of about £500; but the condition is that the Hospital authorities shall find the half of such amount. In the interests of the patients this latter condition has been agreed to, but the Governors frankly admit that the sum cannot be provided out of the funds set aside for the maintenance of the Hospital during the current year, and they rely for special aid on the charitable support of the public. Mr. Charles Soames has already offered to give £100 towards the required sum, provided the remaining £150 be raised by September 1.

The Archbishop of Canterbury, it will be remembered, officiated at the ceremony of laying the first stone of the Hospital for Sick Children in Great Ormond-street, in 1872; and recently, accompanied by Mrs. Tait, he paid a long visit of inspection to the institution. Nearly all the 100 beds were occupied; and his Grace remarked upon the contrast between the present admirable arrangements and the former inconvenient adaptation of an old mansion to the purposes of a hospital. It was explained to the Archbishop that twenty-

five years ago a children's hospital was a novelty in London, and its twenty beds sufficed to meet all demands; but the 104 beds now available are always occupied, and a new wing to receive sixteen additional children is to be opened in a few weeks.

An extraordinary case of poisoning at sea has just been made public. It is alleged that while the ship *Crown Prince*, of New Brunswick, was on a voyage in November last from the Peruvian coast to Falmouth, a new cask of pork was taken out, and the crew, numbering twenty-one, partook of it. On the following day they all became ill, with vomiting and other symptoms of poisoning. The captain, against whom there appears to be no complaint, steered for Port Stanley, the principal harbour in the Falkland Islands, but on reaching there one man died in horrible agony, another the day after, and a third two days later. The crew were sent into hospital at Port Stanley, and eventually three more succumbed, the doctor stating that they had all been poisoned by putrid pork. Three of the survivors have recently reached this country, and when they left Port Stanley four of the crew were still in hospital there. The *Crown Prince* arrived in the Clyde a few days ago with a fresh crew, and, after communication with the marine authorities, the captain has been committed pending further inquiry.

Last Saturday the meeting to consider the best means of bringing into general and practical use in the metropolis the Provident Dispensary system now adopted in many large towns, was held at the rooms of the Medical Society, Chandos-street, Cavendish-square, under the presidency of Mr. Timothy Holmes. There were also present Sir Charles Trevelyan, Dr. Ford Anderson, Mr. Jabez Hogg, Dr. J. Rogers, Dr. Nankivell, etc. The chairman said the meeting had assembled to confer upon three points especially, these being—1. What steps should be taken to increase the number of provident dispensaries in London? 2. What should be the relations of the provident dispensaries to the hospitals? 3. Is it possible to secure a correspondence between the different provident dispensaries in London, so that a member of a provident dispensary, when he removes to another district, can, without delay and without entrance fee, immediately obtain medical relief in the provident dispensary nearest his new residence? As the result of this conference, a resolution was agreed to that a committee should be appointed to report upon the best means of giving effect to the views expressed, and that this committee should be composed of representatives of free hospitals and dispensaries, and other cognate institutions in the metropolis, of representatives of the metropolitan provident dispensaries, and of the members of the Medical Committee of the Charity Organisation Society. Mr. T. Holmes was solicited to become the Chairman of the Committee to be thus composed.

THE TREATMENT OF NON-PAUPER PATIENTS IN EPIDEMICS.

In his annual report on the sanitary condition of Birkenhead and Cloughton-cum-Grange for the year 1876, Mr. Francis Vacher, the Medical Officer of Health, makes some very pertinent and able remarks on the truth that the officers of the Sanitary Authority are still without the sense of security and confidence which would follow consciousness of powers to *fulfil all* their obligations. The Fever Hospital, he observes, is of great service in providing the means of isolating a few specially circumstanced infected subjects, whose friends can afford to pay small maintenance charges; but this is the utmost it can, or was ever intended to, accomplish. In the presence of an epidemic the proportion of destitute and indigent who suffer is always much in excess of all others; yet these are the very cases which the Sanitary Authority's officers have no power to deal with. The removal of such patients, even when their consent and the consent of their friends has been obtained, depends wholly upon another authority; and whether this authority takes action, or not, depends upon the answer that may be given to the question, Is the sufferer a fit subject for relief? If the answer is in the negative, nothing is done. The Sanitary Authority has no accommodation for those who cannot pay for their maintenance, and the parish authorities only provide for those they regard as fit subjects for relief. It not unfrequently happens that those affected with infectious disease cannot pay a charge of fourteen shillings a week, and are yet not so destitute as to bring them within the operation of the Poor-law; and such cases may be the initial cases of an epidemic. Success in checking infectious epidemic disease, Mr. Vacher goes on to remark, is only to be achieved by prompt isolation of early cases in an outbreak; and powers and means to effect this must be placed in the hands of *one* authority, or the work will be but partially and imperfectly done. "At such times it is useless to ask if the patient is a fit subject for relief, the solution of which involves delay. A person suffering from infectious disease belongs to the local community, and it is for the relief of the community, quite as much as for the relief of the sick person, that his removal is desirable." There is no doubt that Mr. Vacher's view of the case is a perfectly correct one, and in times of epidemic the first object should be to isolate the patient as quickly as possible, without waiting to inquire into his ability to pay a few shillings a week.

THE HOSPITAL SUNDAY FUND COLLECTION.

The remarks which we recently published on the result of the Sunday Hospital Fund collection have proved substantially correct; the total amount received at the beginning of the present week is only about £26,000. Some amounts have not yet been received, but these will scarcely have any material effect upon the total sum subscribed. Some of the amounts received show a decrease, others an increase, as compared with last year; thus, the receipts at Quebec Chapel were £321, as compared with £356 last year; Union Chapel, Islington, £78, as compared with £96 at the previous collection; St. Andrew's, Wells-street, £133, as compared with £175; All Souls, Langham-place, £62, against £91; St. James's, Piccadilly, £151, against £183; Paddington Parish Church, £175, against £242; the Oratory, Brompton, £30, against £48; St. Jude's, South Kensington, £132, against £236; St. Paul's, Onslow-square, £177, against £101; Kensington Parish Church, £312, against £241; St. Margaret's, Westminster, £145, against £50; St. George's, Hanover-square, £151, against £98. The largest collection of the year was that previously recorded by us, at St. Peter's, Eaton-square,—viz., £425, against £420 last year; and the next to this was the amount collected at St. Stephen's, Westbourne-park, which realised £420. It must, moreover, be borne in mind that the anniversary day this year was unexceptionable as to weather, whereas in 1876 it was rainy and generally unfavourable.

CLAPTON ASYLUM FOR IMBECILE CHILDREN.

The second annual report of this Asylum bears out the hopes and anticipations of those who were instrumental in carrying out a separation of the children idiots from the adults, with whom in the past they used to be mixed up. Indeed, the report of Dr. Fletcher Beach, to whose untiring exertions so much of the success is due, shows the almost unexpected results of the industrial training which the children are subjected to under his immediate superintendence. We find that one boy in the shoemakers' shop rivets sixteen pairs of boots per week, and five boys in the tailors' shop are able to use the sewing-machine. When we consider that these boys, under the old system, would never have been trained at all, and, worse still, would have been doomed to pass their time with adults hopelessly imbecile, we can form some idea of the good

which the managers of this Asylum, under the able leadership of Sir Edmund Currie, are carrying out. We congratulate all the officers of the institution on the success of their efforts, we wish them all the prosperity which their cause so thoroughly deserves, and we trust that they will long continue to be presided over by so able and so enthusiastic a chairman.

HOSPITAL FEES IN DUBLIN.

At a very numerously attended adjourned meeting of the physicians and surgeons of the clinical hospitals of Dublin, held at the College of Physicians on the afternoon of Monday, July 30, Dr. Gordon, President of the College, in the chair, the following resolutions were unanimously agreed to:—"1. That the first portion of the report of the secretaries (viz., the increase of the hospital fees, as follows:—Winter six months, eight guineas; summer three months, five guineas; nine months, twelve guineas) be adopted." "2. That the practice of taking perpetual pupils at the Dublin hospitals be abolished." It was also agreed that the scale of fees as arranged be signed by the physicians and surgeons of the several hospitals, and that the document so signed be placed in the charge of the Registrar of the College of Physicians, copies being forwarded to the hospitals. The question of raising the hospital fees in Dublin has thus been definitely settled. It is satisfactory to find that in the end complete unanimity prevailed, the Adelaide Hospital having withdrawn its opposition to the proposed arrangements.

MEDICAL RESEARCH.

The Scientific Grants Committee of the British Medical Association has recommended to the Committee of Council that the following new grants be made towards the expenses in aid of researches in medicine and allied sciences for the year 1877-78—viz., to Mr. W. H. Gaskell, Cambridge, a grant of £30 in aid of a research upon the nature of the reflex action of the vascular system and muscles, and reflex vaso-motor action generally; Mr. Longley, M.B., St. John's College, Cambridge, £25, for research upon the changes produced in the salivary glands by nerve influence; Professor Rutherford, F.R.S., £50, on the action of cholagogues; Dr. Braidwood (Birkenhead), £40, for engravings to illustrate the third report upon the life-history of contagium; Dr. Pye, £8 15s., for continued research upon the investigation of the relation that the retinal circulation bears to that of the brain; Mr. Bruce Clarke, for continued research upon syncope and shock, £10. The Scientific Grants Committee will meet again to consider further applications for grants in aid of research, at Manchester, on Thursday, the 9th inst., before which date communications should be addressed to the General Secretary of the Association, at the office of the Association, 36, Great Queen-street, London, W.C.

ROYAL COLLEGE OF PHYSICIANS, LONDON.

At a meeting of the Royal College of Physicians, held on the 26th of last month, the thanks of the College were specially voted to Dr. Arthur Farre for his munificent and valuable present of the whole of his medical library and some physiological preparations: also for the gift of his own portrait. The library thus presented to the College by Dr. Farre consists of more than 1300 volumes, more than half of which were not previously in the Library of the College, and some of them are works of much rarity. The books have been placed in one of the glazed cases in the south gallery of the Library. The drawings, diagrams, preparations, and pamphlets of the late Dr. Sibson were also presented to the College by his widow, and a special vote of thanks was passed for her valuable gift. A communication was received from the General Medical Council, approving the proposed formation of a Conjoint Examining Board for England, and was referred to the Council of the College. The list of College officers—Censor, Treasurer, Registrar, Librarian, Examiners, and Curators of the Museum—nominated by the President and Council, was elected, and some other formal business was transacted.

PREVALENCE OF SYPHILIS AMONG MERCHANT SEAMEN.

Mr. Frederick Lowndes intends to bring forward, at the approaching meeting of the British Medical Association, the subject of the prevalence and severity of syphilitic disease among merchant seamen; and in the hope of enlisting the aid of the Association to induce Government to institute preventive measures, he will at the annual meeting propose the following resolution:—"That the British Medical Association nominate a deputation to Mr. Secretary Cross, to request that a Government inquiry be made into the state of our large mercantile seaports (especially Liverpool, Bristol, Hull, and Cardiff) with reference to the subjects of prostitution and venereal diseases; and also to suggest means for diminishing the prevalence of prostitution and venereal diseases."

HEALTH OF H.R.H. PRINCE ALBERT VICTOR.

The course of the fever in H.R.H. Prince Albert Victor's case has up to the present time been satisfactory. An abatement of the temperature took place on the twenty-second day, and has continued. The fever process may be expected to end by Saturday next.

The disease has been said to have been contracted at Sandringham, and to have been caused by contamination of the water-supply there; but if that is true, it is not a little remarkable that the Prince should, so far as is known, be the only sufferer.

THE VACANCY AT THE LONDON HOSPITAL.

We find that there will be three candidates for the post now vacant of Assistant-Physician to this Hospital—Dr. Gilbart Smith, Dr. Warner, and Dr. Thomas Barlow. The last-named gentleman has, we believe, the support of the medical staff of the Hospital, and will be recommended as the most eligible candidate to the Managing Committee, with whom the election virtually rests.

MEDICAL PARLIAMENTARY AFFAIRS.

Lunatic Asylums.—As it is proposed to reduce the number of county prisons by the Act just passed, the Earl of Sandwich proposed that disused prisons should be converted into lunatic asylums. The Duke of Richmond admitted that disused prisons might be put to any profitable use by the county authorities when they became the property of the county, but the Government were not prepared to take steps to effect the conversion of prisons into lunatic asylums. Earl Cowper hoped the Government would take over the central and general management of lunatic asylums, to insure regularity of treatment all over the country, and to relieve the local authorities, as they had now been relieved of the management of prisons.

Adulteration.—The Sale of Food and Drugs Act Amendment Bill has passed the third reading in the House of Commons.

The French Association for the Advancement of Science.—This learned body will hold its annual session at Havre from August 23 to 30, with Prof. Broca as President.

The Nubians in Paris.—The Société d'Anthropologie has had a true "god-send" by the arrival at Paris, in charge of some animals sent to the Jardin d'Acclimatation, of a number of Nubian Amrans. They are of a bronze colour, and of tall and slender form, with their hair arranged in a tuft at the top of the head. The Society has formed a committee, consisting of MM. Broca, Girard, Dally, Bordier, and Mazard, to examine into their peculiarities. They have arrived in a very favourable condition for such examination, having their arms and trophies with them, their lances, long swords, instruments of music, etc.—*Union Méd.*, July 26.

UNIVERSITY OF LONDON.

MEETING OF CONVOCATION.

An extraordinary meeting of Convocation of the University of London was held on July 27. It was summoned for the purpose of considering the constitutional privileges of Convocation in connexion with the recent action of the Senate in adopting Russell Gurney's Act for the admission of women to degrees in medicine, contrary to the express desire of Convocation. The meeting was very large; and throughout the whole of the proceedings, which occupied four hours, the greatest calmness, earnestness, and good feeling were displayed by the members. Dr. F. J. Wood was called to the chair, in the unfortunate absence of Dr. Storrar through indisposition. The preliminary formalities having been completed, the Registrar read a second opinion of the law officers of the Crown upon the subject before the meeting, which was as follows:—"We do not find in Clause 21 of the Charter any power given to Convocation to interfere in any way with the powers given to the Senate of conferring degrees in medicine, and we therefore think that it will be competent to the Senate to grant degrees to women without the concurrence of Convocation.—JOHN HOLKER; HARDINGE GIFFARD.—6, Crown-office-row, Temple, July 16."

The first resolution was proposed by Dr. Tilbury Fox in the following terms:—"That this House regrets that the Senate has, by adopting a *permissive* Act of Parliament (Act 39 and 40 Vict., cap. 41), without reference to, or consultation with, Convocation, materially altered the constitution of the University, and has thus practically superseded the privileges of Convocation." He said that while no one would attempt to question the purely legal right of the Senate to admit women to medical degrees under the Act of last session without the consent of Convocation, the action of the Senate assumed a very unfair character when the nature of the Russell Gurney Act and the circumstances under which it had been adopted were considered; and when it could be shown that by its adoption violence was done to the spirit of the Charter and the privileges of Convocation. It had been said that the Act was in reality compulsory; but it was strictly permissive, applying to some twenty licensing bodies, not one of whom apart from the University, except one Irish body, had taken any notice of it. To make the matter worse, the Senate put the Act in force after Convocation had deliberately asked it to defer action in the matter. On a former occasion, when the Senate promoted a private Act of Parliament to enable the University to join in the Conjoint Scheme (thereby effecting a decided change in the University), it had been requested by Convocation not to ignore the privileges of the latter in any similar action thereafter. But again the Senate had effected a fundamental change; and the mere chance (the passing of the Act of last year) had given the Senate the opportunity and power to do in the Medical Faculty what it desired to do, but could not, in the other faculties, without the consent of Convocation. Was it fair that one particular faculty should be dealt with in this exceptional way? It was therefore evident that although the Senate had been legally right, it had done that which was equitably and morally wrong. Surely the fact of an Act of Parliament being permissive implied that it was to be used with some limitation, and not as a compulsory Act—in other words, fairly. The equitable view of the matter had been well put to the Master of the Rolls for his opinion by the Registrar of the University, as follows:—"While giving to the Senate the uncontrolled power (subject only to the veto of the Home Secretary) of treating the affairs of the University within the limits prescribed by its Charter, that Charter explicitly provides that no new Charter shall take effect, nor any old one be surrendered, without the *joint assent* of the Senate and Convocation. And it is contended that this is morally tantamount to providing that no fundamental change in the constitution of the University, such as it would (unless made by Act of Parliament) require a new Charter to effect, should be made without such joint assent. This provision would, of course, be overridden by any positive enactment of Parliament. But, it is urged, a merely permissive Act ought not to be applied by the Senate without the concurrence of Convocation in any way which fundamentally changes the constitution of the University; the spirit, if not the letter of the Charter, requiring that in such a matter the University should *act as a whole*." The opinion of the Master of the Rolls, in reply, was based upon the fact that the powers of the Senate had been enlarged by the Permissive Act. But such a *legal* opinion was unnecessary. Dr. Fox had put the case to a very distinguished graduate of the University, Mr. Farrer Herschell, Q.C.; and Mr. Herschell had replied as follows:—" . . . I should certainly support the view that the Senate ought not to have adopted the Act of last session without communication with Convocation. There can, of course, be no question that they had a *legal* right to do so. As the executive body, it lay with them to exercise the power given by the Act or not. But there is no doubt that the intention in depriving the Senate of the power of accepting a new charter without the consent of Convocation was to prevent any fundamental change in the nature of the University or in its operation being made without the concurrence of the latter body. And no one can deny that a change of considerable importance has been made by the adoption of the Act of last session. Because its effect, coupled with the Medical Act of 1858, is, I suppose, to give the University power to grant degrees of M.B., M.D., or M.S. to women. . . . It may, indeed, be said that although degrees may, by the adoption of the Act of last session, be granted to women, yet the proviso to Section 1 of that Act would prevent the women obtaining such degrees from taking any part in the government of the University, and would therefore exclude them from Convocation. Even assuming this to be the case, I think the change is none the less fundamental. It is wholly beyond the powers of the existing Charter; but for the Act could only have been done by virtue of a new Charter; and I think the Act, being permissive only, should only have been adopted by the same authority which would accept a new Charter—viz., the Senate and Convocation combined. But I would call your attention to the very singular wording of the proviso. I cannot doubt that its intention was what I have stated above. But it is so worded as certainly to leave open the contention that women receiving degrees would become members of Convocation. The proviso says that 'No person who but for this Act would not have been entitled to be registered, shall, *by reason of such registration*, be entitled to take part in the government of the Universities mentioned in the Medical Act' (including the University of London). Now, the membership of Convocation results from the degree, not from registration under the Medical Act, which has nothing to do with it. It may be said, therefore, that it is nowhere provided that the 'qualification'—that is, the 'degree'—which the University is empowered to give to women, shall not have all its natural consequences, and, *inter alia*, the right to a part in the government of the University, it being provided only that such persons shall not, by reason of *registration* (which the section itself distinguishes from the qualification), have any such right. I think it very likely that this wording is a piece of blundering; but if there is anything in the point I have suggested, the constitution of Convocation itself may be fundamentally affected." Mr. Herschell wrote a second letter on July 23, in which he said:—"On considering further the legal point to which I alluded, I am more and more convinced that there is a great deal in it. It is, to say the least, *very doubtful* whether the Courts would not hold that the female graduates become members of Convocation. It is possible that they might hold otherwise, to carry out the apparent intention of the clause; but it is, to say the least, *very possible* that they might hold themselves unable to do so. It would depend a good deal on the constitution of the Court before whom the question came. If this be so, surely in such uncertainty on this point the Act ought not to be adopted. . . . Don't be led away by the statement, if it be made, that the law officers have advised the contrary. It is worth little unless you see the exact terms of the opinion." The law officers of the Crown (continued Dr. Fox) had, in giving their opinion on the proviso, concluded with a most important paragraph, which appeared to have been suppressed in the discussions on the subject. Speaking of the proviso, they said, that it was obvious "that there was a slip in the words." "It ought," they thought, "to be construed as if the words *qualification for such registration* had been used instead of the words

such registration." The Attorney and Solicitor-General therefore "hedged" with the concluding paragraph. But Dr. Fox said he would now show that there had been no "slip in the words of the proviso." Mr. Russell Gurney, to whom he wrote on the subject, replied that "lawyers differed as to the clause. The proviso had been given to him as the condition on which the Bill would be allowed to pass, and he consented to it; and," he added, "he wished it had been worded differently." If there was no slip in the proviso, Mr. Herschell was wholly right. The House would therefore feel convinced that by the adoption of the Russell Gurney Act the constitution of Convocation would be fundamentally changed. Dr. Fox concluded by saying that he had surely proved that the Senate was straining its power to an unconstitutional degree, and that, if Convocation permitted it, it virtually deprived itself of all its privileges but one, and that was the occasional nomination of a senator. He trusted the House would consider the time chosen for the institution of this new *régime* of Cæsarism by the Senate—the time when the constituency of the University, by virtue of its increasing numbers and the status of its members, ought to have its privileges increased, and not curtailed or annihilated. He would point out, in the last place, that upon a request made to the Senate by a mere outsider to alter the constitution of the University for his or her benefit, the Senate had felt itself justified in ignoring the rights and privileges of the whole constituency of the University for the sake of one of the public. The thing was too monstrous to be discussed for a moment. Dr. Fox hoped that that House would be true to itself, and that it would show by its vote that it was tenacious of its just rights and worthy of their exercise; otherwise the result could only be disastrous for the University.

Professor Curnow seconded the motion, pointing out that the Senate had superseded the powers of Convocation in adopting an Act of Parliament instead of obtaining a supplementary charter.

Mr. A. P. Hensman moved as an amendment—"That the Senate, by adopting the Act which permits it to grant degrees in medicine to women, has promoted the best interests of the University." He said the medical graduates had abandoned the question of legal right, and taken high moral ground. But the Charter did not, even in spirit, support the view that a constitutional change could not be made without the consent of Convocation. Acts of Parliament overrode a charter, and the Senate were bound to adopt an Act if they considered that it would further the interests of the University.

Dr. T. de Courcy Atkins seconded the amendment.

Sir William Jenner and Mr. T. Lister Godlee spoke strongly in favour of the resolution.

Mr. Shaen said that Russell Gurney's Act having thrown a great responsibility on the Senate, the Senate (which for the application of the Act were the "University") were bound to adopt it.

Several other members, including Mr. Goldsmid, M.P., Mr. W. Fowler, Mr. Fitch, Dr. Quain, Mr. Osler, and Mr. H. Payne, having expressed their opinion, the House divided, when it was found that 143 had voted for the resolution and 82 for the amendment, which was accordingly lost.

Mr. E. H. Busk then moved, and Mr. W. Fowler seconded, the following amendment:—"That this House having learned that doubts have been expressed whether degrees granted to women by virtue of the power conferred on the University by the Act of 39 and 40 Vict., chap. 41, will not constitute the holders thereof members of Convocation, and having learned that the Senate is about to apply for a new Charter, empowering them to grant to women degrees in all faculties, by which the rights of women holding degrees will be fully determined, requests the Senate to refrain from availing itself of the powers conferred by the Act until after an opportunity shall have been afforded to consider the terms of the proposed Charter."

The House again divided, after a short debate, when 77 voted for the amendment and 113 for the original motion. Finally the original resolution was substantively carried by 114 to 71. Loud cheers greeted the announcement of the division.

Professor Curnow then moved, Mr. Rickman J. Godlee seconded, and it was carried by 88 votes to 52—"That it be referred to the Annual Committee to confer with the Senate in reference to the foregoing resolution, and to ask them not to take any further action under the Act of 39 and 40 Vict., chap. 41."

The proceedings terminated with a vote of thanks to the chairman.

THE SULPHUROUS WATERS OF ALLEVARD-LES-BAINS.

We are indebted for the following interesting account of Allevard-les-Bains, its waters, and "the treatment" adopted there, to a lay friend, who has been greatly benefited by his stay there. Some of our readers may be able to turn a knowledge of the place to good account in their practice:—

Hôtel du Parc, Allevard-les-Bains, Isère, France,
July 18, 1877.

Without wishing in any way to favour one place on the Continent at the expense of another, or to disparage the natural beauties of the Pyrénées and the curative virtues of the waters of Cauterets, Eaux Bonnes, etc., I am yet constrained to ask why so few English people come to this place. It must, surely, be because it is unknown to them: for in every respect it is a worthy rival of those other baths. There are very many invalids who, having passed the winter at some one of the many health-resorts on the Riviera, would derive immense advantage from a short sojourn here before returning to England. Driven by the heat from Cannes or Mentone towards the middle or end of April, they could not do better than spend the month of May on the lakes—Baveno on Lago Maggiore, if Church privileges be an additional attraction—and come on to Allevard for June. The season begins about May 20; before that they would scarcely find hotels or the different parts of "the treatment" in working order.

Allevard is a small town of about 3000 souls, situated at the eastern extremity of the department of the Isère, in a lovely valley of the Alps of Dauphiné, at an elevation of about 1500 feet above the sea, and is surrounded by natural beauties of all sorts—glaciers, mountains, waterfalls, gorges, woods, etc. It has the great advantage for delicate people of being on the road home, if the Mont Cenis route be selected, as it is only about two hours and a half distant from Chambéry, on the line of railway between that place and Grenoble It is well supplied with hotels, while the cost of living is extremely moderate. Here, *e.g.*, the *pension*, that is, *déjeûner à la fourchette* at 10.30, dinner at 5.30, bedroom (candles and attendance), varies from eight francs to eleven francs a day, according to the position of the bedroom. An additional franc is charged if one has coffee in the early morning; and in case the hours should be inconvenient, or from any other cause visitors prefer to have their meals separately, a franc a day is added to the *pension*.

The generality of cases under treatment here are diseases connected with what the French call "Les voies respiratoires." Consumption, bronchitis, and clergyman's throat are especially benefited by these waters. Taking an ordinary case of this latter, the course would probably be similar to that prescribed for us by Dr. Chataing, the able Assistant Medical Inspector—viz., Four times a day gargle with a tumblerful of water (lukewarm). Every other day, unless it rained, a bath 95° Fahr. for half an hour. Three sittings of ten minutes each, separated by an interval of five or six minutes, morning and evening, in the "salle d'inhalation." The length of these sittings is gradually increased as the system is able to bear them. "To drink half a glass of the water one hour before lunch, and again one hour before dinner. The quantity to be taken is increased or diminished as the stomach is disturbed or not by it. Between 3 and 4 p.m. a 'douche pharyngienne' for twenty minutes or half an hour." A word or two may be added on these "douches" and the "salle d'inhalation." In order to thoroughly restore health to the pharynx, the manager and medical men have arranged that the water may be brought to bear especially on that organ. The patient is seated with a waterproof apron round his neck, in front of a sort of fountain, with a tap by which he can regulate the force of the jet and stop it from time to time. The water when turned on is directed on to the part affected. In cases where it is needed, this "douche" is converted into a spray-producer. The "salles d'inhalation" are rooms with a fountain in the middle, so constructed that by falling from basin to basin the gases contained in the water are detached and fill the room. It is believed that the air of the room is so saturated with the sulphurous properties of the water that a piece of silver would, if exposed, become black in less than ten minutes; and it is certain that any silver carried in the pocket quickly becomes tarnished.

A model of this apparatus is to be exhibited in Paris next year.

To those who carry out the treatment with any degree of strictness, it will not be easy to find time for many excursions. Of these, however, there are plenty in the neighbourhood, and of exceeding beauty. Not to speak of the Château and Park of Allevard, there is a very pretty walk of about twenty minutes to "La Tour du Treuil," a square building about eighty feet in height, with a kind of platform at the top, from which there is a very lovely view. Of course, it is said to be haunted, and has all sorts of romantic stories attached to it. Its name, however, would seem to point to something much more matter of fact, for a local word, "trouiller," means "to make wine"; and "trouil," or "treuil," a cottage in a vineyard in which the press, etc., is kept. Another short and beautiful walk is to the waterfall above the Foundry, called "La Cascade du bout du Monde." Then there is the walk of one hour and a half or two hours to the top of the "Brâme Farine." From this elevation is a magnificent view of the rich plain of Chambéry, and a great part of the valley of the "Graisivandan." To the left, all the country watered by the Isère, as far as Grenoble; facing, Les Bauges; and in the distance, the capital of Savoy, the town of Aix-les-Bains, and the Lake "du Bourget"—altogether a most lovely panorama. More extended excursions (available, however, solely for those who are not undergoing, or who have finished, the treatment) may just be mentioned. They are "Les Grottes de la Jeannotte," Valley of Saint Hugo, with the "Devil's Bridge" over the torrent of Beus, formed by the neighbouring glaciers, and which on this side was the frontier between France and Savoy. The bridge made for the use of La Chartreuse is of a single arch, at the height of 300 feet, thrown across the precipice, and is the only access to the ruins of La Chartreuse. To Ponthaut is a walk of about two hours. To mention but one more, there is the excursion to the Mountain of the Seven Lakes; but this requires seven hours, at least, to get there.

Allevard can, I believe, boast of no greater antiquity, as the known possessor of an invaluable spring, than the present century; and at first was visited solely by the people of the immediate vicinity. But within the last thirty or forty years the curative properties of the waters have been thoroughly investigated, and year by year sufferers arrive from all parts of the Continent to find, if not a cure, a certain alleviation of disease and prolongation of life. For my own part, I most strongly advise any who are suffering from asthma, bronchitis, incipient or threatening consumption, or clergyman's throat, to select Allevard as the place for their summer holiday. Let them remain there under treatment for about three weeks or a month,(a) and on their return to England they will acknowledge that they owe a lasting debt of gratitude to the writer of these lines for bringing the place to their notice.

Several books or pamphlets have been written on the local and medical history of Allevard and its waters. The very interesting work of Dr. Dupasquier is unfortunately out of print. But there are still to be had on the spot "Eau Sulfureuse d'Allevard," by Dr. Laure; "L'Inhalation d'Allevard," by Dr. Baron; "Eau Sulfureuse et Iodée d'Allevard," by Dr. B. Niepce, one of the medical inspectors. From these may be gathered everything that is necessary both as to the chemical analysis of the water, and the course to be followed by those who place themselves under treatment. Any additional information which may be desired will, I am sure, be gladly given by Monsieur Marius Porte, the courteous and obliging Director of the Etablissement des Bains, Allevard, Isère.

The best route from Paris (if the journey be done without a break) is to take the 8.40 p.m. train to Macon and Chambéry, which is due at this latter at 10.8 the next morning. At 12.25 a train starts for Goncelin, whence the omnibus of the Hôtel will take travellers up to Allevard. But to persons for whom this would be too fatiguing a journey I should recommend a train which leaves Paris at 11 a.m., and reaches Lyon Perrache about 10 p.m. There they may stay the night, and by taking the train departing at 11.55 next morning they will arrive at Goncelin by 8 p.m. I should add that no English is spoken at Allevard—only French.

P. M. S.

Professor Lister.—The Cothenius Medal of the Leopold-Carolinian Academy has been awarded to Prof. Lister on the recommendation of Profs. Rokitansky, Virchow, and Leyden.

(a) The season closes at the end of September.

FROM ABROAD.

Opening an Abscess of the Brain.

A case that has occurred under the care of Dr. Proust at the Lariboisière has recently made a considerable stir in Paris, and although the "success" at first reported has turned out to be no success at all, we may give the chief particulars. As a consequence of an attack of typhoid fever, a man aged fifty-five (*Gaz. des Hôp.*, July 21 and 28) was attacked with inflammation of the posterior and superior part of the left parietal bone, which was followed by a fistula giving issue to a small quantity of pus. His health was otherwise satisfactory, and he was remaining in the hospital as a convalescent, when on July 10, while quietly talking, he suddenly fell down insensible. The loss of consciousness did not long continue, but he was found to have become hemiplegic on the right side, while he could only stammer out some words with great difficulty. On the 12th he fell into the comatose state again, and Dr. Proust now began to connect this condition with the lesion of the parietal bone. The symptoms might, indeed, be explained by a cerebral hæmorrhage or an embolus; but, on the other hand, the seat of the lesion opposite the motor regions of the cerebral surface, to which so much attention has of late been called, seemed to point to a not less probable explanation. The necrosis of the parietal bone was of considerable extent, and corresponded over a pretty large surface to the motor zone of the encephalon. Might not a spiculum of bone be compressing the nervous substance at this point? So, also, a collection of pus may have formed under the bone which produced the compression. In fact, the irregularity of the symptoms as regards their intensity, and the rapid and temporary amelioration which ensued, little favoured the supposition of the existence of an effusion of blood. Under these circumstances, Dr. Proust sought the opinion of Dr. Tillaux as to how far surgical intervention was desirable. In M. Tillaux's opinion, the symptoms observed were most probably due to the compression produced by a fragment of necrosed bone, while the hypothesis of the existence of an abscess beneath the dura mater, or formed at a distance in the cerebral substance (such as is often observed as a consequence of lesions of the cranium, and especially in caries of the petrous bone), might be very reasonably entertained. He therefore made a crucial incision into the scalp, and removed the sequestra, the dura mater beneath being found thickened and covered with fungosities. It was now determined to wait awhile before incising the dura mater, to see the effect of the removal of the pressure caused by the spicula. On the 13th the patient seemed a little better, his speech being somewhat more easy; but next day the signs of cerebral compression returned more markedly than before. Some variation was observed in the condition of the patient during the following days, but upon the whole he continued to get worse, and surgical intervention seemed called for. Accordingly, on the 17th, M. Tillaux laid bare the cranium around the loss of its substance which already existed, and having removed the necrosed portions of bone, found himself in close vicinity to the mesial line. By careful manipulation with a small chisel and mallet, the bone being very thin, he laid bare the dura mater over a space about four or five centimetres in length and three or four in breadth. All the part of the dura mater corresponding to the necrosed bone was covered with fungosities, but beyond this it appeared healthy. A crucial incision was made into it, and beneath its fungous part the brain was obviously softened. After some hesitation, seeing the man's desperate state, it was resolved to penetrate the brain itself in search of a deep-seated abscess. A puncture extending at least to two centimetres and a half was made, and some thick, creamy, "laudable" pus escaped by the side of the bistoury. This came out much more abundantly when a grooved director was passed in to the distance of four centimetres, so that at least three spoonfuls were discharged. The patient did not seem to suffer during the operation, and on interrogating him some tolerably just replies were elicited, but the paralysis persisted; his speech continued embarrassed, and his intellect was evidently obtuse. On the 18th the man seemed better, and

there seemed less "intellectual oppression." A considerable quantity of pus was discharged. On the 19th fever was set up, and the condition seemed very unfavourable. No pus was discharged, softened, tumefied, and diffluent cerebral substance seeming to have filled up what was the cavity of the abscess. The man died shortly after, and at the autopsy there were found three other abscesses within the substance of the brain, two of which were much nearer the region which has been termed the motor zone—*i.e.*, the region in the vicinity of the fissure of Rolando. Moreover, the cerebral substance itself had undergone great alterations in the centrum ovale, behind this fissure.

Dr. Revillout, in giving an account of the case, considers that the operation, in the desperate state of the man, was quite justifiable. When, on the discharge of the pus, the hemiplegia still persisted, other abscesses or lesions were to be expected, which would probably be found, as they were found, nearer to the fissure of Rolando than the abscess which was opened; for otherwise, a greater effect would have been produced in the hemiplegia by the issue of so large a quantity of pus. "The case was the more valuable as it has given a double confirmation of the conclusions drawn from the experiments on animals regarding the motor zone. It is a confirmation in the living subject, for an abscess was suspected, and has been found where it was sought for; and a confirmation at the autopsy, as the negative results which followed the operation, as regards the symptomatology, led to the very probable supposition that alterations could be found closer to the vicinity of the fissure of Rolando, where, in fact, there existed two abscesses and softening of the white substance of the centrum ovale."

Suicides in France in 1876.

By a return published in the *Révue Méd.*, July 9, it appears that the suicides in 1876 were 5467, of which 4435 occurred in men and 1032 in women. As is always the case, the Department of the Seine furnished by far the largest number, viz., 915; while no other department, even the most populous, hardly attained 100. Of the 5467 deaths, 2472 took place by hanging; 1514 by drowning; 895 (14 in women) by fire-arms; 407 (216 being women) by charcoal fumes; 154 by precipitation; and 109 by poison, which was usually laudanum; 31 persons killed themselves by lying on railway lines, 1 man jumped into a furnace, and another inflicted castration on himself. Among the suicides 1946 were celibates, 151 widowed without children, and 801 married with children. The ages were as follows:—Under 16, 29; from 16 to 21, 195; from 21 to 30, 648; from 30 to 40, 829; from 40 to 50, 1053; from 50 to 60, 1161; from 60 to 70, 993; from 70 to 80, 528; and above 80, 98. As to occupation, 1828 are returned as peasants, 1038 as workmen, 228 as servants, 987 as of liberal professions, and 241 as engaged in commerce. Among the most frequent causes, there are returned 1433 from drunkenness, 320 fear of destitution, 633 domestic sorrows, and 798 (277 being women) supposed to be suffering from incurable disease.

Inutility of Blistering in Acute Diseases.

Dr. Alix, Principal Medical Officer to the Lyons Military Hospital, in a paper read at one of the medical societies (*Lyon Méd.*, No. 19), explains that his object is not to suggest any new remedy, but the elimination of an old one. During the last four years he has discarded the employment of blisters in acute affections; and for that period the results have been as follows:—In 819 cases of simple *bronchitis*, unaccompanied by any tubercular complication, but 100 of the number being examples of capillary bronchitis, he has only had one death. When the case is quite simple, he confines himself to dietetic regulation, rest, some agreeable drink, and sometimes a little opium. When he has to do with capillary bronchitis with mucous râles spreading all over the lung, he gives ipecacuanha, and soon passes on to alcohol and other tonics, favouring expectoration by every possible means, and abstaining from any use of opiates. Of 146 cases of *pneumonia*, only three proved fatal; in none were any tubercular complications present. When the disease is simple, limited, and regular in its course, and under suitable diet, rest, and emollient drinks, the patient gets well in a few days. When the temperature rises to 41° C. or more, and the course of the disease is irregular, he gives digitalis two or three days in succession. When there is anxiety and sharp pain, so as to be an obstacle to respiration, he employs some subcutaneous injections of morphia, after which the pain is relieved and the course of the disease becomes regular. When, however, the constitution is bad, and the slow evolution of the disease leads to the fear of hepatisation, he does not hesitate to employ alcohol, tonics in general, quinine, coffee, together with a substantial diet; the object being to stimulate the economy, rendering the local circulation active by developing the general circulation. Among 155 cases of *pleurisy* without tubercular complication, he had four deaths. He gives digitalis at first whenever the temperature is somewhat high, whatever may be the amount of effusion, while absolute rest and a moderate diet are insisted on. The digitalis is continued in lesser doses for a longer time than in pneumonia, in consequence of the diuretic action attributed to it. When the temperature, which is never very high in pleurisy, has fallen, repose still being insisted on, he orders opium, and, if the pains are sharp, hypodermic injections, to secure sleep. When the effusion is only slight, the effects of the opium and warm bed are assisted by the application of large diachylon or pitch plasters to the thorax. It must never be forgotten, in treating pleurisy, that even in the most simple cases it is a disease of long duration; and it is forgetting this fact that has led to the hasty application of blisters and other painful means. Sometimes Dover's powder or diuretics may be prescribed; and in cases in which there is only a medium amount of effusion, absorption will take place just as quickly as under the use of revulsives. When the effusion, on the contrary, increases and becomes dangerous, paracentesis should be performed, the patient being placed in the recumbent posture, and the liquid only being slowly and partly withdrawn, when absorption will remove the rest. The operation should not be performed during the process of the formation of the fluid, as by disturbing this it may induce suppuration. It is, in fact, but rarely required. *Articular rheumatism* occurring in the young subjects with which Dr. Alix had to do, always terminates favourably, as it did in the 244 cases which he reports. He always envelopes the joint or joints in a thick layer of wadding, after smearing them with an opium or belladonna liniment. If the pains are very intense, he either gives opiates or employs hypodermic injection. After a very variable number of days, the patients are cured. Complications of heart affections are very rare in first attacks, but are frequent in succeeding ones.

Dr. Alix is the more satisfied with the results of his present simple mode of practice in the above cases by contrasting them with those which he obtained during his nine years' residence in Algeria, during which time he treated 505 cases of bronchitis, 110 of pneumonia, and 39 of pleurisy. Of the 505 cases of bronchitis, he lost 4 out of 318 patients among the military population, 15 out of 109 of the civil population, and 5 of 78 of the indigenous population, and that although the climate is far more favourable to these cases than is that of Lyons. Of the 110 cases of pneumonia, 32 proved fatal. For these cases blistering was largely employed.

Caution to Experimenters.—Another "martyr to science" has occurred in the person of M. Alfred Deshaies, aged thirty-six, chemical *préparateur* in the Collége du France, who was found lying on the ground in the laboratory at his residence, death having taken place two days before. It is supposed that he was engaged in trying upon himself the effects of some chemical products that he had been examining for a long time past, and specimens of which were lying around him.—*Union Méd.*, July 26.

Movement of the Population in the Chief European States.—The *Gazette Médicale* (No. 38) extracts the following figures from a table recently published by the *Journal Officiel* relating to the period 1872-75:—1. *Births:* These were 26·27 per 1000 inhabitants in France; 34·23 in Great Britain; 36·65 in Italy; 39·71 in Germany; 40 in Austro-Hungary; and 47·20 in Russia. 2. *Mortality:* There were 21·35 deaths per 1000 in Great Britain; 22·46 in France; 27·72 in Germany; 30·40 in Italy; 34 in Russia; and 38·96 in Austro-Hungary. 3. Proportion of *Excess of Births:* By the two tables given above, we find that the excess of births over deaths per 1000 is 13·20 in Russia; 12·88 in Great Britain; 11·90 in Germany; 6·25 in Italy; 3·81 in France; and 1·04 in Austro-Hungary. Thus, although France occupies the second rank with respect to her slight mortality, she is last but one among the great Powers as regards the excess of births over deaths.

REVIEWS.

Transactions of the American Gynecological Society. Vol. I. for the year 1876. Boston, 1877. London: Trübner and Co. Pp. 387.

As an indication of combined harmonious action on the part of our American brethren, we are glad to receive this volume. We in England have long recognised the value of the incentive of appreciation and the corrective of criticism which societies like this afford; and we therefore like to see our example followed in this respect. The most noteworthy articles in the volume are one by Dr. Battey, on extirpation of the functionally active ovaries for the remedy of otherwise incurable diseases; a case of abdominal pregnancy treated by laparotomy, which Dr. Gaillard Thomas contributes; a paper on the spontaneous and artificial destruction and expulsion of fibroid tumours of the uterus, by Dr. Byford; and a case by Dr. Peaslee, in which both ovaries were removed for the relief of epileptic seizures ascribed to ovarian irritation; and last, but not least, a paper on the relations of pregnancy to general pathology, by our eminent specialist, Dr. Barnes, who during the year visited America in the capacity of representative of the Obstetrical Society of London, and as such was invited by the President to address the Society. The volume contains also articles by other English writers, the publication of which we can only regard as a proof of the good nature of our American *confrères* and their love for the old country. We hope our English gynæcologists, seeing thus the extent of the kindness of our Transatlantic friends, will be careful not to impose upon it, but will only send contributions when they have something to say that the profession in America is not acquainted with.

A Practical Treatise on Operative Dentistry. By J. Taft, Professor of Operative Dentistry in the Ohio College of Dental Surgery, U.S.A. Third edition. London: J. and A. Churchil. 1877. Pp. 521.

The book before us is one of much value. It is a thorough and complete treatise on the art of practical dentistry. "Only those affections which pertain to the teeth directly and the contiguous parts will here be considered; and the latter only so far, in the main, as surgical treatment is concerned. Nor will the pathology of contiguous parts be introduced, for the treatment of these, being therapeutic rather than surgical, would involve a discussion of questions not within the scope of the present volume. Indeed, it is proposed merely to speak of those affections of the teeth which generally suggest surgical remedies." This quotation will give a fairly good idea of the scope of the work. Nevertheless, the author does now and then enter into pathological details. In the first chapter, for instance, he discusses, among other things, the origin of deposits, the causes of exostosis and of necrosis; and in the second chapter, on caries of the teeth, the whole subject is treated,—the predisposing causes, the exciting causes, comparative liability to caries, and its consequences, are each in turn discussed. This deviation from the line laid down, however, adds much useful matter to the book; the knowledge of cause greatly facilitating the sound treatment of disease. The chapter on filling is very practical, and deserves special attention. Those who have any personal experience well know the frequency with which the dentist is called on to fill and stop teeth, and therefore the subject is one of great importance. Here the student will find an exhaustive *résumé* of what is known. The relative value of every kind of stopping is well discussed. Nor is the subject of instruments for filling less well handled; and this chapter is copiously illustrated with well-drawn woodcuts. The mechanical genius of the author's nationality is here clearly manifest.

The chapter on extraction of teeth is also good. The author in his last chapter considers the subject of anæsthetics. He says—"During the administration of ether or chloroform the pulse usually becomes more frequent; but it should not be accelerated, nor its strength and fulness be much diminished. Enfeebled or irregular pulse should in all cases be regarded as a warning, and if the feebleness and irregularity be very marked, the operator should desist. . . . The degree to which anæsthesia should be carried is a matter on which there is much diversity of opinion. Every condition of it, from that of simple allayed irritability to that of complete insensibility and unconsciousness, has its advocates. . . . The fingers of the person administering the chloroform should be kept on the carotid, since the state of the circulation will be better recognised by this than by the radial artery, and it is a more convenient point for observation. In favourable cases it is preferable to continue the inhalation till there is free muscular relaxation."

The book strikes us as a decidedly good one, and we have much pleasure in drawing the attention of English readers to it.

Examination Papers for the use of Medical Students. Compiled by W. J. H. Lush, M.R.C.P., M.R.C.S. London: J. and A. Churchill. 1877. Pp. 112.

This neat little compilation will be found exceedingly useful by students at all stages of their curriculum. As the author points out in his preface, "the habit of *writing* down answers to a set of questions on any subject not only tends to fix the information thoroughly in the mind, but also helps the student to accustom himself to be precise and accurate in his answers." In this we fully agree. It is within our knowledge that many a valuable scholarship and prize have been lost for want of the power of condensing and accurately expressing the answer to an examination question. Few men are born writers, and this exercise in answering questions is just as necessary to aspirant prize-takers, if they would succeed, as public speaking is to a man who would become a great orator.

We cordially recommend both the subject and the book to the attention of medical students.

NEW INVENTIONS AND IMPROVEMENTS.

BIRRESBORN MINERAL WATER.

There has undoubtedly been of late a yearly increasing demand for natural mineral waters, and, as an inevitable consequence, an equal, if not still greater, growth in the supply. The demand is probably in part a consequence of the lessened consumption of wines in the undiluted form, and of other alcoholic drinks, but it is in larger part, probably, the outcome of the increased appreciation of the greater value and pleasantness of natural over artificial aërated waters. Whatever the causes may be, however, there can be no doubt that there are being constantly offered to the British public new mineral waters, both medicinal and dietetic. To the latter class belongs the Birresborn Natural Mineral Water, of which Messrs. Robinson and Macnicoll, 81, Gracechurch-street, are the sole importers. It flows, we are informed, from the Birresborn Spring, of old local fame, in the Eifel Mountains in Rhenish Prussia. The published analysis of it by Professor Fresenius, of Wiesbaden, which is corroborated by Heisch and other analysts in England, shows that it is rich in bicarbonate of soda, besides containing lithia and other alkalies, and a minute proportion of iron. It is clear and bright, and is charged with a sufficient quantity of free carbonic acid gas to make it very sparkling; and though more decidedly alkaline than many other well-known mineral waters, it is very agreeable and palatable. From our experience of it we can confidently recommend it as a pleasant and wholesome beverage, either alone or mingled with a light wine; and we doubt not that it will be found very useful and valuable as an agreeable alkaline and slightly chalybeate table-water.

Fetid Feet.—In an article in the *Révue de Thérapeutique* it is stated that an immediate remedy for this noisome affection is found in washing the feet with a solution (1 in 100) of chloral, and keeping them enveloped in compresses wetted with the same solution. Results as satisfactory have long since been obtained by Dr. Bourdon by the employment of a solution (commencing with 3 in 1000) of the permanganate of potash. Dr. Berthold also indicates an efficacious method which is less troublesome than that of bathing with solutions. It consists in powdering the interior of the patient's socks with a powder composed of one part of salicylic acid and five of starch. This is, too, an excellent mode of treating the local sweating which in fat persons often takes place between the scrotum and the thighs, and if not arrested leads to a troublesome eczema, and its accompanying pruritus.—*Gazette Méd.*, No. 38.

MEDICAL NEWS.

UNIVERSITY OF LONDON.—The following are lists of candidates who have passed the recent examinations :—

PRELIMINARY SCIENTIFIC (M.B.) EXAMINATION.

First Division.—Edwin Leonard Adeney, Guy's Hospital; Charles Alfred Ballance, St. Thomas's Hospital; Alexander Barron, Owens College; John Williams Batterham, Westminster Hospital; Harry Poole Berry, Guy's Hospital; Isaac Blore, The Leys, Cambridge; Charles Edward Cassal, University College; Joseph Clegg, Owens College; Henry Francis Corbould, Charing-cross Hospital; Edgar March Crookshank, University College; Robert Ernest Gillhurst Cuffe, St. Mary's Hospital; Oswald James Currie, Guy's Hospital; William Radford Dakin, Owens College; Donald Douglas Day, St. Bartholomew's Hospital; George Parsons Naylor Dixon, St. Bartholomew's Hospital; Lewis Humfrey Edmunds, University College; Arthur Grayling, St. George's Hospital and Epsom College; Philip Rhys Griffiths, University College; Charles Gross, Guy's Hospital; Henry Louis Preston Hardy, London Hospital and private study; Charles Skinner Harper, Guy's Hospital; Thomas Harris, Owens College; George William Hill, King's College and private study; Frederick Matthew Holman, University College; Henry Hoole, Charing-cross Hospital; William Heaton Horrocks, Owens College; William Henry Horrocks, Owens College; John Hughes-Jones, St. Bartholomew's Hospital; Jonathan Hutchinson, London Hospital; Leonard Frank I'Anson, Epsom College; Arthur John Jefferson, St. Thomas's Hospital; Robert Jones, St. Bartholomew's Hospital; Frederick Herbert Lane, Epsom College; William Lane, Guy's Hospital; Arthur Hamilton Nicholson Lewers, University College; William Thomas Maddison, King's College; Hyde Marriott, Owens College; Sidney Harris Cox Martin, University College; Herbert Percy Miller, University College; Paul Frank Moline, University College; Desmond Ernest John Mortimer, Westminster Hospital; Michael O'Kane, Guy's Hospital; Richard Prothero, Liverpool Medical School and St. Bartholomew's Hospital; Lionel Philip Purton, University College; Bernard Rice, St. Bartholomew's Hospital; Edward Rice, St. Bartholomew's Hospital; Richard Pritchard Roberts, University College; John Thomas Rogerson, Owens College; David John Rygate, London Hospital; William Sellers, University of Edinburgh; Harold Bailey Shaw, Epsom College; John Smith, Guy's Hospital; Lockhart Edward Walker Stephens, Epsom College; Frederick Wallis Stoddart, University College, Bristol; St. Clair Thomson, private tuition and study; Francis Harper Treherne, St. Bartholomew's Hospital; Joseph James Udale, Guy's Hospital; Malcolm Webb, Owens College; George Henry Whitelegge, University College; John Whiting, St. Bartholomew's Hospital.

Second Division.—Alfred James Glanville Barker, University College; Pramatha Nath Bose, University College; William Job Collins, St. Bartholomew's Hospital; John Roberson Day, University College; Edmund Jesse Dobell, University College; Joseph Dobson, private study; Charles Downing, University College; John Fletcher, Owens College; John Alfred Gray, St. Bartholomew's Hospital; Francis Hickman, University of Edinburgh; Sydney John Hickson, University College; William Havelock Hill, University College; James Atkinson Hosker, private study: Eugene Arthur Laurent, University College; Joseph Herbert Lister, Guy's Hospital; James Samuel McDonagh, University College; Alfred Derwent Maitland, University College; Frederic Maude, St. Bartholomew's Hospital; Richard Basil Morley, Leeds School of Medicine; Henry Wilkinson Newsholme, University College; Thomas Pemberton Pemberton, Queen's College, Birmingham; Samuel Rabbeth, King's College; John Richmond, Guy's Hospital; Arthur Guy Salmon, St. Bartholomew's Hospital; Charles Sanders, St. Bartholomew's Hospital; Isaac Scarth, Owens College; John Alexander Shaw, University College and private study; Lauriston Elgie Shaw, University College; Arthur Thomas Wills, Owens College.

FIRST B.SC. EXAMINATION.

First Division.—Alfred Hodgetts Atkins, private study; Herbert Irving Bell, private study; Charles Frederick Cross, King's and Owens Colleges; Samuel Dixon, Owens College and private study; Henry Edmonds, private study; Lewis Humfrey Edmunds, University College; Walter Fowler, Caius College, Cambridge; Ernest Compton Gill, private study; Wintour Frederick Gwinnell, Royal School of Mines; Edward Harlock, Owens College; Hugh Erat Harrison, University College; William Havelock Hill, University College; William Heaton Horrocks, Owens College; Moses John Jackson, University College; Alfred John King, Owens College; Frederick Herbert Lane, Epsom College; Joseph Larmor, St. John's College, Cambridge; Hyde Marriott, Owens College; Sidney Harris Cox Martin, University College; Samuel Sheppard Oakley Morris, private study; Thomas Jeffery Parker, Royal School of Mines; Herbert Pearce, University College; George Henry Spencer Pearson, private study; Richard Charles Rowe, M.A., Trinity College, Cambridge; Frederick Wallis Stoddart, University College, Bristol; Duncan Taylor, private study; William Henry Thomas, Royal College of Chemistry; Daniel Walker, Owens College and private study; Malcolm Webb, Owens College.

Second Division.—Isaac Blore, The Leys, Cambridge; Pramatha Nath Bose, University College; Edwin Drew, private study; Sydney John Hickson, University College; Henry Robert Hind, private study; Isaac Patchett, private study; Arthur Lee Sparkes, B.A., private tuition; Peter Thom, University of Aberdeen.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following gentleman was admitted a Fellow on July 26 :—

Jelly, William, Madrid.

The following gentlemen were admitted Members on the same day :—

Thomas, William Robert, M.D. Queen's Univ. Ire., Sheffield.
Savage, Thomas, M.D. St. And., Birmingham.
Longstaff, George Blundell, M.B. Oxford, Wandsworth, S.W.
Wybrants, Jonathan, M.D. Aber., Shepton Mallet.
Houghton, Walter Benoni, M.D. Lond., 114, Tottenham-court-road, W.
West, Samuel Hatch, M.B. Oxford, 6, Colville-terrace West, W.
Phillips, Charles Douglas Ferguson, M.D. Aber., 107, Lancaster-gate, W.
O'Neill, William, M.D. Aber., Lincoln.
Sullivan, John, 28, Keppel-street, W.C

The following gentlemen were admitted Licentiates on the same day :—

Aplin, Alfred, 8, Harrington-street, N.W.
Arnott, Sandford, 24, New Ormond-street, W.C.
Bennett, Arthur, London Hospital, E.
Beresford, William Hugh, 4, Gloucester-crescent, W.
Biale, John Seton, St. George's Hospital, S.W.
Brett, John, 49, Ladbroke-grove-road, W.
Brock, Alexander Cameron, Dorking.
Collet, Golding Bird, 155, Marylebone-road, N.W.
Evans, William Morgan, Guy's Hospital, S.E.
Frankish, William John, University Hospital, W.C.
Friend, Herbert Edward, St. George's Hospital, S.W.
Galloway, Arthur Wilton, 54, Fitzroy-road, N.W.
Gaisford, Martin, King's College Hospital, W.C.
Gomes, Dominic Anthony, 18, Tavistock-street, W.C.
Ground, Edward, King's College Hospital, W.C.
Hemsted, Arthur, Wellingborough.
Heinemann, William, 36, Hilldrop-crescent, N.W.
Langdon, John Sydney, University Hospital, W.C.
Lacey, Charles William, Guy's Hospital, S.E.
Mackay, James Jerome, King's College Hospital, W.C.
Mackern, John, 4, Park-place, Blackheath, S.E.
Pickford, John Kemble, Maiden Newton.
Reporter, Maneckjee Eduljee, 1, Gower-place, W.C.
Stewart, Howard Douglas, King's College Hospital, W.C.
Vasey, James Adams, 5, Cavendish-place, W.
Wiglesworth, Joseph, Liverpool.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 26th ult., viz. :—

Cripps, Charles Couper, Bristol, student of University College.
Davies, Louis Walter, Carmarthen, of Liverpool and Guy's Hospitals.
Golland, Alfred, Oxford, of Royal Infirmary 4, Manchester.
Hadden, Walter Baugh, Liverpool, of St. Thomas's Hospital and Liverpool Royal Infirmary.
Hammond, Thomas, Whitehaven, of Guy's Hospital.
Jaynes, Victor Alexander, L.S.A., Gloucester.
Neale, John Edward, St. John's-wood, of University College.
Norman, Reginald, Manton, Rutland, of St. George's Hospital.
Stock, Gregory, of the Bristol Infirmary.
Vachell, Edward Shearman, Bath, of the London Hospital.
Woods, Arthur Appleton, M.D., Q.U.I., of Belfast.

Three candidates who passed in Surgery at previous meetings of the Court, having subsequently obtained medical qualifications, were admitted Members of the College, viz. :—

Mackern, John, L.R.C.P. Lond., Blackheath, student of Guy's Hospital.
Proctor, Samuel Fitzgerald, L.R.C.P. Ed., Trinidad, of St. Thomas's Hospital.
Weekes, Francis Henry, L.S.A., Auckland, New Zealand, of St. Thomas's Hospital.

Six candidates passed the examination in Surgery, and when qualified in Medicine will be admitted Members of the College. The other nine candidates were referred to their professional studies for a period of not less than six months.

The following gentlemen were admitted Members of the College on the 27th ult., viz. :—

Arthur, Walter, L.S.A., Oakley-street, S.W., student of Westminster Hospital.
Bathe, Anthony John, Purton, Wilts, of St. Bartholomew's Hospital.
Bennett, Arthur, L.R.C.P. Lond., L.S.A., M.B. Aber., Stawell, Victoria, of the London Hospital.
Bigg, George Kilworth Sherman, L.S.A., Wimpole-street, of Middlesex Hospital.
Budler, Charles Ferdinand, Cape of Good Hope, of University College.
Coffin, Thomas Walker, Earl's Court-road, of King's College.
Collier, Herbert, L.S.A. and L.R.C.P. Edin., Turnham-green, of St. George's Hospital.
Dalton, Charles Gerald, L.S.A., Lincoln, of the London Hospital.
Fulford, John, Melbourne, of Melbourne University and University College.
Gimlette, George Start Desmond, Southsea, of St. Thomas's Hospital.
Gipps, Alexander George Pemberton, Lonsdale-square, of St. Bartholomew's Hospital.
Harle, William John Vincent, L.S.A., Hackney, of Cambridge University and the London Hospital.
Hyde, Samuel, Buxton, of King's College.
Inman, Robert Edward, L.S.A., Hackney-road, of London Hospital.
Norton, Ritchie Robinson, Carmarthen, of University College Hospital.
Maberly, William Henry, M.B. Edin., Leamington, of Edinburgh University and St. Bartholomew's Hospital.
Milles, Walter Jennings, Staplehurst, Kent, of King's College Hospital.
Pain, Alfred, Bridgwater, of Guy's Hospital.
Sutton, Thomas Seagrave, L.S.A., Thame, Oxfordshire, of Middlesex Hospital.
Quicke, William Jenkins, L.S.A., Exeter, of Westminster Hospital.
Wallis, Percy Evershed, Hartfield, of Guy's Hospital.
Yoshida, Kenzo Hidenari, Japan, of University College Hospital.

One candidate who passed in Surgery at a previous meeting of the Court, having subsequently obtained a medical qualification, was admitted a Member of the College, viz. :—

Instone, Samuel Vaughan, L.S.A., Addison-road, Kensington, of Guy's Hospital.

Two candidates passed the examination in Surgery, and when qualified in Medicine will be admitted Members of the College. One candidate was referred to his professional studies for a period of not less than six months.

The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 30th ult., viz.:—

Atkey, William T., Chichester, of University College Hospital.
Berdoe, Edward, L.S.A., L.R.C.P. Edin., Victoria-park-road, of the London Hospital.
Beverhoudt, William Trend Hamlyn von, Plymouth, of King's College Hospital.
Blackman, Josiah George, L.S.A., Southampton, of Charing-cross Hospital.
Clark, John George, L.S.A., West Hartlepool, of the London Hospital.
Coumbe, John Batten, L.R.C.P. Edin., Plymouth, of St. Mary's Hospital.
Duncan, John Thornton, Tunbridge Wells, of St. Bartholomew's Hospital.
Harding, Arthur, Warminster, Wilts, of King's College Hospital.
Heath, William Lenton, Totnes, of St. Bartholomew's Hospital.
Hodgson, George Goodfellow, Liverpool, of University College and the Royal Infirmary. Liverpool.
Holland, Philip Alexander, M.A. Oxon., Oxford, of the University of Aberdeen and St. Bartholomew's Hospital.
Latour, Bertrand Edgar de, Hammersmith, of King's College Hospital.
Lowdell, Charles John Walton, Wadhurst, of Guy's Hospital.
Verdon, Michael John, Craven-street, of King's College Hospital.
Wagstaff, John Philip, L.S.A., Dalston, of the London Hospital.
Weller, John, L.S.A., Amersham, of the London Hospital.

Three candidates passed the examination in Surgery, and when qualified in Medicine will be admitted Members of the College. The other five candidates were referred to their professional studies for a period of not less than six months.

The following gentlemen were admitted Members of the College on the 31st ult., viz.:—

Battle, William Henry, Lincoln, student of St. Thomas's Hospital.
Dale, Henry Ridley, St. George's-square, N.W., of University College.
Fraser, Græme Bisdee, Weston-super-Mare, of St. Mary's Hospital.
Hawkins, Cæsar Frederick, L.S.A., Bristol, of the London Hospital.
Hinton, James Thomas, Croydon, of Guy's Hospital.
Maybury, Lysander, Frimley, of Galway and St. Thomas's Hospital.
Neylan, John, L.S.A., Ennis, of the London Hospital.
Nickoll, John Sayer, L.S.A., Milton-next-Gravesend, of the London Hospital.
Pemberton, Robert, Madras, of Guy's Hospital.
Pinder, John William, Cleethorps, Leeds, of the Middlesex and Charing-cross Hospitals.
Sheppard, Charles Edward, Addison-gardens, Kensington, of St. Thomas's Hospital.
Tritton, William Parsons, L.S.A., Kilburn-park, of King's College.
Wishart, John, M.B., Toronto, of the University of Toronto and St. Thomas's Hospital.

One candidate who had previously qualified in Surgery, having passed in Medicine, was also admitted a Member.

Three candidates passed the examination in Surgery, and when qualified in Medicine will be admitted Members of the College. The other eight candidates were referred to their professional studies for a period of not less than six months.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, July 26:—

Brown, Alexander Stewart, Leamington.
Collet, Golding Bird, Western Ophthalmic Hospital.
Devis, Charles James, King's-heath, Birmingham.
Harran, James, 14, Nelson-street, Leicester.
Instone, Samuel Vaughan, Addison-road, Kensington.
Stewart, Howard Douglas, St. James-garden-square-crescent.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Cuthbert, Charles Firmin, St. Bartholomew's Hospital.
Robins, Harvey, St. Mary's Hospital.
Sutton, Leonard W., St. Thomas's Hospital.
Haslam, William F., St. Thomas's Hospital.
Rusher, James B., St. Bartholomew's Hospital.

BIRTHS.

FRANKLIN.—On July 28, at Leicester, the wife of George C. Franklin, F.R.C.S., of a son.

RAYNER.—On July 23, at Teviot Dale, Stockport, the wife of Edward Rayner, M.D., of a daughter.

SEAMAN.—On July 23, at Ramsgate, the wife of W. C. Seaman, M.D., Deputy Inspector-General of Hospitals, of a daughter.

TEALE.—On July 26, at 2, Belvoir-terrace, Scarborough, the wife of John W. Teale, M.A., F.R.C.S., of a daughter.

WILKINSON.—On July 24, at Silver-street, Lincoln, the wife of T. M. Wilkinson, L.R.C.P. Edin., L.R.C.S., L.S.A., of a son.

MARRIAGES.

ANDERSON—DUNLOP.—On July 25, at St. Paul's Church, Edinburgh, John Anderson, Surgeon-Major A.M.D., to Jessie Usher, second daughter of the late James Usher Dunlop.

ANDERSON—UDALL.—On July 26, at St. James's, Birch, Charles Marmaduke, only son of Arthur Anderson, M.D., C.B., Inspector-General of Hospitals, Pitlochrie, N.B., to Marianne Charlotte, daughter of Robert Udall, of Kent House, Victoria-park, Manchester.

BARNES—MARTEN.—On July 31, at St. George's Church, Canterbury, Arthur Richard Barnes, M.B., of West Bromwich, Staffordshire, fifth son of the late Henry Barnes, Esq., of Faversham, to Mary Elizabeth, youngest daughter of Peter Marten, Esq., J.P. and D.L., of Canterbury, and Beach House, Deal.

BOURCHIER—MERRIMAN.—On July 25, at St. Nicholas Church, Blundellsands, near Liverpool, Seton Longuet, only son of Captain Bourchier, R.N., late of Liverpool, to Georgiana Marian, younger daughter of the late James N. Merriman, M.D., of Kensington.

DARNELL—RICHMOND.—On July 26, at St. Mary Magdalene, Bermondsey, John Monk, third son of William Darnell, of Bermondsey, to Helen Sophia Richmond, of Camden-square, N.W., youngest daughter of the late Robert Knewstub Richmond, M.R.C.S.E., of Bermondsey.

FORSTER—BENZON.—On July 24, at St. James's, Paddington, Stuart Forster, Trin. Coll., Camb., eldest and only surviving son of J. Cooper Forster, F.R.C.S., of Upper Grosvenor-street, to Elizabeth Marie Rudolpha, adopted daughter of the late Ernst Benzon, of Kensington Palace-gardens.

HARTLEY—THOMAS.—On July 26, at St. Gabriel's, Warwick-square, Francis Hartley, jun., of Gloucester, second son of Edmund Hartley, L.Q.C.P.I., of Warwick-square, London, to Maude Stanley, elder daughter of the late B. Minshull Thomas, of Twyning-park, Gloucestershire.

LANGDALE—TRIST.—On July 25, at St. Bartholomew's Church, Sydenham, Henry Marmaduke Langdale, M.R.C.S., L.S.A., of Uckfield, third son of the Rev. Edward Langdale, Rector of East Hothly, Sussex, to Rose Ellen, elder daughter of George Trist, of Eliot Lodge, Sydenham.

MCLEOD—AITKEN.—On July 26, at St. John's Church, Edinburgh, Surgeon-Major Kenneth McLeod, M.D., Indian Medical Service, to Jane Christie, eldest daughter of the late John Christie Aitken, Esq., of Christchurch, New Zealand.

SHERROTT—FARNHAM.—On July 28, at St. Joseph's Retreat, Highgate, Augustus John Sherrott, M.R.C.V.S., of Winchester, to Mary Anne Agnes Farnham (widow), only child of Albert Paterson, Esq., of Finchley, Middlesex.

TAIT—HARRIS.—On July 28, at St. Peter's, Regent-square, G. D. Tait, Esq., B.A., to Annie Gertrude, third daughter of Richard Harris, Esq., M.D., of Brunswick-square.

DEATHS.

BELLAMY, GEORGE EDWARD, only son of Edward Bellamy, F.R.C.S., of 59, Margaret-street, Cavendish-square, W., of typhoid fever, on July 27, aged 2½ years.

DALGAIRNS, CHARLES ANDERSON, M.D., M.R.C.S., youngest son of the late William Dalgairns, of The Rosaire, Guernsey, at his residence, St. Mildred's, Westgate-on-Sea, on July 28, aged 52.

NICHOLSON, the Hon. THOS., M.D., for many years member of the Executive Council of that island, at Antigua, W.I., on July 8, in his 78th year.

NOAD, HENRY M., Ph.D., F.R.S., for nearly thirty years Professor of Chemistry at the Medical School of St. George's Hospital, at Lower Norwood, in his 63rd year.

PICKFORD, EMILY JOSEPHINE, younger daughter of the late James H. Pickford, M.D., Justice of the Peace and Deputy-Lieutenant for the county of Sussex, at 1, Cavendish-place, Brighton, on July 28.

REDFERN-VANCOUVERS, T., M.D., Surgeon to H.M.S. *Rocket*, at Esquimalt, on July 1, aged 37.

REEVE, J. FOSTER, M.R.C.S., formerly of Lamb's Conduit-place, at Upper Norwood, on July 24, aged 87.

WILLIAMS, MARY, widow of the late William Rice Williams, M.R.C.S., L.S.A., at 117, Finchley-road, N.W., on July 25.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

NORTH WITCHFORD UNION, CAMBRIDGESHIRE.—Medical Officer. Salary £50. Will be appointed Public Vaccinator. Fees, together with fees for surgical operations and midwifery cases, £10 to £15. Every probability of a good private practice being acquired, there being no medical man resident within eight miles. Applications, with testimonials, on or before August 7, to Thomas Tusting, Clerk to the Guardians, March, Cambridgeshire.

TAMWORTH UNION RURAL SANITARY AUTHORITY.—Medical Officer. Appointment will be made subject to approval of the Local Government Board, and will be from date of appointment until March 25, 1878. Salary after the rate of £120, including travelling and other expenses. Must be legally qualified medical practitioners, registered under the Medical Act of 1858, and must produce diplomas, etc. Applications, with testimonials, in own handwriting, before 10 a.m. on August 11, to John Shaw, Clerk, Tamworth.

TAMWORTH UNION.—Medical Officer. Salary for Workhouse £30, and District £75, which includes all extra fees, except vaccination. Would be appointed Public Vaccinator. Fees 1s. 6d., 2s. 6d., and 3s. 6d. Must be legally qualified. Sealed applications before 10 a.m. on August 11, to John Shaw, Clerk, Tamworth.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Farnham and Hartley Wintney School District.—Mr. Clarke has resigned the School; salary £40 per annum.

Gateshead Union.—The Whickham is vacant; area 5302; population 483; salary £35 per annum.

Grantham Union.—The Ancaster District is vacant; area 17,832; population 2887; salary £39 per annum.

Guiltcross Union.—Mr. E. G. Archer has resigned the Fifth District; area 6578; population 1903; salary £37 10s. per annum.

Wisbech Union.—Mr. A. B. Ewen has resigned the Second B District; area 4837; population 1065; salary £15 per annum.

Woburn Union.—Mr. H. Veasey has resigned the Workhouse; salary £45 per annum.

APPOINTMENTS.

Ashby-de-la-Zouch Union.—Wm. Donovan, L.R.C.P. and L.R.C.S. Edin., to the Fourth District.

Bath Union.—Caleb Barrett, F.R.C.S., L.S.A., to the Eighth District.

Carmarthenshire.—Wm. Morgan, F.C.S., as Analyst for the County.

Crickhowell Union.—Philip E. Hill, M.R.C.S. Eng., L.S.A., to the Workhouse.

Norwich Union.—F. C. Bailey, M.R.C.S. Eng., L.S.A., to the Workhouse.

Westbourne Union.—George H. Elliott, M.R.C.S., L.S.A., to the Third District.

Wigan Union.—Nathan Hannah, L.R.C.P. Edin., L.F.P. and S. Glasg., to the Ashton-in-Makerfield District.

THE library of the Medical Society of London will be closed from August 6 to September 5.

MAGISTERIAL APPOINTMENT.—Dr. George Hare Philipson, M.A., F.R.C.P., of Newcastle-upon-Tyne, has been placed upon the Commission of the Peace for the town and county of Newcastle-upon-Tyne.

ANODYNE ENEMA.—Chloroform one to two grammes (a quarter to half a drachm), powdered gum acacia eight grammes, the yelk of one egg, and water 125 grammes. This is Dr. Aran's *lavement calmant*, intended to be used whenever pain has to be subdued, and especially in hepatic or nephritic colic, cystitis, etc. Camomile tea or decoction of poppy-heads may be used in place of the water.—*Union Méd.*, July 26.

POPULATION OF THE BRITISH EMPIRE.—M. Marcel Lemercier thus concludes an able article in the *Journal de la Société de Statitisque de Paris* for July, "On the English Empire of the Indies," with the following summary:—"Putting aside China, the figures concerning which are at least doubtful, we may class as follows, in relation to population, the principal States of the world:—1. The British Empire—viz., the United Kingdom, 31,628,338; the Indian Empire, 239,000,000; the other colonies, 11,710,111; total, 282,338,449. 2. Russia, 82,172,022. 3. Germany, 42,723,242. 4. United States, 38,558,371. 5. France, 36,469,875. 6. Austro-Hungary, 35,904,435. 7. Turkey, 35,350,000. In the year 14 A.C., Augustus, master of the world, delivered with pride to the Roman Senate the census of his 85,000,000 subjects dispersed over all parts of the globe. What would the great Emperor now say in the presence of the colossal power which has been attained by that British nation, the name of which he scarcely knew, and which has actually under its domination a number of subjects three times as great as that which the Roman Empire could claim during the days of its greatest prosperity?"

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—Bacon.

H. Stokes.—Received, with thanks.

Inquirer.—1. We are not aware that zinc ever gives rise to any symptoms that can well be mistaken for those of lead-poisoning. 2. The only source of lead that we can suggest is that possibly some solder may have been employed in the manufacture of the buckets; but buckets made of galvanised zinc ought to be absolutely safe.

A Widow.—The first cottage hospital was established at Cranleigh about twenty-two years ago, by Sir Albert Napper. It was a cottage made into a small hospital for six patients, at an expense of £50.

Testimonial.—Mr. James Neighbour, the Sanitary Officer of St. Luke's, has been presented by the Vestry with twenty guineas, in recognition of his valuable services during the small-pox epidemic; when, thanks to the prompt means he adopted to prevent the disease spreading, a second case occurred in only a small number of houses.

W. C. N.—It was about 1630, we believe, that the idea was conceived by a Frenchman that leeches might be kept in regular farms and bred just like any other animal. Leech-breeding had come to be regarded as a distinct industry, and was successfully carried on to a considerable extent in different parts of the Continent. Paris alone, it was estimated, "consumed" some 12,000,000 leeches annually.

Douglas.—In the early part of the present century, persons pitted with marks of small-pox were quite common. The disease was at its worst 150 years ago. The *first* thing that gave it a check was inoculation. Jenner died in 1823.

Invalid.—The leading features of the climate of Ajaccio, Corsica, are "great atmospheric purity and uniformity, regularity in seasonal changes, slight barometric oscillation, mean annual temperature 63·6°, mean winter temperature 63·2°."

M. P. P.—Of the deterioration of the Dutch seamen, and the conditions of a sea life, Dr. Roe, Physician to the Seamen's Hospital at Callao, writes—"He (the sailor) generally works all day, and at night he is four hours on the watch and four hours below alternately, but his rest is often broken. Crowded with others into a small place; restricted to a monotonous, unwholesome diet; undergoing great variations of temperature with inadequate clothing; going for days, sometimes in bad weather, without a cooked meal; without the means of being cleanly or even decent; add to these the mental worry of often impending shipwreck, and the hard and unremitting discipline necessary to drag both ship and men through the manifold dangers of the sea,—and it is not strange that the sailor arriving in port is debilitated and exhausted. Possessed of an uncontrollable desire for change, for freedom, for stimulants, for food, he deserts, and plunges into all kinds of debauchery."

Charlie.—The Copley Medal was presented to Claude Bernard, the famous French physiologist, by the Royal Society for his discovery of the sugar-making function of the liver.

W. B., Sussex.—The remarks of the President of the Epidemiological Society on the use of the word "epidemic" were—"The use of the word epidemic itself was probably a necessity of medicine, but it should be used only in its common and natural sense, to signify common to or affecting a whole people, or a great number in a community, and all mystical notions with regard to it should be wholly laid aside. It is the disease that constitutes the epidemic, and not the epidemic the disease."

Dispenser.—Yes; at the beginning of the past year the druggists of Austria were ordered by the Government to adopt the decimal system in their weights and measures. To facilitate the change, a table of equivalents on the old and the new system has been published, with special instructions for the prevention of mistakes. The gramme is the unit of weight.

Vigo.—The Select Committee of the House of Commons have just concluded their inquiries on the Lunacy Laws. The evidence will be laid before Parliament, and permission asked to sit again next year to consider their recommendations and draw up their report.

A Guardian, Lancashire.—The last report of the Irish Local Government Board shows for last year the smallest number of paupers ever known in Irish workhouses, namely, 43,000; also that a fewer number died in the workhouse hospitals than in any previous year.

Good Templar.—As to the right of a publican to be drunk in his own house, Mr. Justice Mellor and Mr. Justice Lush have cleared up any doubt. A publican at Salford was recently convicted under the Act of 1872, which says that "every person found drunk on licensed premises" shall be liable to be convicted. The publican closed his house at 11.30 p.m., and his wife went for a policeman, who found him drunk, and took him into custody for an offence under the Act. He was convicted, and appealed, and was successful. The judges held that the offence, if any, is against the public, and cannot be committed in the private house of a defendant, where his bad example is limited to his own family. The Legislature never intended to place publicans under particular obligations as to personal sobriety, and when their houses were closed to the public they were private. The conviction was consequently quashed.

Malcolm.—The late Mr. Edward Blyth, the creator of the Natural History Museum, Calcutta, eventually got a pension of £150 a year, owing, it is stated, to the untiring efforts made in London on his behalf by the late Sir P. Cautley and Dr. Falconer. It was Gould who described Blyth "as one of the first zoologists of his time, and the founder of the study of that science in India." Blyth died of heart disease on December 27, 1874, within a day or two of his sixty-third birthday.

DE LISLE ALLEN FUND.

The Hon. Treasurer begs to announce the following subscriptions to the above-named fund in response to the appeal in this journal on July 20:—

	£	s.	d.
Barker, A. E., Esq., London	1	1	0
Bury, G., Esq., Whetstone	1	1	0
Bull, G., Esq., M.D., Hereford	2	2	0
Fowler, O. H., Esq., Cirencester	5	0	0
Fox, Tilbury, Esq., M.D., London	2	2	0
Jackson, Hughlings, Esq., M.D., London	3	3	0
Jackson, Carr, Esq., London	2	2	0
Jenner, Sir W., M.D., Bart., London	2	2	0
L. T. C., Esq., Berkhampstead	1	1	0
Reynolds, Russell, Esq., M.D., London	3	3	0
Stear, H. Esq., Saffron Walden	2	0	0

Further subscriptions to the Fund sent to the Hon. Treasurer, Dr. Benjamin W. Richardson, F.R.S., 12, Hinde-street, London, W., or to the "De Lisle Allen" Fund, Union Bank of London, Argyll-place, Regent-street, W., will be thankfully received.

COMMUNICATIONS have been received from—

University of London; Mrs. D. de Lisle Allen; Royal College of Physicians, London; Apothecaries' Hall, London; Mr. F. W. Lowndes, Liverpool; Mr. W. E. Porter, Lindfield; Mr. Lawson Tait, Birmingham; Mr. G. Street, London; Mr. H. W. Bellew, Punjaub; Brit., Con., and General Federation; English Anti-Tobacco Society; Dr. Bruce, London; Messrs. Auld, Burton, and Co., London; Dr. G. H. Philipson, Newcastle-on Tyne; Dr. Henry Thompson, London; Mr. A. B. Carter, London; General Secretary of the British Medical Association, London; Sir William Gull, London; Mr. R. Brudenell Carter, London; Dr. Barlow, London; Mr. Jonathan Hutchinson, London; Dr. Sparks, Crewkerne, Somerset; Mr. John Chatto, London; Mr. W. E. Poole, London; Dr. H. K. Hitchcock, Lewisham; Dr. Alexander Wallace, Colchester.

BOOKS AND PAMPHLETS RECEIVED—

Dr. H. von Ziemssen, Cyclopædia of the Practice of Medicine, vol. xv.—Ackers, B. St. J., Vocal Speech for the Dumb—Dr. Tatham's Report on the Health of Salford—Report of the British Lying-in Hospital, Endell-street, W.C.—Prospectus of Queen's College, Galway—Cooper, R. T., M.D., Removal of Foreign Bodies from the Ear—Cooper, R. T., M.D., A New Uterine Repositor and Retracting Speculum—Galloway, Robert, F.C.S., A Plan for rendering Salted Meat more Nutritious, thereby preventing Scurvy—Tripe, John W., M.D., etc., Report on the Sanitary Condition of the Hackney District—Annual Announcement of the Medical Department of the University of Pennsylvania—Croskery, Hugh, The Gospel of the Kingdom—Rapport de la Commission spéciale du Traitement des Plaies à la Société de Chirurgie de Moscou, 10 Janvier, 1877—Folsom, C. F., M.D., Disease of the Mind—Lund, Edward, F.R.C.S., Internal Urethrotomy—St. Thomas's Hospital Reports, vol. vii.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Home Chronicler—La Province Médicale—Science-Gossip—Cassell's History of India, part xx.—Supplement to the Queensland Government Gazette—Sunday at Home—Leisure Hour—New York Druggists' Advertiser—L'Echo—Liverpool Daily Courier—Veterinarian—National Anti-Compulsory Vaccination Reporter—Paper-Printing Trades' Journal—Monthly Homœopathic Review—Edinburgh Medical Journal—Bentley and Trimen's Medicinal Plants, part xxiii.—Archives Générales de Médecine—Einladung.

APPOINTMENTS FOR THE WEEK.

August 4. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

6. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

7. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

8. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex. 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (hy Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

9. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

10. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, July 28, 1877.

BIRTHS.

Births of Boys, 1239; Girls, 1199; Total, 2429.
Average of 10 corresponding years 1867-76, 2178·6.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	726	704	1430
Average of the ten years 1867-76	842·1	787·5	1629·6
Average corrected to increased population ...	...	...	1744
Deaths of people aged 80 and upwards ...	...	...	39

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	6	7	4	2	4	1	3	...	27
North	751729	11	12	6	...	6	...	3	3	41
Central ...	334369	...	4	3	...	...	...	1	...	15
East	639111	4	20	3	1	7	..	2	1	61
South	967692	6	8	9	1	6	1	6	3	40
Total	3254260	27	51	25	4	23	2	15	7	184

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·718 in.
Mean temperature	60·8°
Highest point of thermometer	74·0°
Lowest point of thermometer	49·6°
Mean dew-point temperature	54·5°
General direction of wind	S.W. & N.W.
Whole amount of rain in the week	0·60 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, July 28, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending July 28.	Deaths Registered during the week ending July 28.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2429	1430	74·0	49·6	60·8	16·01	0·60	1·52
Brighton	102264	43·4	48	32	70·7	55·9	61·5	16·39	0·74	1·88
Portsmouth ...	127144	28·3	78	52	67·3	56·0	59·9	15·50	0·73	1·85
Norwich	84023	11·2	49	35	70·4	55·5	61·2	16·22	0·39	0·99
Plymouth	72911	52·3	45	30	66·5	56·2	59·6	15·34	1·32	3·35
Bristol	202950	45·6	131	74	70·1	54·2	60·4	15·78	0·92	2·34
Wolverhampton ...	73389	21·6	56	21	66·5	52·0	57·4	14·11	0·65	1·65
Birmingham ...	377436	44·9	299	160	...	...	...	...	...	...
Leicester	117461	36·7	77	58	...	...	...	...	...	...
Nottingham ...	95025	47·6	53	37	70·3	52·8	59·7	15·39	0·63	1·60
Liverpool	527083	101·2	378	253	66·5	50·9	58·1	14·50	0·33	0·84
Manchester ...	359213	83·7	259	172	...	...	...	...	...	...
Salford	141184	27·3	145	73	66·7	51·9	57·5	14·17	0·72	1·83
Oldham	89796	19·2	75	30	...	...	...	...	...	...
Bradford	179315	24·8	128	68	67·3	55·3	59·5	15·28	0·43	1·09
Leeds	298189	13·8	210	108	68·2	55·4	60·0	15·56	0·59	1·50
Sheffield	282130	14·4	192	102	69·3	53·0	59·3	15·17	0·42	1·07
Hull	140002	38·5	116	59	70·4	55·0	60·9	16·06	0·78	1·98
Sunderland ...	110382	33·4	86	47	77·0	53·0	61·7	16·50	0·20	0·51
Newcastle-on-Tyne	142231	26·5	111	53	...	...	...	...	...	...
Edinburgh	218729	52·2	158	67	68·4	50·5	58·8	14·89	0·42	1·07
Glasgow	555933	92·1	430	223	66·6	52·0	58·2	14·55	0·45	1·14
Dublin	314666	31·3	169	107	69·7	48·0	60·0	15·56	0·45	1·14
Total of 23 Towns in United Kingdm	8144940	38·3	5722	3291	77·0	48·0	59·7	15·39	0·60	1·52

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·72 in. The lowest reading was 29·36 in. on Monday, and the highest 29·99 in. on Saturday.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

THE HUNTERIAN LECTURES FOR 1877.

ON DEFECTS OF VISION WHICH ARE REMEDIABLE BY OPTICAL APPLIANCES.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

By ROBERT BRUDENELL CARTER, F.R.C.S.,
Late Professor of Surgery and Pathology to the College; and Ophthalmic Surgeon to St. George's Hospital.

LECTURE IV.—HYPERMETROPIA AND MYOPIA.

Mr. PRESIDENT,—The definition already given of hypermetropia, as a state in which the length of the eyeball is less than the focal length of the refracting media, so that parallel rays, if they could pass through the ocular tunics, would be united in a focus behind them, implies, of course, that such an eye, when in a state of rest, can only obtain clear images from convergent rays. Such rays, however, do not exist in nature—that is, they are not reflected from any natural objects; and hence the passive hypermetropic eye can only see clearly when convergent rays are supplied to it by art. The simplest way of supplying them is by refraction through a convex lens; and we have seen already that the degree of hypermetropia is to be measured and expressed by the power of the lens which, in each case, will render parallel rays so far convergent, before they enter the eye, that the refracting media will unite them in a focus upon the retina. We have seen also, that the act of accommodation is precisely analogous to the addition of a convex lens to the passive eye; and, for the relief of hypermetropia, it is a matter of indifference, optically speaking, whether the required lens is added within the eye by accommodation, or externally to it by art. A person who has hypermetropia of five dioptrics, and who has also five dioptrics of accommodation, will be able to overcome the defect by the exercise of the faculty. It is obvious, however, since he thus uses all his accommodation in order to obtain clear images from the parallel rays which come from distant objects, that he will have no accommodation available for the ordinary purpose of obtaining clear images from the divergent rays which come from near objects; and hence, to use a happy phrase taken from Donders, a patient, who is compelled by his hypermetropia to use some of his accommodation for distant objects, starts with a deficit for all the other requirements of life. The amount of this deficit will depend upon two factors—the degree of the hypermetropia, and the range of the accommodation.

The degree of hypermetropia varies from those slight forms of the affection which are only discoverable by very careful examination, up to conditions which may fairly be described as microphthalmos. I have already assigned reasons for my belief that a small degree of hypermetropia may be regarded as almost the normal formation of the eye; but the higher grades are comparatively seldom met with. Among the 239 hypermetropes found by Cohn in his examination of 10,060 school-children, none were included in whom the defect was less than 0·75, or three-quarters of a dioptric; and the highest grade found was 4·50 dioptrics. Between this highest grade and 3·0 dioptrics, there were only seven cases in all; and many more than half the cases (168 out of the 239) were between 1·0 and 1·75. Donders has recorded a case, observed by Mr. Bowman, in which the hypermetropia amounted to twenty dioptrics; but such an eye as this is quite exceptional; and I should say that six dioptrics would be the highest grade which would be passed by in practice without exciting attention as a matter of singularity; while the great majority of patients support Cohn's figures, and present grades of about two dioptrics or even less. Of course it must be remembered that nearly all instances of the higher grades are forced to seek optical assistance; while many persons with the lower grades contrive to carry on their work unaided; and, in this way, surgeons may often obtain erroneous ideas of the relative prevalence of the slighter and of the more pronounced degrees of the affection.

If we refer again to the diagram of the range and the region of accommodation, given at Fig. 16 in the second lecture, we shall see the amount of deficit which hypermetropia would produce in every case. Assuming the patient to be twenty-two years of age, and to be in possession of the nine dioptrics of accommodation which are to be expected at that period of life, the second line of the diagram shows the precise effect of a hypermetropia of four dioptrics. Four of the nine dioptrics of accommodation are required for parallel rays—that is, for seeing the horizon clearly; and only five dioptrics remain for divergent rays—that is, for seeing near objects clearly. These remaining five dioptrics will bring the near-point no nearer than to eight English inches from the eye; and, as few can continuously exert more than half of the entire range of accommodation, which half, in the case supposed, would be four and a half dioptrics, the actual and practical near-point for sustained vision would be at eighty inches away. If two-thirds of the accommodation could be continuously employed this amount would bring the near-point to twenty inches; but even this distance is too great to allow very small print to be read without assistance. Other grades are not laid down on the diagram, but their construction upon the same lines is simple and easy. The average hypermetropia of two dioptrics leaves seven dioptrics of accommodation at liberty for brief efforts; and the 4·50 dioptrics which can be employed habitually or constantly would afford only 2·50 for divergent rays, so as to bring the near-point for sustained vision to sixteen inches from the eye. If the hypermetropia exceeds 4·50 dioptrics, no sustained effort will be possible for any point nearer than the horizon; although for a short time such an effort could be made successfully. If the hypermetropia exceeds nine dioptrics, the near-point will be always beyond infinite distance; or, in other words, no exertion of accommodation will suffice to unite parallel rays upon the retina, and vision of all distant objects will be indistinct, unless aided by a convex lens.

As stated in the first lecture, the measure of the degree of hypermetropia is given by the strongest convex lens through which the eye obtains clear images of distant objects; but, in order to apply this test correctly, the accommodation must first be rendered passive. In all hypermetropic eyes the habitual state of the muscle of accommodation is one of contraction, rendered necessary by the instinctive craving for clear images—a craving which cannot be gratified in any other manner without optical assistance. In the case already supposed, where there is hypermetropia of four dioptrics and accommodation of nine dioptrics, four of the dioptrics of accommodation would always be in use. If this amount of effort were laid aside, all distant objects would appear dim and undefined; and such a condition of vision is not only unsatisfying, but it would in many people give rise to vertigo. Hence, the eye never fully relaxes its accommodation; and the muscle is so habituated to a certain amount of effort that this amount becomes its nearest approach to relaxation during waking hours. The eye is always enough accommodated to see distant objects clearly; and hence, if we place before it a convex lens, say of four dioptrics, the power thus given would be an unnecessary addition to its own accommodation, and would render distant objects dim until the accommodation effort was laid aside. Even the weakest convex lens might act in a similar manner; the eye not recognising the presence of the lens as a reason for relaxing its accommodation, or perhaps not having the power of relaxing it. In other cases, again, the eye constantly exerts some accommodation, but not enough to give the best distant vision which is attainable; and then it derives aid from a weak convex lens, but rejects the stronger one which would fully compensate for its defect. The hypermetropia which at once declares itself, the patient saying that a convex lens of given power improves distant vision, is said to be *Manifest;* and its amount is expressed in the ordinary way, by the power of the strongest lens which can be thus employed. In most cases, however, at least in young people, the accommodation is still at work together with the lens; and then, when the accommodation has been paralysed by atropine, a still stronger lens is accepted as the best. The additional hypermetropia thus revealed is said to have been *Latent;* and the manifest and the latent together make up the *Total.* Thus, in the assumed standard case, if only three dioptrics of accommodation were constantly employed, a convex lens of one dioptric would improve distant vision, and there would be manifest hypermetropia to this extent. When the accommodation was fully paralysed, a lens of four dioptrics would be required; and the three dioptrics of defect which had been

previously latent, or concealed by the accommodation, would become apparent and serve to make up the total.

The proportion which the latent bears to the manifest or to the total hypermetropia must evidently be constantly changing, as the power of accommodation diminishes with advancing life. According to Donders, we may often have as much as six dioptrics of hypermetropia latent in childhood. By the age of twenty, as much as half of this, and by the age of forty more than three-fourths of it, will have become manifest. By the age of seventy, the whole of the hypermetropia will be manifest; and even a higher grade may be found than that which was at first supposed to be the total. Donders regards this apparent higher total of old age as being partly made up of what he calls *hypermetropia acquisita;* but, as I have already set forth, I think there is much reason to regard it as the real total, part of which had been concealed, in earlier life, by the resistance of the ciliary muscle to any single application of atropia.

From considerations which have been already urged, it is manifest that the effort of accommodation, which is required in order to overcome hypermetropia, will be most easily made in conjunction with effort of the convergence. We have seen, in Fig. 18, that the emmetropic eyes of the subject from whom the diagram was taken, with their visual lines parallel, could exert only three dioptrics of accommodation; but that, when the visual lines were convergent to twelve inches (11° 21′), the same eyes could exert more than seven dioptrics of accommodation. In hypermetropia, the conditions, although not exactly parallel, are strictly analogous; and hence cases of hypermetropia were divided by Donders into three classes, with reference to the relation of the defect to the convergence function. He calls the hypermetropia *Absolute*, when accommodation for parallel rays is unattainable, even with the strongest convergence of the visual lines; *Relative*, when there is accommodation for a near-point, but only during convergence to a point still nearer (*e.g.*, when it is possible to accommodate for a point sixteen inches away by convergence to a point twelve inches away); and *Facultative*, when objects can be correctly seen with parallel visual lines, and either with or without convex glasses. Another definition is that hypermetropia is absolute, when the focus of parallel rays remains behind the retina, even with the strongest possible tension of accommodation and of convergence; relative, when the focus of parallel rays can be brought to the retina by accommodation and convergence; facultative, when the focus of parallel rays can be brought to the retina by accommodation alone, the visual lines remaining parallel. These distinctions are met with in books, and it is necessary to be acquainted with their meanings; but they are of little practical value, if only for the reason that in every case the conditions are constantly being changed by time, as the power of accommodation becomes confined within narrower and narrower limits. The facultative hypermetropia of childhood becomes relative in adult age, and absolute in the decline of life.

Another result of the connexion between accommodation and convergence is that a pair of hypermetropic eyes, in order to accommodate to the extent rendered necessary by the requirements of vision, keep their muscles of convergence in a state of constant tension. As shown by Dr. Loring's experiments, already quoted, this tension of the interni may be overcome by similar tension of the externi, exerted in the interests of single vision; but, in a large proportion of cases, the interni preponderate, and the eyes are brought into a state of habitual convergence, as a consequence of the habitual exercise of their accommodation. The convergence thus produced is at first equal on both sides, and it generally commences during the third or fourth year of life. After a time, in consequence of the double vision caused by the faulty position of the eyes which is thus produced, it becomes necessary for the child to correct this position by voluntary effort; and this is accomplished, when both externi are unequal to the task, by associating one externus with the internus of the other eye. Both eyes being convergent when at rest, and parallelism being unattainable, the patient sometimes brings the right eye into the middle of its palpebral fissure by looking to the right, sometimes the left eye by looking to the left. It is plain that the effort which, in the natural state, would roll the right eye outwards, will stop short of this by precisely the degree in which the eye was previously rolled inwards by its habitual convergence; and, thus stopping short, will direct its visual line straight forwards. While the action of one of the externi, starting from a position of convergence, produces only the middle position for the eye on which it acts, the associated effort of the opposite internus, also starting from a position of convergence, rolls its eye completely inwards. It would do this, even if the natural relations of the two muscles remained unchanged; but, as a matter of fact, the internus which thus acts is one which is in a state of exaggerated development from constant work. The externus and the internus receive the same motor stimulus from the centre; but the stronger muscle responds to this stimulus more powerfully than the weaker one. The result is, that the eye on which the internus acts is turned inwards in a greater degree than its fellow is turned outwards by the externus; and in this way the common concomitant convergent squint is produced. As long as the subject uses one or the other eye indifferently, this form of squint is only objectionable because it is unsightly, and because it prevents binocular vision. In most cases, however, either because one externus is stronger than its fellow, or because one eye has better vision than its fellow, one is after a time always directed forward, and the other always directed inward. As soon as this happens —as soon as one is always the working eye, and the other always the squinting eye—the vision of the latter begins to suffer; and it is then generally desirable to operate for the cure of the squint without delay, in order to prevent the deterioration of vision from attaining any considerable degree. It follows, from the account thus given of the mechanism of squint, that the affection is really binocular; and that both interni should be divided in nearly all cases. It is often possible to produce parallel visual lines for distance by dividing one tendon only; but such an operation, although it may be coarsely successful, leaves one eye with a weak and the other with a strong internus, and the two cannot respond in equal degrees to the convergence stimulus. The result is that they are never found to act comfortably together when directed to near objects; and the operated eye, under such circumstances, is apt apparently to squint outwards, its real position being not one of divergence, but one of imperfect convergence only. When the total squint is of small magnitude, it is desirable to divide the tendon of the squinting eye first, and to let this regain a firm attachment before dividing the other. In many instances, the neglect of this precaution has led to too extensive an operation, and hence to a divergent squint which would be permanent unless removed by another operation of a contrary tendency to the first. When the effect of the first operation is fully declared, that of the second may generally be precisely calculated.

Although hypermetropia is the cause of nearly all the cases of convergent squint, and although perhaps 90 per cent. of all who squint convergently are hypermetropic, the reverse of this proportion does not hold good. Cohn, in his already quoted statistics, found 239 cases of declared hypermetropia. Of these, 158, or almost precisely two-thirds, were the subjects of convergent squint. The reasons why some hypermetropes squint, and others do not, require further investigation. It would seem, at first sight, as if the difference must depend upon difference in the equilibrium, or proportionate strength, of the externi and the interni; that is, as if squinting would be obviated in those eyes in which the externi were able, on Loring's principle, to resist, for the sake of fusion, the heightened tension of the interni incidental to constant strain of the accommodation. It is also possible that the desire for fusion may be stronger in some persons than in others; and again, that in some the heightened tension of the interni produced by accommodation may be less considerable than in others. It is certain that many hypermetropes may be withheld from squinting by the habitual use of convex glasses, which diminish or remove the demand for accommodation; but this element in the question would not have any appreciable influence upon Cohn's figures, because only nine of the scholars included in his tables were so provided. If we remove these altogether, the proportion of squinting to non-squinting hypermetropes is practically unchanged.

The diagnosis of hypermetropia rests upon the appearance of the eye, upon the conditions of vision, and upon the relief afforded by suitable convex glasses.

The appearance of the eye, at least in pronounced cases, is such as to show that the affection is due to arrested or imperfect development. The eye is smaller than natural in all its dimensions, and its small size is generally most manifest when it is adducted to the fullest possible extent. The orbits also are in most cases small; and these peculiarities of formation are often hereditary, and are often shared by other members

of the family. The popular belief about squint arising from imitations seems to have no better foundation than its frequent occurrence, as a result of similar physical formation, in several brothers and sisters. Not long ago, I operated for squint, at St. George's Hospital, upon six sisters and their mother; and it is the exception, rather than the rule, for only one child in a family to be affected.

The conditions of vision depend entirely upon the degree of the hypermetropia, checked by the power of accommodation. If the hypermetropia is of small degree, as of one dioptric, and the range of accommodation normal, no inconvenience will be experienced until the time comes when the power of accommodation is curtailed by the advance of years, and then the only symptom will be the early on-coming of presbyopia. Such a patient will require reading-spectacles by the age of forty, and always thereafter will require for all purposes glasses a dioptric stronger than his period of life would indicate. When his power of accommodation is lost, he will require glasses of one dioptric for clear distant vision.

When the hypermetropia is originally of such a degree as to consume for its correction nearly half the power of accommodation, so that the use of the eyes upon near objects can only be accomplished by means of the remaining half, or whenever this state of things is brought about later in life by decline of the accommodation, any attempt at sustained effort of the eyes is soon rendered impossible by muscular fatigue. The symptoms of this fatigue have been known for many years as constituting one of the forms of the malady called asthenopia; but it was reserved for Donders to trace this form of asthenopia to its origin, and to show that it is neither more nor less than a result of overstrain of the accommodation. Until this discovery was made, the asthenopia was incurable, and the unfortunate sufferers from it were advised to relinquish all pursuits in which employment of the eyes upon near objects was required. Not an uncommon prescription was to go to Australia and to turn sheep farmer; and this, when it was followed, had the twofold advantage of diminishing the discomfort of the asthenopia, and of getting rid of a patient who did little credit to any of his generally numerous advisers. The discovery of the nature of the affection disclosed the means of curing it by substituting for the accommodation effort the employment of convex glasses; and the form of asthenopia which depends upon hypermetropia alone is now no longer a source of trouble either to patient or doctor. The hypermetropia must be corrected, either wholly or partially, by suitable lenses, and the fatigue in which the asthenopia had its origin will be at once relieved. The principles on which the lenses must be chosen are very simple, but I must reserve certain matters of detail which bear upon this point until the last lecture of the course, in which the treatment of all the forms of asthenopia will be discussed after their several causes have been described.

In very high degrees of hypermetropia, the diagnosis of the affection is sometimes less easy than in the lower grades, and the symptoms may even simulate those of myopia. The patient (necessarily a child, because these high degrees always interfere with education, and call for relief long before adult age is attained) is said by parents and friends to be "short-sighted." We find, on examination, that he cannot see distant objects distinctly, and that he brings a book very close to the eyes. We sometimes find that he declares distant vision to be improved by a weak concave lens. The explanation of these conditions is as follows:—The patient cannot see distant objects clearly, either because his accommodation is insufficient to neutralise his defect, or because the muscle of accommodation, always contracted, passes into a state of spasm and over-corrects the defect. The book is brought near to the eyes, because the larger visual angle subtended by the near object gives a correspondingly larger image on the retina, and thus facilitates recognition. The diffusion of light due to the hypermetropia is at the same time increased; but Donders has shown that the magnitude of the retinal image increases more rapidly than the magnitude of the diffusion circle, so that the balance of advantage remains on the side of approximation of the object. The balance is the more decided, because the highly hypermetropic eye is not accustomed to perfectly defined images, and therefore appreciates magnitude more highly than clearness. The preference for a weak concave glass, when it occurs, is a result of over-correction of the hypermetropia by spasm of accommodation. Such cases as those now described present little difficulty to any who have been warned of them; for the eyes have always the hypermetropic formation in a marked degree, and the thorough application of atropine at once clears up any doubt which may be felt. It is in such cases that we find the necessity of repeated and systematic atropinisation, and discover the error of trusting to one application alone. I have seen instances in which there was apparent myopia to the extent of a dioptric, and in which, after the use of atropine twice or thrice daily for three or four days, as much as six dioptrics of total hypermetropia became revealed.

The principle on which hypermetropia should be treated is manifestly by the use of spectacles with convex lenses, such that they, as nearly as possible, correct the faulty shape of the eye, by rendering the rays which reach the cornea so convergent that they may be brought to a focus on the retina with little or no effort of accommodation. In a hypermetropia of four dioptrics, lenses of four dioptrics might not unreasonably be supposed to enable the eyes to be passive, as if they were emmetropic, during vision of distant objects, and to release all their accommodation for employment upon near objects. We find, however, that this expectation is not entirely fulfilled. The muscles of accommodation have usually been brought, by constant exercise, into a state of tonic spasm; and they show little inclination to become relaxed. If we correct the total hypermetropia, we render the patient short-sighted, because he has correction and accommodation too. It is therefore generally necessary to feel our way, and to accustom the eyes to partial correction, and to the abandonment of some of their customary effort, before they are called upon to abandon the whole of it. Donders laid down the good practical rule that we should correct the whole of the manifest hypermetropia and about one-fourth of the latent. The glasses which do this will usually relieve any discomfort which had been produced by accommodation strain; and the patient will for a time be delighted with them. After a while, the amount of accommodation effort which is still required becomes irksome; and the old symptoms show signs of returning. The patient may again be relieved by strengthening his glasses to the extent of perhaps half of the still uncorrected defect; and then, if after another interval he is again distressed, he may receive full correction, and may go away freed from the consequences of his defect, and able, for ever afterwards, "to forget that he has eyes." But, in order that such a result may be obtained, the patient must wear the glasses constantly. If they are sometimes off and sometimes on, the eye will never learn to lay aside its accommodation effort for distance; and consequently will always be fatigued, and will always see the horizon indistinctly.

By way of illustration, let us suppose the case of a patient who has one dioptric of manifest hypermetropia, and whose eyes, when thoroughly under atropine, show five dioptries, four of which were previously latent, or concealed by the accommodation. In order to correct all the manifest and one-fourth of the latent, we give spectacles of two dioptrics, directing them to be worn constantly. In a few months, when the old symptoms return, we correct half of the remaining defect—that is, we increase the power of the glasses by a dioptric and a half, which raises them to three and a half dioptrics. If the symptoms return again, we give five dioptrics; and then the patient will require nothing more until he reaches the time of life at which presbyopia commences. His spectacles for near work must then receive an addition of as much power as an emmetropic person would use for the same purposes at the same period of life.

(To be continued.)

A Grateful Pupil of the Abbé de l'Epée.—M. Martin, formerly a pupil of the National Institution for the Deaf and Dumb, and of the Ecole des Beaux Arts, has just executed in marble a group consisting of the Abbé de l'Epée instructing a young deaf-and-dumb. The group received an honourable mention at the last Exposition, and M. Martin, in token of his gratitude to the Abbé for his services to his brothers in misfortune, has just presented it to the Institution, which has been the parent of all other existing establishments. The Minister has consented that the statue shall be placed in the courtyard of the Institution, where it will be at once a testimony of gratitude and a motive for emulation of future students, showing them what labour and perseverance may accomplish for the development of their faculties.—*Union Méd.*, July 31.

FORTY-FIFTH MEETING

OF THE

BRITISH MEDICAL ASSOCIATION,

HELD IN MANCHESTER, AUGUST 7, 8, 9, AND 10, 1877.

PRESIDENT'S ADDRESS.

By M. A. EASON WILKINSON, M.D., F.R.C.P.,
Senior Physician to the Manchester Royal Infirmary.

MY first duty, gentlemen, is to thank you for the honour you have conferred upon me in electing me President of this Association; my next is to give you now a hearty welcome to Manchester.

It is twenty-three years since we met here under the presidency of Mr. Wilson. Many important changes have taken place in our city since then, the effect of which, I trust, will be to make this meeting second to none, whether in local interest or in general scientific information. If we have seemed tardy in showing our desire to receive you here, it has been due to untoward causes which have been rather our misfortune than our fault. It is only after several years of negotiating that the desirable union of the Manchester Royal School of Medicine with the Owens College has at last been effected. It is, therefore, only lately that, through the liberality of the Council and Senate of that institution, we have been able to provide suitable accommodation for the reception of such a large and influential meeting as was sure to assemble from our Association, which now numbers seven thousand members, and these from the four quarters of the globe, and embracing the most distinguished men in our profession.

Before proceeding to the subject of my Address, I must make a few personal references, which I know will receive your sympathy. First, of Mr. Southam, whose untimely death we much deplore. He always stood in the van of those who strove to advance the interests of his profession, and his loss will be especially felt by the younger members, for whom his advice and help were ever ready. He was beloved by the students of the School of Medicine, of which he was the first dean, and was honoured in being made President of the Council of the British Medical Association. We have next to lament the loss of one who took a deep and active interest in all that concerned the Association, and whose energy and perseverance, combined with great foresight, materially tended to create its present high position. You know that I refer to Dr. Sibson, whose cultivated mind, amiability of character, conscientious and unflagging devotion to his profession, with unimpeachable honour and integrity, have endeared him to us all, and have rendered his name a beacon-light for the guidance of the rising generation.

Another name must be added to the list of those who have passed away since the Association last met. Sir William Fergusson, under whose presidency we assembled at our last meeting in London, has been taken from us, but not till he had obtained the highest honours open to our profession in this country. As a student in Knox's dissecting-rooms when Mr. Fergusson was demonstrator, I learned to admire the beauty of his dissections and the brilliancy of his demonstrations, which were only surpassed by his future career as an operator.

There is still another name to be added to the list of those who have been called from our ranks: Mr. Whipple, who was President of the Association at Plymouth in 1871, and one of our Vice-Presidents at the time of his death. He distinguished himself as an operator, and practised for more than forty years in Plymouth and the surrounding country, beloved and respected.

I refrain from further details respecting the careers of these several eminent men, as their connexion with medicine and surgery, and their achievements in their several walks, will be brought before you in the different sections.

The loss to medical education and to science experienced through the retirement of Sir Robert Christison from the Chair of Materia Medica in the University of Edinburgh, where he has laboured so long and done so much to advance our knowledge on this subject, ought not to be passed over. The success of the meeting in Edinburgh was, for the most part, due to the share he took as your President. Looked upon as one of the first, if not the first, authority on poisons in Europe, Sir Robert's advice has been sought in numerous ca involving most difficult and delicate points, and his judgme has always been valued as of the highest importance. H career as a teacher, extending as it has done over a period more than fifty years, the never-failing regularity with whi he attended to his duties, and the clearness and originality his lectures, are themes deserving more praise than I am co petent to bestow. We can only join in the hope that he w long be spared to give us the benefit of his great and vari experience.

In *our* profession no one need be at a loss to find a subje for the Annual Presidential Address to the Association. happens that, in this town especially, the question of hospi defects and their remedies is greatly engaging the attention the local medical men.

Reports recently presented to the trustees of the Manches Royal Infirmary by Mr. Netten Radcliffe, of the Local Gover ment Board, and by Mr. Field, an engineer of eminence sanitary matters, have condemned the buildings as defecti in construction and drainage, and inadequate in accommod tion. I have, therefore, thought the subject a suitable one be brought before the Association, seeing that everything whi applies to our special case has a general bearing upon hospi construction everywhere.

Our Infirmary owes its origin to several public-spirited me who, in the year 1752, chose Mr. Joseph Bancroft, a mercha of Manchester, as the first treasurer, he having offered, if one would join him, to defray the expenses of a hospital for o year, provided Charles White, then practising here as a surgeo would give his professional assistance. Mr. White at on fell in with this proposal, and a house in Garden-street, Shud hill, was engaged. This was opened for the relief of ou patients in June, 1752, and in the following month f in-patients. During the first year, seventy-five of the latt and 249 of the former were admitted.

In 1753 the good arising from this institution became manifest that the trustees determined to erect a more suitab building, and land was purchased from Sir Oswald Mosle situated on the south-west outskirts of the town, removed fro all noise and bustle of the business then carried on, with unimpeded view of the country to a distance of eight or t miles. This situation became surrounded in the course of tir by dwelling-houses, then by mills, around which cottag sprang up in badly drained streets. The rapid growth of t population, and the extension of manufacturing interests, soo placed the Infirmary in the centre, instead of on the outskir of the town. It has, indeed, been alleged that the origin site of our Hospital was surrounded by mills and warehouse but this is a mistake.

The original building was of red brick, and was a mode unpretending structure; it was one of the first provinci hospitals built in England. It was constructed with a centr corridor, there being small wards of low elevation on eac side, and was at first intended to accommodate forty patient but, on further consideration, the place was extended receive eighty. This was opened in 1755; and ten years lat the Lunatic Hospital and Asylum was founded and erecte The benevolent-minded were as liberal in their subscriptio to this part of the charity as they had been to the Infirmar and, to all intents and purposes, the two charities were co sidered one.

In 1781 the plan of having patients attended at their ow homes was introduced. At the same time, public baths we erected in connexion with the Infirmary. The north or "di pensary wing" was added in 1792. The expense was, to great extent, defrayed by special collections in churches an in chapels of every denomination throughout the town an surrounding country. The idea of Hospital Sunday w evidently derived from this circumstance. The sum of near £4300 thus obtained stands in remarkable contrast to th sums now collected, if we consider the enormous increase wealth and population.

In the year 1825 it was proposed to embellish the exteri of this modest brick building by encasing it in stone. Fro want of funds, this could not be accomplished till, in 1831, portion of a bequest from the late Mrs. Hall was devoted the purpose. By way of further embellishment, four massi pillars were placed in the centre of the building facin Piccadilly, giving an almost palatial aspect outside, whi alas! darkening the wards and preventing a proper circul tion of air, so as to render the Hospital decidedly unhealthy

No attention seems at this time to have been paid to the ainage either of the building itself or of the grounds sur-unding it, there being then no corporate body in existence ith power to compel attention to these matters. The pond in ont of the Infirmary was in such a state that, according to e reports of the Weekly Board, it had frequently to be mented to prevent the exudation of water into the cellars of e building. The consequence of all this was, that the round under and around the Infirmary became saturated with wage and other drainage; the stone encasement of the walls turally prevented the escape of the effluvia, which were thus nfined within the building itself. We now know it as an evitable consequence of this condition of things that erysi-las and other diseases of blood-poisoning should recur. deed, to such an extent was this the case, that during the ring and autumn months no capital operations were per-rmed unless absolutely necessary.

In 1847 the attention of the Weekly Board was directed to e unhealthy and overcrowded state of the Hospital, and it as determined that a south wing should be erected, the rner-stone of which was laid in that year, and the building as completed in 1848.

In 1851, mainly through the liberality of Madame Gold-hmidt, then "Jenny Lind," the north wing, which bears her me, was erected; and in 1854 this aggregation of upwards a century was crowned with a dome, which is, in truth, chitecturally, the best part of the Manchester Royal In-mary.

It must be remembered that hospital construction was at is time in its infancy. Considering the rapid strides made ring the last few years in the treatment of disease, we may k whether, in the construction of our hospitals, all has been ne that can be done to obtain the best results; in other ords, to put our patients under the best possible conditions r the successful application of our improved treatment. In-much as the advantages of medical skill, good diet, and reful nursing more than counterbalance any disadvantage of ing removed from home and friends, the applicants for the nefit of our hospitals increase year by year; and the question nes to be considered, Have we yet, in the construction of our spitals, succeeded in obtaining the hygienic conditions best culated to benefit those under our care, and on a sufficient le to accommodate all who apply for relief?

Now, the sanitary state of a hospital may be taken as the st criterion of its fitness for the end. Build a hospital on a an which all are agreed is the best, give the requisite amount cubic space to each bed, provide everything necessary for e comfort of the patients, in the shape of skilled medical at-dance and nurses; but, at the same time, place it in the dst of a crowded manufacturing city, over immense drains m which mephitic gases are constantly escaping into the ilding, and where the external circulation cannot be properly veloped, and you ought not to be surprised at finding the mber of deaths from blood-poisoning excessive.

We all remember the discussion excited by the essay on Hospitalism" of the distinguished professor Sir James apson. So impressed was he with the high mortality, ributable, in a great degree, to preventable causes, that he nt the length of declaring that, "If our present medical, gical, and obstetric hospitals, instead of being crowded aces with a layer of sick to each flat, were villages or groups cottages with one or, at most, two patients in each room, a eat saving of human life would be effected." In fact, the tage hospitals in various parts of the country showed ults that were most gratifying, and seemed to confirm the th of this dictum. Nevertheless, in a large manufacturing y like ours, drawing patients from all parts of a densely pulated district, such a plan would be wholly impracticable.

In providing hospital accommodation, we have to consider site, the value of ground, the number of sick to be accom-dated, the amount of space to be allowed to each bed, the ount of fresh air and light at our disposal, the possibility conveying thither the sick and wounded, the convenience the administrative body, and the accessibility for medical cers, students, and patients' friends.

As regards the site of our present Infirmary, I think it is erally agreed by the medical staff that we could not be re unfortunate. No legitimate excuse can be urged for aining it in the midst of the foul air, smoke, and bustle of densely crowded city. The convenience of the consulting ff and of the Medical School would be as well consulted in a purer atmosphere, and, if recovery of the sick be the object aimed at, this would be greatly facilitated.

I think we must all agree with Miss Nightingale when she says, "Fresh country air is better for the sick than impure town air, and hence the question narrows itself within the compass of accessibility; any site which can be obtained with pure air and sufficiently convenient means of access will fulfil the required conditions."

The question of removing the Manchester Infirmary has been long under consideration, but has never taken definite shape until within the last year, when the continued complaints of the acting medical staff regarding the unhealthiness of the present building have awakened public attention to its importance.

Miss Nightingale has said, and I think wisely, that if a new hospital be wanted, the true way to proceed is—first, to determine in what district it should be; next, to look out the possible sites; and lastly, to have each site examined by competent men, with a view to select the best. She goes on to say that the evil consequence arising out of any other course is, that party spirit becomes the leading motive, especially among those who are not sufficiently acquainted with the subject, whereby the cause that we all have at heart suffers. Such has to some extent been the case here.

When removal was first suggested, several sites were proposed; but conflicting interests brought out such strong feelings that the hope of removal has for a time been checked, while means are being taken to patch up still further the building already patched to death.

Now, apart from the defects in regard to position and drainage, the building itself is constructed on a plan which is faulty. The porticos and their columns deprive a number of the wards of the amount of light requisite for ordinary convenience; the partial Block System prevents that free circulation of external air which is absolutely necessary for avoiding stagnation within. The central corridors, besides acting as shafts for the conveyance of poisonous particles from one extremity of the building to the other, necessitate the placing of beds along dead walls, thus interfering still further with the supply of light and air to the patients.

I have thus endeavoured to give you some idea of the imperfections of our Infirmary as to site and construction, and of the means which should be taken to remedy them. I have discussed the matter in no factious spirit, but have endeavoured to put plainly before you a question which, although local in character, yet brings us face to face with some of the most important questions connected with modern hospital hygiene.

Originally, hospitals were built for the helpless, the infirm, the sick, and the aged; many such may be seen in different parts of this country and on the Continent. These houses were generally attached to some monastic or other religious foundation. The medical treatment was probably, in a great many respects, faulty, as compared with our own times. It is only of late years that architects, and those interested in the subject of building, have been convinced that, in constructing a hospital, something more is required than room for beds and a tolerable amount of light.

Only a few years ago it was not at all uncommon, in passing through some of the Continental hospitals, to find the wards dark and heated by stoves, with no attempt at ventilation; the windows had double sashes, and during the winter these were never opened, but were plugged so as to prevent the slightest admission of air. The floors were covered with beds, and it was impossible to make your way through the wards without disturbing the patients. Indeed, it is not long since the Local Government Board in this country condemned the plans of a hospital on the Pavilion system, with water-closets and bath-rooms at the end of the ward; and they compelled the authorities to place the water-closets in the middle of the building and in immediate proximity to the kitchen, leading, of course, to the presence of noxious odours there. All this has been changed of late; and the same department insists now upon having temporary hospitals, with the most perfect arrangements for isolation, drainage, and ventilation. In such a case, one would have thought that, with the scientific medical skill at their disposal, there could have been no hesitation.

To cure the sick as rapidly and effectually as possible should be the object of every medical man; and, consequently, we should endeavour to aim at a consensus of opinion as regards hospital construction. Every town in the kingdom of any size has its hospital, and medical men are absolutely required

both to know what is best in hospital construction, and to rest their opinion upon such solid grounds as shall be convincing against opponents.

There is no doubt that a very large majority of those who have studied the question earnestly and practically give their decided voice in favour of the Pavilion System. When the Infirmary here was in process of rearrangement thirty years ago, I strongly urged the adoption of this plan, but I was defeated. Time has shown that a mistake was made in the matter, and means have lately been suggested to rectify this.

I need not tell you that all the proposed improvements have been made with reference to the Pavilion plan. There are a number of modifications of the system which it would be a waste of time to enumerate; but the first principle is, to have each ward completely open to the air on each side, with drains running outside, and ventilated, with bath-rooms and other conveniences projecting from the building at one end, and nurses' rooms and administration at the other. These could be multiplied indefinitely, and, provided land was cheap, would require to be only of one storey; there would be no objection, however, to two or even more.

In connexion with the subject of hospital construction, it may not be amiss briefly to touch upon the scheme, lately agitated in London, for providing hospital accommodation for the well-to-do classes. This proposal has received the support of some of the leading medical men in the metropolis, and has been favourably noticed by many important journals.

Considering the size of some of our existing hopitals, and the conveniences already established in them, would it not be better to add wards to them for the reception of paying patients who should be attended by their own medical men? Some objections which are now put forward in regard to management, etc., might thus be got over, and all the advantages of hospital treatment might be obtained with a minimum of expenditure. The Hopkins Hospital in Baltimore, United States, recently endowed through the munificence of a gentleman of that city, and in process of erection, is arranged upon this basis; and other hospitals on the continent of Europe carry out the same idea. I do not see why, with special arrangements, the same ends might not be attained as are now being striven for by the promotion of the "home hospitals."

A city approaching in size to ours needs a general hospital of at least 500 beds, in order to accommodate all classes of disease. Without this you cannot meet the various requirements of a large community, nor can you have a perfect school of medicine and surgery.

It must not be forgotten that Manchester is the seat of the largest English School of Medicine out of London. Inaugurated in the early part of this century by the energy of Mr. Jordan, who was the first provincial lecturer recognised by the medical corporations as qualifying for examination, it became expanded into a school by the late Mr. Turner. The love of teaching, and the desire to advance the profession by thoroughly educating the candidates for admission into it, alone actuated those men who were associated with the illustrious Dalton, Sir James Bardsley, and others; and, through their united endeavours, the Pine-street School became the educational centre for the North of England.

Friendly rivalry was at that time strong among the medical men; and encouraged, I believe, by the success of the above-mentioned school, another was established in 1850 in Chatham-street, under the direction of the late Mr. Southam, the late Mr. Dumville, and Dr. Watts. This latter also prospered, and, in 1853, it was thought advisable to unite the two. From that date to the present we have had but one medical school in Manchester. To the pioneers in this work we owe a deep debt of gratitude.

Now we come to an important period, as I believe, in the history of Manchester and of Medicine. The promoters of the united school being anxious to place themselves under the best conditions for the education of the students under their charge, took steps in 1872 to bring their institution more closely into connexion with the Owens College, which was then becoming celebrated as a school of scientific education. The Owens College owes its existence to the liberality of John Owens, a prosperous Manchester merchant, who left his property to the late Mr. George Faulkner and other trustees, for the purpose of founding a college after the models of the older English universities. Mr. Faulkner accepted the trust, and, having purchased some property in Quay-street, he presented it with the buildings thereon to the College. The lectures of the Owens College were here begun in 1851, and were carried on until the class-rooms were found to be inadequate to accommodate the number of students who assembled to avail themselves of the advantages offered by the institution. About this time, her Majesty, by Royal Warrant, affiliated the College to the London University. Great interest was taken in the young College, and benefactions flowed in from all sides, providing a number of valuable scholarships. Its progress was not rapid, but sure; and in 186 a movement was inaugurated for extending the then limited accommodation. Land was bought in Oxford-road, and, to b brief, on October 7, 1873, the present buildings were opened by the Duke of Devonshire, President of the College. M Waterhouse, with his skill and anxious desire to carry ou the wishes of the staff of professors, has given them a commodation which has no rival, I believe, in its suitability for their various requirements. The laboratories ar second to none in Europe—it has even been said that they ar the first, having been specially planned under the supervisio of the distinguished professors in these departments; the possess all the most recent and perfect apparatus for th purposes of scientific research.

Under such circumstances, we cannot wonder that th governing body should have been desirous of adding anothe Faculty to those already in existence. A large bequest b the late Miss Brackenbury, for the purpose of founding medical school in connexion with the College, gave an impetu to negotiations which had been begun between the authoriti of the College and the Manchester Royal School of Medicin tending to this object. These efforts were successful. A appeal to the public soon brought the additional necessar funds; and in October, 1874, the best appointed medical scho in the provinces was opened. The advantages of the unio have not only accrued to the Medical School, by providin increased accommodation and greater facilities for experi mental medicine, but also to the College, in thus rapidl increasing its numbers, and adding to its area of usefulness.

The Infirmary authorities are now invited to take their sha in furthering the cause of Scientific Medical Education; to this effectively, the disadvantages under which we have so lo laboured from having a defective hospital must be remedied

It is unnecessary that I should occupy more of your tim when there is so much that is interesting to be brought befo you during the meeting of our Association.

I have dwelt at length on the subject of hospitals and th connexion with medical education, holding, as I do and ha long done, the deep conviction that it is a question of t highest importance in all its bearings, and this not only medical men, but to every member of the community. believe I shall have the sympathy of this great and influent meeting in the views I have expressed and in the statemen I have made.

Allow me in conclusion, gentlemen, to offer you once m our sincere welcome to Manchester.

ADDRESS IN MEDICINE.

By WILLIAM ROBERTS, M.D., F.R.S.,
Physician to the Manchester Royal Infirmary; Professor of Clinical Medicine in Owens College; etc.

THE DOCTRINE OF CONTAGIUM VIVUM AND I APPLICATIONS TO MEDICINE.

Gentlemen,—The notion that contagious diseases are p duced by minute organisms has prevailed in a vague way fr a remote age; but it is only within the last twenty year since the publication of Pasteur's researches on fermentat and putrefaction—that it has assumed the position of a seri pathological doctrine. In the last decade, startling d coveries of organisms in the blood have given this doctrine support of actual observation; and its application as a gu in the treatment of wounds by Professor Lister has made subject of universal interest to medical practitioners.

The resemblance between a contagious fever and the ac of yeast in fermentation—or the action of bacteria in dec position—is in many points so striking that it is difficult avoid the impression that there is some real analogy betw them. If, for example, we compare the action of yeast v small-pox, this resemblance comes out very distinctly, as following experiment will show. I filled two pint bottle

and B, with fresh saccharine urine, and inserted a delicate thermometer in each. A was inoculated with a minute quantity of yeast, but nothing was added to B. Both bottles were then placed in a warm place in my room, at a temperature of about 70° Fahr. In order to get a correct standard of temperature for comparison, I placed beside these a third bottle (C) filled with water, and inserted a delicate thermometer in it. All these bottles were carefully swathed in cotton-wadding, for the purpose of isolating their individual temperatures, and to obviate, as much as possible, the disturbing effects of the varying temperature of the room. For twelve hours no change took place; but, at the end of this time, A began to ferment, and the thermometer marked a distinct elevation of temperature. On the second day, A was in full fermentation, and its temperature was 2·7° above B and C. This disturbance continued for five days, the temperature ranging from two to three degrees above the companion bottles. The disturbance then subsided, and the temperature fell to an equality with B and C, and a considerable sediment, composed of yeast, settled at the bottom. In the meanwhile, B showed little alteration; but on the sixth day it began to ferment, the temperature went up, and for more than a week its thermometer stood about two degrees above A and C. Finally, the temperature in B declined, the disturbance subsided, and the newly formed yeast settled to the bottom of the vessel.

This fever in a bottle resembled small-pox in the following points. A period of incubation intervened between inoculation and the commencement of disturbance; then followed a period of disturbance accompanied by elevation of temperature; this was succeeded by a subsidence of the disturbance and a return to the normal state. Great multiplication of the infective material (or yeast) took place during the process, and, after its conclusion, the liquid was protected from further infection with the same contagium. We likewise notice that the contagium of fermentation, like that of small-pox, may take effect either by direct purposive inoculation or by fortuitous infection through the atmosphere. In both cases the infective material has the power of preserving its activity for an indefinite period. The comparison fails in at least one important point—in the fermented urine, sugar is replaced by alcohol and carbonic acid; but we are not aware that any pronounced chemical changes occur in the blood or tissues during an attack of small-pox. I would, moreover, carefully guard myself against being supposed to suggest that the enhanced temperature in the fermenting urine is a real analogue of the preternatural heat of fever.

Let me direct your attention to another example—a kind of partial decomposition or fermentation which takes place in boiled hay-infusion when it is inoculated with the *Bacillus subtilis*. The *Bacillus subtilis* is a very common bacterium found in vegetable infusions and in curdling milk. I hope you will take note of this little organism; for I shall have to refer to it more than once in the course of this Address. I took a flask containing hay-infusion, which had been sterilised by boiling, and inoculated it with a drop of fluid swarming with *Bacillus subtilis*. After the lapse of twenty-four hours the previously transparent infusion became turbid. This turbidity increased, and on the second day a film or crust formed on the surface of the infusion. On the third and subsequent days the crust broke up and fell in pieces to the bottom of the vessel. In about a fortnight the turbidity passed away, and the original transparency of the infusion was perfectly restored, so that it looked exactly as it did before the process began, except that there was now a sediment consisting of the spores of the little organism at the bottom of the flask. In this case, again, there was the same succession of events: a period of incubation, followed by a period of disturbance, succeeded by a period of subsidence, and, finally, restoration to the normal state. There was also great increase of the infective material and immunity from further attack by the same contagium.

The yeast-plant and the *Bacillus subtilis* may be taken as representatives of a large class of organisms in regard to which we are only beginning to realise their vast importance in the economy of Nature and in the life of man. They are, as I shall presently show, the essential agents in all fermentations, decompositions, and putrefactions. We may group them together, for the convenience of description, under the general designation of *saprophytes*, a term intended to include under one heading all the organisms associated with the decomposition and decay of organic matter. The yeast-plant and its allies, and all the numerous species and varieties of bacteria, belong to this group. In size and form they are among the smallest and simplest of living things, but their vital endowments are wonderful.

All the organisms hitherto found associated with infective inflammations and contagious fevers belong to the tribe of bacteria, and we cannot advantageously enter on a study of that association without a knowledge of the origin and attributes of these organisms. This brings us into a field of active controversy. It has been alleged, as you know, on high authority, that these organisms, under certain conditions, depart entirely from the universal law of generation which is expressed in the aphorism *omne vivum è vivo*, and that they may arise spontaneously by a process of abiogenesis. It is also alleged that these organisms are not the actual agents of decomposition, but are merely associated with that process as secondary or accidental accompaniments. I propose to lay before you evidence that both these allegations are unsustainable, and to prove that bacteria, like other organisms, arise from pre-existing parent germs, and in no other way, and that they are the actual agents in all decomposition and putrefaction.

The first proposition I shall endeavour to establish is this: that organic matter has no inherent power of generating bacteria, and no inherent power of passing into decomposition.

I have here placed before you samples of three sets of preparations, out of a large number in my possession, which serve to substantiate this proposition.

The first set consists of organic liquids and mixtures which have been rendered sterile by a sufficiently prolonged application of the heat of boiling water. They are composed of infusions of vegetable and animal substances, fragments of meat, fish, albumen, and vegetables, floating in water. They are contained in oblong glass bulbs, and are protected from the dust of the air by a plug of cotton-wool inserted into the necks of the bulbs, but freely open to its gaseous elements, which pass in and out through the cotton-wool. They are all, as you see, perfectly transparent and unchanged, though most of them have been in my possession for several years.

The second set consists of organic liquids which have been simply filtered under pressure through unglazed earthenware into sterilised flasks. They include acid and neutralised urine, albuminous urine, diluted blood, infusions of meat and of hay. As these preparations were obtained by a method which is in some respects new, I will describe it to you. A piece of common tobacco-pipe, about six inches long, served as the filter. This was secured by indiarubber piping to the exit-tube of one of the little flasks used by chemists for fractional distillation. The flask is first charged with distilled water, and then a tight plug of cotton-wool is inserted into its neck. The flask is next set a-boiling briskly over a lamp. The steam rushes through the cotton-wool plug and through the tobacco-pipe, clearing both these passages of any germs they might contain. When the water has nearly boiled away, the end of the tobacco-pipe is hermetically sealed with melted sealing-wax. After a little more boiling, the flame is withdrawn and the neck of the flask is instantly closed with a tight vulcanite cork. The apparatus is now ready for action, and the tobacco-pipe is immersed in the liquid to be filtered. When the flask cools, a vacuum is created within it, and this serves as a soliciting force to draw the liquid through the earthenware into the flask. The process of filtration is very slow; it takes two or three days to charge the flask. When a sufficiency has come over, the apparatus is removed and placed on a shelf for a few days until the pressure inside and outside the flask is equalised. The vulcanite cork is then withdrawn, and the exit-tube is separated and sealed in the flame of a lamp. In this way you obtain a sterilised flask charged with the filtered organic liquid, and protected from outside contamination by a plug of cotton-wool. Preparations obtained in this way, if due precaution have been used in the manipulation, remain permanently unchanged; organisms do not appear in them, and decomposition does not ensue.

The third set of preparations are, in some respects, the most significant of the three. They consist of organic liquids which have been simply removed from the interior of the living body, and transferred, without extraneous contamination, into purified glass vessels. I will not detain you with the methods employed to obtain them; it is sufficient to say that, by the use of proper precautions, it is possible to convey blood, pus, urine, ascitic fluid, pleuritic effusion, blister serum, or the contents of an egg, into sterilised glass vessels without contact with any infecting agency. Preparations thus obtained are exhibited in these flasks; they are protected from air-dust by

a simple covering of cotton-wool. All of them are absolutely free from organisms and from any signs of decomposition.

What meaning can we attach to these preparations? You all know that liquids and mixtures such as these speedily decompose and swarm with organisms when left to themselves exposed to the air. They are of most varied composition, and the most apt of all known substances to breed bacteria and to become decomposed. They have been exposed to the most favourable conditions in regard to warmth, moisture, and air. Many of them have been in my possession several years, and all of them for several months, yet they are wholly barren and without sign of decomposition. I venture to say that these preparations substantiate in a positive manner the proposition with which we started—namely, *that organic matter has no inherent power of generating bacteria, and no inherent power of passing into decomposition.*

A second proposition is likewise established by these preparations—namely, *that bacteria are the actual agents of decomposition.*

In all the preparations, the absence of bacteria coincides with the absence of decomposition. If I were to cause bacteria to appear in them, either by purposive infection or by exposing them to the unfiltered air, decomposition would infallibly follow. The filtration experiments supply a new and telling argument on this point. Some of the liquids became decomposed and full of bacteria while the filtration was going on, but the part which came over into the flasks remained without further change, showing that decomposition cannot go on without the actual contact of the living organisms.

We have next to ask ourselves, What are the sources and what is the nature of the fecundating influence which causes organic liquids, when abandoned to themselves without protection, to become peopled with organisms? In regard to their source, the answer is not doubtful. If I remove the covering of cotton-wool from any of these preparations, and admit unfiltered air, or a few drops of any ordinary water, however pure, or anything that has been in contact with air or water, organisms make their appearance infallibly in a few hours. As to the nature of the infective agents, we can say positively that they must consist of solid particles, otherwise they could not be separated by filtration through cotton-wool and porous earthenware. Is it not a most natural inference that they are the parent germs of the brood which springs up at their impact? They are, however, so minute that we cannot identify them as such under the microscope; but Professor Tyndall has demonstrated that air which is optically pure—that is, air which is free from particles—has no fecundating power.

It is contended in some quarters that these particles are not living germs of any sort, but simply particles of albuminoid matter in a state of change which, when they fall into an organic liquid, communicate to it their own molecular movement, like particles of a soluble ferment, and so produce decomposition, which, in its turn, provides the conditions necessary for the abiogenic generation of bacteria. Filtration through porous earthenware furnishes a complete answer to this theory, for I found on trial that the soluble ferments passed with ease through the porous earthenware. If, therefore, this theory were true, the filtered liquids, if already commencing to be decomposed, would go on decomposing, and would develope bacteria after filtration; but instead of that they remain unchanged and barren. We are absolutely driven to the conclusion that these particles are living germs; no other hypothesis squares in the least degree with the facts of the case.

We may formulate this conclusion in a third proposition as follows:—*The organisms which appear as if spontaneously in decomposing fluids owe their origin exclusively to parent germs derived from the surrounding media.*

But how, you will ask, has it been possible, in the face of this evidence, to maintain, with a show of success, the contrary opinion that bacteria can and do, exceptionally at least, and in certain media, arise spontaneously? This opinion is based on two undoubted facts, which, taken together, seem at first sight to stand in direct contradiction with the propositions I have enunciated. The first fact is that bacteria are invariably killed when exposed to a temperature of about 140° Fahr., or any higher temperature. The other fact is that certain liquids, such as neutralised hay-infusion and milk, often produce bacteria after having been boiled—sometimes after having been boiled for two or three hours—and when there was no possibility of subsequent infection. It seemed at first sight a fair inference from these two facts that the apparition of organisms in boiled liquids was due to spontaneous generation, or abiogenesis. It does seem difficult to believe that any living thing can survive a boiling heat for several hours—and yet such is undoubtedly the truth. When I published on this question in 1874, I advanced more than one line of proof which appeared conclusive that germinal particles of some sort did, under certain circumstances, survive a boiling heat; and that the instances referred to were examples of such survival, and not of a *de novo* generation. But I was not then able to explain the apparent contradiction involved in these experiments.

Since then, a new and surprising light has been thrown on this subject by the researches of Professor Cohn, of Breslau, and we are now in a position to offer a complete solution of the riddle. All the confusion has arisen from our having failed to distinguish between the growing organism and its seed or spore. You are all familiar with the immense difference in vital endurance between the seed and the growing plant. The same difference exists between a spore and its offspring. Some spores have an extraordinary power of resisting heat. Mr. Dallinger and Dr. Drysdale, in the course of their inquiries into the life-history of septic monads, demonstrated that while the living monads are killed by a heat of 140° Fahr., the spores of one variety, which are so minute that they cannot be seen, except in mass, by the highest powers of the microscope, are capable of germinating after being subjected to a heat of 300° Fahr. for ten minutes! If the spores of monads can resist this tremendous heat, there is no reason why the spores of bacteria should not be able to survive the feebler heat of boiling water. The development of bacteria in hay-infusion, after having been boiled continuously for several hours in hermetically sealed vessels, seemed to furnish the very strongest attainable evidence in favour of the abiogenic origin of these organisms; and yet, by a singular fatality, the investigations of Cohn have shown that this evidence, rightly interpreted, supplies a crowning argument against that view.

Cohn had the curiosity to examine the organisms which arose under these extraordinary circumstances. Did he find a new birth? On the contrary, he recognised a familiar form: none other than our old acquaintance the *Bacillus subtilis*. He followed it through all the stages of its development. It first appeared some twenty-four hours after the boiling, in the form of innumerable short moving rods. On the second day these rods shot out into long threads; on the third day there appeared on the threads, at perfectly regular intervals, strongly refractive oval bodies, which he identified as spores. Finally, the threads broke down and the spores were set free. In many hundred observations he saw this one organism and no other, and witnessed the successive stages of its development occurring with the constancy of a physical experiment.

Now, let me ask if this looks like an act of abiogenesis. The evolutionist demands, for the transformation of one organic type into its next descendant, myriads of generations, and I know not what lapse of ages. But here, if this be a case of abiogenesis, we see accomplished at one leap, in a single generation, and in seventy hours, not merely the bridging over of the gulf between the dead and the living, but the development of a specifically distinct organism, with definite form, dimensions, and mode of growth, and furnished with a complete provision for the reproduction of the species! I need scarcely say that such a feat would be, not only without parallel in the history of evolution, but would be wholly contradictory to that theory.

The only group of bacteria, so far as is known, which form spores are the *Bacilli;* and Cohn remarks that in all the various cases in which he had observed organisms to arise in boiled liquids, they belonged in every instance to the *Bacilli*.

Before leaving this part of my subject, I wish to suggest certain considerations in regard to the nutrition and function of saprophytes, which appear to me to render it in the highest degree improbable that spontaneous generation should ever be discovered in this quarter. If it be assumed that the occurrence of abiogenesis, at some time in the past history of the globe, is a necessary postulate in science, then I see nothing unscientific—looking to the law of continuity in the operations of nature—in the supposition that it is occurring at the present day somewhere or other on the earth's surface, but certainly not in decomposing liquids.

Saprophytes are, as is well known, destitute of chlorophyll, and, like all such plants, they are unable to assimilate carbonic acid. They obtain their carbon exclusively from more complex compounds which have been prepared for them by pre-

existing living beings. It is, therefore, manifestly impossible that the primordial forms of life could have belonged to this group; for if we throw ourselves back in imagination to that remote era when life first appeared on the globe, we should find ourselves in a purely inorganic world—amid conditions in which saprophytes could not possibly life nor obtain nourishment. The special function of saprophytes in the order of nature is to destroy, not to create, organic matter; and they constitute the last, not the first, link in the biological chain. For if we regard the order of life as it now proceeds on the earth's surface, we may describe it as beginning with the chlorophyll body, and ending with the saprophyte. The chlorophyll body is the only known form of protoplasm which obtains all its nutriment from inorganic sources: here integration is at its maximum, and disintegration at its minimum, and the resultant of the nutritive operations is increase of organic matter. The saprophyte, on the contrary, feeds on nutriment prepared for it by other beings: here integration is at its minimum, and disintegration at its maximum, and the resultant of the nutritive process is decrease of organic matter. What takes place in a decomposing liquid, under the action of saprophytes, is progressive disintegration, and finally a breaking-up of all the organic compounds it contains into carbonic acid and ammonia; and the process ends with the mutual destruction of the organisms themselves. Organisms could not, therefore, begin in this way. The primordial protoplasm must have been either the chlorophyll body itself, or a body having a similar mode of nutrition.

If the search for contemporary abiogenesis is to be continued—as doubtless it must be, for science is insatiable,—it appears to me that the inquirer should endeavour to realise the conditions under which abiogenesis must have occurred in the first instance. For, if the process be going on amongst us at this day, it may be assumed as probable that it still proceeds on the original lines laid down at the dawn of life. If ever I should be privileged to witness an abiogenic birth, I should certainly not expect to see a saprophyte: I should rather expect to see a speck of protoplasm slowly formed, without definite shape or dimensions, and nourishing itself, like the chlorophyll body, on a purely mineral diet. The more one reflects on this subject, the more clearly does it appear that the spontaneous origin of saprophytes is logically impossible. Speaking as an evolutionist, I should rather infer that saprophytes were a late development—probably a degradation from some algal forms which had found their profit in feeding on waste organic matter, and which gradually lost their chlorophyll through want of use, and with it their power of feeding on an exclusively mineral diet.

We now approach the more practical side of our subject—that which concerns us as practitioners of medicine and students of pathology. I have already directed your attention to the analogy between the action of an organised ferment and a contagious fever. The analogy is probably real, in so far at least that it leads us to the inference that contagium, like a ferment, is something that is alive. We know of nothing in all our experience that exhibits the phenomena of growth and self-propagation except a thing possessed of life.

This living something can only be one of two things: either it is an independent organism (a parasite) multiplying within the body or on its surface, or it is a morbid cell or mass of protoplasm detached from the diseased body and engrafted on the healthy body. Possibly, both these conceptions may have their application in the explanation of different types of infective diseases. In regard to the latter conception, however (the graft theory), which has been so ably developed by my friend Dr. Ross, I will only say that it has not, as yet, emerged from the region of pure speculation. It lacks an established instance or prototype, and it fails to account for the long-enduring dormant vitality so characteristic of many contagia, which conforms so exactly with the persistent latent vitality of seeds or spores, but which contrasts strongly with the fugitive vitality of detached protoplasm.

If, then, the doctrine of a contagium vivum be true, we are almost forced to the conclusion that a contagium consists (at least, in the immense majority of cases) of an independent organism or parasite; and it is in this sense alone that I shall consider the doctrine.

It is no part of my purpose, even if I had the time, to give an account of the present state of knowledge on this question in regard to every contagious disease. My object is to establish the doctrine as a true doctrine; to produce evidence that it is undoubtedly true in regard to some infective inflammations and some contagious fevers. In an argument of this kind, it is of capital importance to get hold of an authentic instance; because it is more than probable—looking to the general analogy between them—that all infective diseases conform in some fashion to one fundamental type. If septic bacteria are the cause of septicæmia—if the spirilla are the cause of relapsing fever—if the *Bacillus anthracis* is the cause of splenic fever—the inference is almost irresistible that other analogous organisms are the cause of other infective inflammations and of other specific fevers.

I shall confine my observations to the three diseases just named—septicæmia, relapsing fever, and splenic fever; merely remarking that, in regard to vaccinia, small-pox, sheep-pox, diphtheria, erysipelas, and glanders, the virus of these has been proved to consist of minute particles having the character of micrococci; and that, in regard to typhus, scarlet fever, measles, and the rest of the contagious fevers, their connexion with pathogenic organisms is as yet a matter of pure inference. For further details I must refer you to the able reports of Dr. Braidwood and Mr. Vacher on the Life-History of Contagium, made on behalf of this Association, and published in the *Journal* in the course of the past and present years.

Septicæmia.—We will first inquire how it stands with this doctrine in regard to traumatic septicæmia and pyæmia. You are all aware that foul, ill-conditioned wounds are attended with severe, often fatal, symptoms, consisting essentially of fever of a remittent type, tending to run on to the formation of embolic inflammations and secondary abscesses.

The notion that septicæmia is produced by bacteria, and the *rationale* of the antiseptic treatment which is based thereupon, is founded on the following series of considerations:—

1. It is known that decomposing animal substances—blood, muscle, and pus—develope, at an early stage of the process, a virulent poison, which, when injected into the body of an animal, produces symptoms similar to those of clinical septicæmia. This poison is evidently not itself an organism; it is soluble, or at least diffusible, in water, and it is capable by appropriate means of being separated from the decomposing liquid and its contained organisms. When thus isolated, it behaves like any other chemical poison; its effects are proportionate to the dose, and it has not the least power of self-multiplication in the body. To this substance Dr. Burdon-Sanderson has given the appropriate name of pyrogen. It is the only known substance which produces a simple uncomplicated paroxysm of fever—begining with a rigor, followed by a rise of temperature, and ending (if the dose be not too large) in defervescence and recovery.

2. We know further, from the evidence I have laid before you, that decomposition cannot take place without bacteria, and that bacteria are never produced spontaneously, but originate invariably from germs derived from the surrounding media. We are warranted by analogy in regarding pyrogen as the product of a special fermentation taking place in decomposing albuminoid mixtures, but we cannot name the particular organism nor the particular albuminoid compound which are mutually engaged in the process.

3. In the third place, we know that when a wound becomes unhealthy, as surgeons term it, the discharges become offensive—in other words, decomposed,—and when examined under the microscope they are found to swarm with organisms resembling those found in all decomposing fluids. Meanwhile the patient becomes feverish, and suffers from the train of symptoms which we call septicæmia.

It is a natural inference that what takes place in decomposing blood or muscle in the laboratory, takes place also in the serous discharges and dead tissues of the wound. These become infected from the surrounding air, or from the water used in the dressings, with septic organisms; on that follows decomposition and the production of the septic poison, or pyrogen; the poison is absorbed into the blood, and septicæmia ensues.

It was the distinguished merit of Lister to perceive that these considerations pointed to a means of preventing septicæmia. He argued that if you could prevent the access of septic organisms to the wound, or destroy them there, you would prevent decomposition, prevent the production of the septic poison, and thus obviate the danger of septicæmia. It is not within the scope of this Address to describe the means by which Lister attained this object, still less to pass

judgment on his practice, but I may be permitted to express my belief that the principle on which the treatment is founded is unassailable.

We should probably differ less about the antiseptic treatment if we took a broader view of its principle. We are apt to confound the principle of the treatment with Lister's method of carrying it out. The essence of the principle, it appears to me, is not exactly to protect the wound from the septic organisms, but *to defend the patient against the septic poison*. Defined in this way, I believe that every successful method of treating wounds will be found to conform to the antiseptic principle, and that herein lies the secret of the favourable results of modes of treatment which at first sight appear to be in contradiction to the antiseptic principle. Take, for example, the open method of treating wounds, which is sometimes compared in its results with Lister's method. What is this treatment but another way (only less ideally perfect than Lister's) of defending the patient against the septic poison? Because, if the surgeon succeeds in providing such free exit for the discharges that there is no lodgment of them in the wound, either they pass out of it before there is time for the production of the septic poison, or, if any be produced, it escapes so quickly that there is not enough absorbed to provoke an appreciable toxic effect.

Before we can understand the pathology of septicæmia, we must have clear ideas on the relation of septic bacteria to our bodies. We see in our laboratories that dead animal tissues, when exposed to ordinary air or ordinary water, invariably breed septic organisms; in other words, contact of the septic germs with the dead tissues never fails to produce successful septic inoculation. But it is quite otherwise with the same tissues when alive and forming part of our bodies. You cannot successfully inoculate the healthy tissues with septic bacteria. It has been proved over and over again that these organisms, when separated from the decomposing medium in which they grow, can be injected in quantity into the blood or tissues of a healthy animal, or applied to a sore on its skin, without producing the least effect. The healthy living tissues are an unsuitable soil for them; they cannot grow in it; or, to put it in another way, ordinary septic bacteria are not parasitic on the living tissues.

This fact is of fundamental importance in the discussion of the pathology of septicæmia. We have a familiar illustration of its truth in the now common practice of subcutaneous injection. Every time you make a subcutaneous injection you inject septic germs into the tissues. I had the curiosity to test this point with the morphia solution used for this purpose in the Manchester Infirmary. I injected five drops of this solution into four flasks of sterilised beef-tea, which had remained unchanged in my room for several months, taking care to avoid any other source of contamination. In forty-eight hours they were all in full putrefaction. But we know that no such effect follows when similar injections are made into the bodies of our patients.

It seems also probable that septic organisms enter constantly into our bodies with the air we breathe and the food we take; they pass, presumably, like any other minute particles, through the open mouths of the lymphatics and lacteals, and penetrate some distance into these channels; they certainly come in contact with the accidental cuts, sores, and scratches which so often bedeck our skins. Notwithstanding all this, our bodies do not decompose; indeed, if ordinary septic organisms could breed in the living tissues as they do in the same tissues when dead, animal life would be impossible—every living creature would infallibly perish. How these organisms are disposed of when they do enter our bodies accidentally, as it were, in the various ways I have suggested, we cannot say; we can only suppose that they must speedily perish, for we find no traces of them in the healthy blood and healthy tissues.(a)

Bearing in mind, then, that ordinary septic organisms cannot breed in the living tissues, unless, at least, they are reduced to near the moribund state; bearing also in mind that there is a sharp distinction to be drawn between the septic poison and the organisms which generate it, we are in a better position to consider the course of events in a wound which leads on to septicæmia and pyæmia. What probably takes place is this. An unprotected wound receives infection from the septic organisms of the surrounding media. If the discharges are retained in the sinuosities of the wound, decomposition of them sets in with production of the septic poison. This is absorbed into the blood, a toxic effect follows, and septicæmia is established. As this effect increases with the continuous absorption of the poison, the vitality of the system is progressively lowered, and especially the vitality of the tissues bordering the wound, which may be topically affected by the poison which percolates through them. These tissues at length become moribund or die outright; the septic organisms then invade and breed in them, more septic poison is produced and absorbed; the toxæmia becomes intense, embolic centres of inflammation and suppuration are formed, and the end comes. In all this history there is no necessity to assume, nor even a probability, that septic organisms invade, or at least multiply in, the blood. They may do so at the near approach of death, but scarcely before that period.

In the course of traumatic septicæmia there sometimes occurs an event of great importance which imparts a new feature to the disease: I mean *infectiveness*. How this arises is a matter of speculation. To me it appears probable that, under a certain concurrence of conditions in and about the wound, a modification takes place in the vital endowments of the septic organism, whereby it acquires a parasitic habit, which enables it to breed in tissues of degraded vitality, or even in the healthy tissues, and in this way to produce the infective endemic pyæmia which we sometimes witness in the wards of our large hospitals.(b) I shall develope this idea more fully by-and-by.

Before leaving the subject of septicæmia, I may allude to the possibility of wounds being infected with septic organisms from within. As a rare occurrence, I am inclined to think that this is possible, and that it may account for the occasional alleged infection of protected wounds. From an observation by Chauveau, it may be inferred that septic organisms, when injected directly into the blood, are able to survive for two or three days, although unable to breed there.(c) It is conceivable that occasionally a septic germ, entering the body in some of the ways which have been suggested, may escape destruction and pass into the blood, and lurk there awhile, and finding by chance some dead tissue or liquid within its reach, may multiply therein and produce septic effects. Such a contingency, if it ever occur, must be very rare, and would not appreciably detract from the value of the antiseptic mode of dressing wounds.

Relapsing Fever.—In 1872, Dr. Obermeier, of Berlin, discovered minute spiral organisms (spirilla) in the blood of patients suffering from relapsing fever. This discovery has been fully confirmed by subsequent observations. The organisms are found during the paroxysms; they disappear at the crisis; and are absent during the apyrexial periods.

The drawings represent the various appearances presented by these little parasites. They consist of spiral fibrils of the most extreme tenuity, varying in length from two to six times the breadth of a blood corpuscle. In the fresh state they move about actively in the blood. They have not been detected in any of the fluids or secretions of the body except the blood, nor in any other disease than relapsing fever. In form and botanical characters they are almost identical with the *Spirochaete plicatilis*, of Ehrenberg (*Spirillum* of Dujardin), a species of bacteria found in dirty water, and occasionally in the mucus of the mouth. Cohn designated the variety found in the blood *S. Obermeieri*, in honour of its discoverer.

In the beginning of the current year, Dr. Heydenreich,(d) of St. Petersburg, published an elaborate monograph on this subject, which, I think, goes far to reconcile the conflicting statements and opinions put forth by previous writers in regard to the connexion of the spirilla with relapsing fever. It is based on forty-six cases; these cases were studied with the most minute care; the blood was examined, and the temperature observed from two to six times each day. Altogether, over a thousand examinations of the blood were made.

Relapsing fever still prevails extensively in certain districts of Germany and Russia, but it is almost a forgotten disease

(a) Exception must apparently be made in regard to the tissues and organs in the immediate vicinity of the absorbent surfaces. Both Klebs and Burdon-Sanderson found that portions of the liver and kidneys removed from the body without extraneous contamination produced bacteria, contrasting in this respect with the blood and muscles.—*British Medical Journal*, February 13, 1875.

(b) Such a modification or "variation" might be correlated with a modification of the ferment action, whereby a more virulent septic poison is produced. Would not such a view explain the sudden intensification of the infecting virus which was found by Chauveau and Dr. Sanderson in their experiments on infective inflammations?

(c) *Comptes-Rendus*, 1873, page 1092.

(d) L. Heydenreich, "Ueber den Parasiten des Rückfallstyphus." Berlin, 1877. He gives a good *résumé* of the literature of the subject.

in this country; and probably the majority of those in this room have never seen a case. It will, therefore, not be amiss if I remind my hearers, and myself, of its principal features. It is a contagious epidemic fever, characterised by a sharp paroxysm of pyrexia, which lasts about a week, and ends with a severe critical sweating. This is succeeded by an intermission, also of about a week, during which the patient is apyrexial; then follows a second paroxysm, or relapse, which lasts four or five days, and ends, as before, in a critical sweating. Recovery usually follows the second paroxysm, but not unfrequently a third paroxysm occurs, and sometimes a fourth.

The paroxysms are occasionally broken by remissions or pseudo-crises; and the apyrexial periods are sometimes interrupted by slight temporary rises of temperature.

Bearing these characteristics in mind, we shall be able to understand the significance of Heydenreich's observations. He found that every rise of temperature, whether that of the true paroxysm, or that following a pseudo-crisis, or those occurring during the intermissions, was invariably preceded by the appearance of spirilla in the blood. They disappeared entirely shortly before the crisis, and remained absent during defervescence and the subsequent apyrexial periods. During the whole of the main paroxysms spirilla were usually to be found in the blood, but their number varied in the most puzzling manner from day to day. One day they were abundant, the next day they were scanty, and the day after again abundant; they even varied at different hours of the same day; sometimes they vanished altogether for a time, and then reappeared in vast numbers a few hours later. Throughout these variations the temperature remained steadily high, or with only slight or moderate oscillations.

These discrepancies had been observed by previous inquirers, and had led some to doubt whether the spirilla had anything to do with the virus of relapsing fever; but a happy idea suggested itself to Heydenreich which seems capable of explaining them.

He found that when a little blood containing spirilla was abstracted from the patient and kept at the ordinary temperature of the room, the organisms lived in it for several days; but if the blood was placed in an incubator and maintained at the normal temperature of the body, they died in from twelve to twenty hours; and if the temperature was kept up to feverheat (104° Fahr.) their life was still shorter—they only survived from four to twelve hours. This led him to the conjecture that, during the main paroxysm, not one, but several successive generations of spirilla were born and died before their final disappearance at the crisis. He surmised that, in the usual course, the broods would overlap each other more or less, the new brood making its appearance before the last survivors of the old brood had passed away. This explained the variable number of spirilla found on different days and different hours of the same day. Sometimes the old brood would have altogether perished before the new brood reached maturity; this explained the occasional temporary absence of spirilla from the blood; it also explained the remissions, or pseudo-crises, sometimes observed in the course of the paroxysms. So precise was the correspondence found to be between the appearance of the spirilla and a subsequent rise of temperature, that Heydenreich was able to predict with certainty, during the apyrexial periods, the approaching advent of a transient rise of temperature from the re-appearance of spirilla in the blood, although at the time the patient presented no other indication of what was about to happen.

If these observations are to be relied on—and they appear to have been made with the most scrupulous care—we are led to the conclusion that the spirilla are the actual virus of relapsing fever.

The same conclusion is also strongly indicated by the results of inoculation experiments. Relapsing fever is easily communicated to a healthy person by inoculation with the blood of a patient suffering from the disease. Experiments made in Russia on individuals who voluntarily submitted themselves to this practice, show that the blood is only infective during the paroxysms, but not at the crises nor during the apyrexial periods. None of the fluids or secretions of the body except the blood are infective. All this shows that the virus is intimately associated with the spirilla, and is absent or present in exactly the same circumstances as the latter.(e)

(e) See a paper by Motschutoffsky, in the *Centralblatt für die Medicinischen Wissenschaften*, 1876, p. 193. During the paroxysm the blood was infective, whether spirilla were detected in it or not. This agrees with Heydenreich's theory, that their occasional apparent absence during the paroxysm is due to their being incompletely developed, or immature, and therefore unrecognisable under the microscope.

The occasionally observed vanishing and reappearance of the spirilla during the paroxysm, without a possibility of new infection, seems to indicate that when the spirilla disappear they leave behind them something in the nature of seed or spores, from which the new brood springs forth. Ocular evidence of such germs is, however, still wanting. Several observers have noticed minute particles in the blood of relapsing fever which might pass for spores, and Heydenreich observed that some of the spirilla had a dotted appearance. But hitherto all efforts to cultivate the spores out of the body have failed, and their power of developing spores is more an inference than a demonstration.

Splenic Fever.—The first trustworthy observation of the presence of organic forms in an infective disease was made in splenic fever. This formidable disorder attacks sheep, cows, and horses, and is not unfrequently fatal to man. In 1855, Pollender discovered minute staff-shaped bacteria in the blood of splenic fever. This discovery was confirmed in a very extensive series of researches by Brauell, and has been corroborated by Davaine and other inquirers in France.

The bacterium of splenic fever is a short, straight, motionless rod, about as long as the breadth of a blood corpuscle, and, so far as is known, it exists in no other form in the living body. It is found, besides the blood, in the spleen, in the lymphatic glands, and in some other tissues. That this organism is the true virus of splenic fever has long been probable; and the labours of Davaine, Bollinger, Tiegel, Klebs, and, most of all, of Koch, have removed the last doubts on the subject. The work done by Koch is not only valuable as a triumphant demonstration of a disputed pathological question, but is noteworthy as a model of patient, ingenious, and exact pathological research.

We here come across an example of scientific prescience on the part of two distinguished men which is worth notice. It had been remarked by several observers that the contagium of splenic fever, as it existed in the blood, was comparatively short-lived and fugitive, but that, under some unexplained circumstances, the contagium was very persistent, and lurked for years in stables and other places where cattle were kept. Dr. Burdon-Sanderson, writing in 1874, inferred from this circumstance that the organisms of splenic fever must have two states of existence; namely, that of the perishable bacteria found in the blood, and some other more permanent form, like seeds or spores, in which they were capable of surviving for an indefinite period. In like manner, Professor Cohn, guided by the botanical characters of the rods found in the blood, classed them in that group of bacteria named by him *Bacillus;* and, as he had observed that all the *Bacilli* produced spores, he inferred that the *Bacillus anthracis*—for so he named the bacterium of splenic fever—would also be found to produce spores. These previsions were proved by the researches of Koch to be perfectly exact.

The following is a brief abstract of those points in these researches which chiefly concern us:—

Koch found that mice were peculiarly susceptible to the virus of splenic fever. The minutest particle of the fresh blood or spleen of an infected animal infallibly produced the disease when brought into contact with the living tissue of the mouse. He found further that he could cultivate the organism artificially outside the body. He proceeded in the following manner. He placed a speck of the spleen containing the rods on a glass slide in a drop of the blood-serum of the ox, or a drop of the aqueous humour of the eye of the same animal, and covered it with a piece of thin glass. He then placed the slide in an incubator maintained constantly at the temperature of the body, and examined the preparation from time to time under the microscope. In a couple of hours he observed that the rods began to lengthen, and in a few hours to grow into long threads. These threads, after growing to twenty or a hundred times the length of the original rods, began by-and-by to assume a dotted appearance. The dots gradually increased in size and distinctness, until, after the lapse of fifteen or twenty hours from the beginning of the experiment, they acquired the appearance of strongly refractive oval bodies, which were placed at regular intervals along the threads. Finally, the threads broke down, and the oval bodies, which could be nothing else than spores, were set free and sank to the more depending parts of the drop. If the supply of nutriment were then exhausted, the process ended here, and the spores remained permanently unchanged; but, if additional nourishment were provided, the new spores were seen presently to elongate into rods, exactly resembling those originally existing in the blood or spleen. If

the conditions were favourable, the new rods, after a period of rapid multiplication, in their turn entered on the formation of a new generation of threads and a new generation of spores. The figure shown represents the successive phases of this short and simple, but perfectly definite, life-history as they were actually seen to occur under the lens of the microscope.

The next point was to test the pathogenic activity of the rods and spores cultivated in this artificial manner. This was done by introducing minute quantities of the rods, or of the spores alone, into a small incision made in the skin of a mouse. Speedy death from splenic fever occurred in every instance. Koch found, without exception, that, if the tested material produced threads and spores in the incubator, it also produced splenic fever when inoculated into the mouse; and, on the contrary, if no such growth and development took place in the incubator, the tested material produced no effect when inoculated into the mouse. Proof could go no further: the infection absolutely followed the specific organism; it came with it, it went with it. These observations were repeated with the strictest precautions at the Physiological Institute at Breslau, under the eyes of Professor Cohn and other competent observers, who fully corroborated their exactness.

The variable duration of the activity of the contagium of splenic fever was now explained. Koch found that the rods had only a comparatively fugitive vitality; they lost their infective power generally in a few days; at the most, in about five weeks. But the spores retained their infective activity for an indefinite period, in spite of all kinds of maltreatment. They could be reduced to dust, wetted and dried repeatedly, kept in putrefying liquids for weeks, and yet, at the end of four years, they still displayed an undiminished virulence.

Cohn calls attention to the fact that the organism of splenic fever is identical in form and development with the *B. subtilis*. The only difference he could detect between them was, that the rods of *B. anthracis* are motionless, while those of *B. subtilis* exhibit movements. The figures you see before you might be indifferently labelled *B. subtilis* or *B. anthracis*, and yet one of these organisms is a harmless saprophyte, and the other a deadly contagium. We have likewise seen that the spirilla of splenic fever are morphologically similar with the *Spirochaete plicatilis*. We have further seen that there is ground for the assumption that the infective agent in contagious septicæmia is the common bacterium of putrefaction, but modified in such a way as to have become endowed with a heightened capacity for growing in the healthy tissues. Do not these remarkable coincidences point to a natural explanation of the origin of contagia? If contagia are organisms, they must necessarily possess the fundamental tendencies and attributes of all organised beings. Among the most important of these attributes is the capacity for "variation" or "sporting." This capacity is an essential link in the theory of evolution; and Darwin brings forward strong grounds for the belief that variation in plants and animals is not the result of chance or caprice, but is the definite effect of definite (though often quite obscure) causes. I see no more difficulty in believing that the *B. anthracis* is a sport from the *B. subtilis* than in believing, as all botanists tells us, that the bitter almond is a sport from the sweet almond—the one a bland, innocuous fruit, and the other containing the elements of a deadly poison.

The laws of variation seem to apply in a curiously exact manner to many of the phenomena of contagious diseases. One of these laws is the tendency of a variation, once produced, to become permanent and to be transmitted ever after with perfect exactness from parent to offspring; another and controlling law is the tendency of a variation, after persisting a certain time, to revert once more (under altered conditions) to the original type. The sporting of the nectarine from the peach is known to many horticulturists. A peach-tree, after producing thousands and thousands of peach-buds, will, as a rare event and at rare intervals, produce a bud and branch which ever after bear only nectarines; and, conversely, a nectarine at long intervals, and as a rare event, will produce a branch which bears only peaches ever after. Does not this remind us of the occasional apparent sporting of diphtheria from scarlet fever? My friend Dr. Ransome, who has paid so much attention to the laws governing the spread of epidemics, relates the following instance:—A general outbreak of scarlet fever occurred at a large public school. One of the masters who took the infection exhibited diphtheritic patches on the throat. This patient was sent to his own home in Bowdon. Six days after his arrival, his mother was attacked, not with scarlet fever, but with diphtheria; though there were no cases of diphtheria at the time, neither at the school nor in Bowdon.(f)

Take another illustration. Cholera suddenly breaks out in some remote district in India, and spreads from that centre over half the globe. In three or four seasons the epidemic dies away, and ceases altogether from among men. A few years later it reappears and spreads again, and disappears as before. Does not this look as if the cholera virus were an occasional sport from some Indian saprophyte, which by variation has acquired a parasitic habit, and, having run through countless generations, either dies out or reverts again to its original type? Similarly, typhoid fever might be explained as due to a variation from some common saprophyte of our stagnant pools or sewers, which, under certain conditions of its own surroundings, or certain conditions within the human body, acquires a parasitic habit. Having acquired this habit, it becomes a contagious virus, which is transmitted with its new habit through a certain number of generations; but finally, these conditions ceasing, it reverts again to its original non-parasitic type.

In regard to some contagia, such as small-pox and scarlet fever, it might be said that the variation was a very rare one, but also a very permanent one, with little or no tendency to reversion; while others, like erysipelas and typhoid fever, were frequent sports, with a more decided tendency to reversion to the original type. In regard to some pathogenic organisms, it might be assumed that the parent type had disappeared, and the parasitic variety only remained—just as the wild parents of many of our cultivated flowers and vegetables have disappeared, leaving behind them only their altered descendants.

How aptly, too, this view explains what used to be called the "epidemic constitution," and the hybrid forms and sub-varieties of eruptive and other fevers.

I must not pursue this vein further. I have said enough to indicate that this conception enables us—if it does nothing else—to have coherent ideas about the origin and the spread of zymotic diseases.

In applying the doctrine of pathogenic organisms—or *pathophytes*, as they might be termed—to the explanation of the phenomena of infective diseases, we must be on our guard against hard-and-fast lines of interpretation. So far as our very limited knowledge now extends, the pathophytes hitherto discovered all belong to that group of the fungi which are called bacteria. Now, fungi have two marked characteristics—namely, the tendency to assume the parasitic habit, and the possession by some of them of a special ferment action. Both these characteristics may bear a part in the action of pathogenic organisms. In the complex phenomena of septicæmia such would appear to be the case—a poisonous ferment-product first intoxicates the system, and then the organisms themselves prey upon the dead or moribund tissues.

There is, as Dr. B. Sanderson has pointed out, a marked distinction to be drawn between those common processes of infective inflammation which are shared in by animals generally—such as septo-pyæmia, erysipelas, and the diphtheritic process—and those specific contagia which are strictly confined, like ordinary parasites, to particular species. There is nothing in all nature more wonderful than the intimate and subtle nexus which unites a parasite to its host. A hundred examples might be given. Even different varieties or races of the same species have different and exclusive parasites. It would seem as if this nexus depended on some delicate shade—a *nuance*—something like an odour, or a savour, or a colour, rather than on differences of structure or chemical composition. The same minute correlation is seen in specific contagia—all are strictly confined to one or a few species. Vaccinia is confined to man, the horse, and the cow; scarlet fever is confined to man, and perhaps the swine; most of our specific diseases are absolutely confined to man. The human and ovine small-pox, although so wonderfully similar, are not intercommunicable. I am, therefore, inclined to believe that, in regard to specific contagia, we shall find more guiding analogies in parasitism than in fermentation. Our information at present is, however, so defective that it is not wise to enter into further speculations on this subject.

Gentlemen, I have brought my task to a conclusion. I believe that the doctrine of a contagium vivum is established on a solid foundation; and that the principle it involves, if

(f) Complex cases of mingled scarlet fever and diphtheria are sometimes seen. Similarly, the peach-tree will occasionally, among a multitude of ordinary fruit, produce one fruit of which one half has the peach character, and the other half the nectarine character.—*Darwin.*

firmly grasped in capable hands, will prove a powerful instrument of future discoveries. And let no man doubt that such discoveries will lead to incalculable benefits to the human race: our business in life is to do battle with disease, and we may rest assured that the more we know of our enemy the more successfully we shall be able to combat him.

ADDRESS IN SURGERY.

By T. SPENCER WELLS, F.R.C.S.,
Surgeon to the Queen's Household, etc.

Mr. President and Gentlemen,—When I received from the President of the Council of this great Association the unanimous request of the Committee of Council that I would deliver this Address, and was further assured that I was thus invited at the suggestion of a deputation from Manchester, I felt that any hesitation on my part might appear ungrateful, or as if I did not appreciate a great honour. So, without wasting your time by apologies, and simply thanking you for the exceeding kindness of your greeting to-day, I will ask you to consider with me how as an Association, how in each of our branches, how, individually as well as collectively, every one of us may assist in the advancement of the

Surgery of the Future;

how the art and science of the present, which we have received from our forefathers and our teachers, and as far as we could have improved, may be so handed down that our followers, taught by our success, warned by our failures, knowing where our knowledge is defective, our methods faulty, may so work and so observe that in each succeeding year surgery may become more perfect as an art, more exact as a science, and more honourable as a profession.

It is almost impossible to estimate the state of surgery of the present day, still more so to look forward to what surgery may become, without some review of its condition long ago and of the progress made during the existence of this Association.

It is one of the remarkable coincidences of English history that the reigns, nearly equal in duration, of the two Queens, Elizabeth and Victoria, have been the two ages most distinguished by the rapidity and extent of national development. Elizabeth mounted the throne after the death of her sister Mary, accelerated by disappointment at the termination of supposed pregnancy in dropsy, which was no doubt ovarian, and treated according to ignorant routine by successive bleedings. Treated with the knowledge now at command, the destinies of England might have been strangely altered. Elizabeth reigned forty-five years, and in her time, surgery, though already chartered as a profession, was neither an art nor a science. For the most part it was carried on as a trade, after the fashion of the country farriers of our day. Indeed, it was unanimously agreed by the Queen's Commissioners that it was unlawful for surgeons to administer internal remedies even in cases of wounds. "Bookes of Chirurgerie" were collections of sayings and nostrums. Life was rude, living was unwholesome, and death came early. The people perished by scurvy and sweating sickness; they were killed or scarred by small-pox; their blood was poor, and the barbers bled them. Fighting-men began to suffer from gunshot wounds, and their blood, gushing from arteries cut in hacking amputations, was staunched by "chokebands," by boiling pitch, or by hot irons. The first impulse towards improvement came from Ambrose Paré. But men long looked suspiciously on his new practice of tying blood-vessels in amputations. And so as an art, surgery—an exception to the general progress—stood almost still, even long after Harvey's great discovery, and scarcely any important advance, beyond such manual dexterity as that of Cheselden, was made until the time of Hunter. His noble work is thus epigrammatically acknowledged by the philosophical Malgaigne:—"Surgery, which in the middle ages scarcely ranked above a common trade, and grew to be honoured as an art in the hands of Paré and Petit, was raised by Hunter to the dignity of a science." What it has become since, and is now, we may perhaps best see by rapidly tracing its development parallel with the history of our Association, which may almost be said to be the offspring of the age of Victoria.

Before this Association was founded, the daily practice of surgery was guided by a knowledge of what Hunter and Scarpa had done as to the ligature of arterial trunks. Resection of joints had been frequently, though not commonly, performed. Bell's teachings of the different nerve-functions had been universally accepted. Auscultation and percussion had been gradually perfecting diagnosis among those who were then about entering into practice. The vegetable alkaloids were beginning to take the place of the coarser materials previously used as remedies. Almost coincidently with the formation of this Society, in 1832, there began to be spoken about vaguely, and as curiosities, things which are now so universally practised that probably very few of those who listen to me recollect how very recently they have been accepted as part and parcel of surgical practice. I am not one of the oldest here, but I can well remember when lithotrity was a novelty, when the subcutaneous section of tendons was absolutely new, when orthopædic surgery was unknown, when the torsion of arteries was spoken of as a barely possible substitute for the ligature, when the radical cure of hernia was scoffed at as a French delusion, when the treatment of aneurism by compression had hardly even entered into the professional imagination, and the study of uterine pathology was only just opened up by the introduction of the speculum as a means of investigating the condition of the mouth and neck of the uterus.

In 1832, when it was resolved to form this Association, and at the succeeding meetings in 1833 and 1834, all these things were new, and almost untried. In 1835, at Oxford, Costello publicly demonstrated lithotrity as a novelty before the assembled members; and I think we may fairly date the establishment of that operation, now so carefully and generally practised by so many of our associates, from that meeting.

In 1836 the Association met for the first time at Manchester. Crosse, of Norwich, was the first surgeon to give a retrospective address. In it he mentions as a recent discovery that of the trichina spiralis by Owen. He makes the first notice of the chloride of zinc in cancer, and doubtingly hopes that the use of the speculum even in this country may become general. He states that in this year there is the first known example in Great Britain in which both mother and child were saved by the Cæsarian operation, done by Knowles of Birmingham.

And here for a moment let me ask you to recall to mind the man who forty years ago was speaking to the Association as I now speak, not with his power, but to an audience enormously increased in numbers and influence. Crosse lived till 1850. I did not know him personally, but friends of mine who did speak of him as a man upright in character, earnest, natural, joyous, communicative, a fellow-worker with his pupils, of intense and untiring energy, priding himself upon gaining a most exact information of the progress of surgery, self-reliant, rapid in judgment, ready in action, calm and dexterous as an operator, yet with a strong conservative tendency as regards the knife, and most scrupulous in his attention to even the minutest details in the management of his cases. A clear and accurate writer, an industrious contributor to periodical literature, the good he did lives after him, especially in the impetus which he gave to the study of the direction, sanitary condition, and improvement of hospitals.

After Crosse, the next retrospective Surgical Address was by James, of Exeter, in 1839. In this he alludes, as a great novelty, to the fact that a member of our Association, Jeaffreson, of Framlingham, had successfully extirpated an ovarian cyst through a small incision; and also mentions that King, of Saxmundham, had repeated the operation on another patient with an equally good result. In 1840, at Southampton, Dodd, of Chichester, in the Address on Surgery, gives an account of the recent experience of Dieffenbach and Liston in operating for strabismus as something new, and reports that lithotrity does not seem to make any great advance in the favour of the profession in this country; and in 1843, at Leeds, William Hey said that "the rage for dividing muscles and tendons is somewhat moderated." In his own words, "the past year has been signalised by the successful performance of several operations for the removal of ovarian tumours from the abdomen. Dr. Clay, of Manchester, has recorded five cases, of which three were successful, and Mr. Walne, of London, one successful case." The William Hey who gave this Address on Surgery was the third in the line of the great family, the head of whom was president of the meeting. Owing to his advanced age, the general address was read for him, and he died in the course of the following year. As a pupil of the Leeds Infirmary forty years ago, I well remember the careful teaching and painstaking kindness of William Hey, jun., as he was then called. The name of Hey stood almost as high in Yorkshire

as those of Abernethy and Cooper in London, and one of the family, Richard, grandson of the president, and for many years Surgeon to the York County Hospital, almost simultaneously with Abernethy tied with success the common iliac artery for external iliac aneurism. The surgeoncy of the Leeds Infirmary has been held in the same name for 106 years, and descendants of the third and fourth generation are members of the present staff. Worthy representatives of the great family to which they belong, they still maintain the high reputation of the surgery of the North. Another well-known member of a noted family of Yorkshire surgeons, Thomas Pridgin Teale, read the Address at Sheffield in 1845. He alludes to the treatment of aneurism by compression, as indicating a great advance in the science of surgery. He notices Key's modification of herniotomy by dividing the stricture outside the sac as gradually assuming the position in the estimation of the profession to which it is entitled.

We now come to what will ever be looked on in future time as the commencement of a new era in surgery. In 1847, at Derby, Walshe, of Worcester, introduces for the first time the subject of anæsthesia, Crosse remarking that the inhalation of sulphuric ether was a subject of deep importance and great novelty. Your hourly familiarity with the use of anæsthetics of various kinds will make it difficult for you to realise the fact that it is only thirty years since Crosse spoke before this Association of the inhalation of ether chiefly as a means of disarming *a patient of his antagonism*. The first considerable essay on anæsthesia, and anæsthetic substances generally, was published in our transactions in the following year by Nunneley of Leeds. That was in 1848, and in the same year, at Bath, chloroform was for the first time publicly mentioned before this Association. In a review of the history of surgery in the reigns of Elizabeth and Victoria, there is no brighter page than that which records the discovery of anæsthetics, and not one in which the contrast is more strikingly in favour of the practice of our day. Anæsthesia in midwifery met with more opposition than in surgery, and there must be many here who know well how much was done by the personal example of our own Queen towards allaying groundless fears and disarming irrational prejudice. National vanity may be more flattered by some public deeds of Royal devotion; but I cannot call to mind a stronger proof of moral courage, of wiser consideration for the interests of her subjects, nor any act which, in the personal relations of the Queen to her people, demands more respectful recognition from the profession, or has a stronger claim on national gratitude.

In 1854 the Association met for the second time at Manchester—its twenty-second anniversary meeting. Instead of 7000 members as now, there were but little more than 2000. Instead of the large attendance so hospitably welcomed this week, only 202 members attended.

The Surgical Address in 1856 at Birmingham, by Langston Parker, should be remembered as a judicial summary of what was known of the treatment of cancer by caustics.

In 1857, at Nottingham, your Manchester Southam read the Address on Surgery, limiting himself to the subject of cancer and its treatment. Many of you knew Southam better than I did, but sitting with him in the Council of the College of Surgeons, and joining in the friendly gatherings which follow some of those meetings, I learnt to appreciate his sterling straightforward honesty, his kind genial character, and his ardent love for our profession and its work. And I can fully endorse all that was said of him by Sir James Paget in his obituary notice of the deceased Fellows of the Medico-Chirurgical Society, and acknowledge with extreme interest all that Sir James said as to Southam's services in the early days of ovariotomy in England.

Passing on to the Edinburgh meeting in 1858, it was then that we heard for the first time of local anæsthesia. Here also the subcutaneous injection of narcotics was brought under notice by Alexander Wood, who stated that even then the practice, although but lately introduced, was becoming general in Edinburgh. And recent improvements in the treatment of vesico-vaginal fistula were described to the Association by Mr. Baker Brown. Sims's speculum and wire sutures were then unfamiliar: though they are now acknowledged to rank among the chief of the improvements for which we are indebted to our American brethren. Baker Brown was one of the first to adopt, and afterwards to modify, the proceedings of Sims. Brown had previously done good service by demonstrating the mode of curing old ruptures of the perineum, and his example undoubtedly assisted in the improvement of this department of surgery. As an operator he was almost perfect, and he was one of the earliest London surgeons to practise ovariotomy. Many years afterwards he extended the use of the cautery-clamp (employed by Clay, of Birmingham, to divide adhesions and stop bleeding from omental vessels) as a mode of separating and securing the pedicle. May I be excused if I venture to remind you that in 1861, at the Canterbury meeting, I brought before the Association a paper on the treatment of ovarian cysts which others have said had some influence in directing professional attention to an improved method of performing ovariotomy, and to the selection of cases for the operation, and other modes of treatment?

The first meeting of the Association in London—1862, its thirtieth anniversary—was rendered memorable by the Surgical Address of Paget. He spoke of the management of patients after surgical operations, and urged upon us all the study of the large group of diseases classed under the name of pyæmia, their origin, multiform nature, and mode of prevention. Read the lecture; it is a surgical classic, an eloquent but despairing cry from a great surgeon who feels the "deep regrets, the bitter disappointments from which we might be saved if there were less risk" after many of the operations done to save life, and who shudders at the "tolerated barbarisms of practice," only justified by the belief that the risk of "a cutting operation is so great that there is nothing too bad to be substituted for it," and who can find but one thing that he can call remedial for the whole disease pyæmia, and that is, a profuse supply of fresh air—"wind blowing all about the rooms." In his concluding remarks the orator impressed us all by his appeal to lessen the number of preventable deaths after great operations, insisting that the mortality "will be reduced if the members of this Association will decide that it shall be, and will act vigorously on their decision."

Deeply sympathising with this desire to remove all possible sources of excessive mortality after surgical operations, I brought the subject again before the Association at the Cambridge meeting in 1864. Feeling that something more than an abundant supply of fresh air was wanted, and knowing that with the air might enter unsuspected sources of danger to the patient through his wound, I directed attention to the researches of Pasteur upon the presence of infectious germs or organisms in the atmosphere, and to the demonstrations of Charcot and others of the impure particles in hospital wards, and showed how the development of low forms of animal and vegetable life was checked by the use of sulphur and the sulphites, as taught by Polli.

The Leamington meeting, in 1865, was distinguished by the Address of Syme, in which he reviews the progress of surgery during the previous forty years, alluding, among many other matters of interest, to the *new position* which the operations of Thomas Keith, and my own, had given to an operation previously regarded as remarkable for uncertainty of prognosis, difficulty of diagnosis, and danger of execution. Coming from such a man at that time, and on such an occasion, this judgment must have had considerable weight on professional opinion; and more than one writer has expressed his belief that by actually performing the operation on two patients in the following year, before the assembled Association at Chester, showing that it could be done and how it was done to a large number of practical surgeons, another step was gained in securing a more general admission of ovariotomy among the legitimate proceedings of surgery.

By this time the numbers of the members of the Association had greatly increased, the meetings were more numerously attended, and that at Dublin, in 1867, was reported as the largest known by several hundreds. There, as at Oxford in 1868, distinguished foreigners arrived among the visitors, surgical papers became more abundant, and the application of general science to surgery is more noticeable. Electricity, optics, acoustics, chemistry, had all contributed to the perfection of instruments facilitating more exact diagnosis. The ophthalmoscope, the otoscope, the laryngoscope, and the endoscope, all appear as familiar aids for exploration. The thermometer was in almost universal use, the sphygmograph still confined to the select few; the splanchnoscope or diaphanoscope then, as now, a curiosity. Microscopic parasites, animal and vegetable, were recognised in greater number, and were divided into orders, genera, and species. The infectious influence of hospital atmosphere was being more feared and more carefully guarded against; drainage was coming more into practice in the treatment of wounds, and as a preventive of local inflammation

and general fever after surgical operations. At the Leeds meeting, in 1869, the antiseptic treatment was brought before the Association by Nunneley, who ridiculed it as a professional error, and said that he believed "if stumps heal under such treatment they do so in spite of it." Remember, this was only eight years ago! Two years later, at Plymouth, in 1871, the Surgical Address was given by Lister mainly on this one subject, and exclusively as the result of his own observation and experience, but with the effect of giving an immediate stimulus to the spread of the antiseptic system at home and abroad.

The meetings in 1872 at Birmingham, and in 1873 in London, with the attendance largely increased, the work methodically arranged in sections, the papers more varied, the discussions more animated, the presence of the Prime Minister at the dinner, the more complete amalgamation of the metropolitan and the provincial members, had both their share in assisting in the advancement of the social position of the profession and the progress of surgery. At Norwich, in 1874, Mr. Cadge noted as recent improvements Esmarch's bloodless operations and the use of Dittel's elastic ligature. The germ theory of putrefaction and antiseptic surgery he looked at as subjects still waiting for solution.

At Edinburgh, in 1875, Lister's demonstrations and Spence's criticisms fairly brought all sides of the question under intelligent observation. Lister showed before large bodies of skilled and discriminating witnesses exactly what he did and how he did it, and with what results; while Spence, before the same assemblies, sharply criticised the work of his colleagues, and contended that as much could be done under similar conditions without antiseptic precautions. It is impossible to conceive a more satisfactory mode of completely discussing the principles of a new system of treatment than such a public trial before able and impartial judges, with the advocacy of an earnest, enthusiastic, scientific investigator and worker on the one hand, and on the other with the opposition of a cool and sceptical rival minutely criticising the accuracy of every assertion and the logical value of each inference. And here, in passing, let me beg you not to forget one chief, if not the chief, advantage of these meetings. The most animated controversy may be carried on in the warmest manner, the most opposite opinions may be entertained and supported, the keenest rivalry for the honours awaiting him who first seizes upon a new truth may be exercised in the arena of discussion without the slightest personal animosity, but rather with an increase of the feeling of good-fellowship and mutual respect brought about at the social gatherings, where men are either thrown together for the first time or ripen old acquaintance.

It is impossible to review

The Surgery of the Present Day

without observing the result upon it of the work of Simpson, Syme, and Fergusson, whose deaths followed each other in such rapid succession.

The association of Simpson's name with chloroform and the lessening of hospital mortality, with the attempt to "stamp out" infectious disease, with acupressure, with the uterine sound, and generally with the recently improved diagnosis and treatment of the diseases of women, need only be mentioned to be felt and acknowledged.

Syme's influence was rather that of a great teacher of clinical surgery, sending forth every year a large addition to the number of our profession, well grounded in the well-established principles of practice.

Fergusson, in the words of Paget, "the greatest master of the art, the greatest practical surgeon of our time," was the founder of the school which he, twenty-five years ago, first characterised by the happy term of Conservative Surgery—a term since become so familiar and so suggestive to the operating surgeon of care not to sacrifice limbs or parts which can possibly be saved, and never to risk life unnecessarily, that it has gradually developed a race of modern surgeons who, not content with performing operations in the best possible manner, pride themselves far more on the number of lives and limbs that they have preserved. Fergusson said, "No one can more thoroughly appreciate a well-performed amputation than I do, but I certainly appreciate more highly the operation which sets aside the necessity for that mutilation." Teaching all this as he did by example and precept for many years to large classes of young men, and to their seniors by his published writings and by lectures at the College of Surgeons, he has in a marked degree modified the character of the surgery of our age. The improvements which he introduced in lithotrity and in the cure of cleft-palate may be almost considered as typical of the school of modern conservative surgery, and will long be acknowledged as triumphs of British Surgery in the reign of Victoria. Of the man himself, so lately presiding at our meetings, so kind and friendly, the skilful surgeon, the beloved teacher, the wise and prudent counsellor, so lately lost to us almost everyone here still retains a vivid recollection; and his death is mourned as a loss to the Association which he adorned, and by a large number of our members as that of a dear friend.

And here, before quitting the progress of surgery in connexion with the growth of the Association, let me ask if anyone can doubt that the art and science of surgery have not advanced as much since the Elizabethan age as any other art or any other science, great as those advances may have been.

And in considering how that advance, as recent as it has been rapid, may be carried further on, let me first draw your attention for a moment to the subject of

Anæsthesia and Anæsthetics.

In 1872 I made known my opinion that all the advantages of complete anæsthesia, with fewer drawbacks, could be obtained by the use of bichloride of methyline or chloromethyl than by any other known anæsthetic. That was the result of an experience of five years, and of 350 serious operations. The experience of the five succeeding years, up to the present time, with more than 600 additional cases of ovariotomy, and many other cases of surgical operations, has fully confirmed me in this belief. Given properly diluted with air, the vapour of chloromethyl has, in my experience of ten years, with more than 1000 operations, of a nature unusually severe as tests of an anæsthetic, proved to be without a single exception applicable to every patient, perfectly certain to produce complete anæsthesia, relieving the surgeon from all alarm or even anxiety; and its use has never been followed by any dangerous symptom which could be fairly attributed to it. I wish I could speak as confidently of the chemical composition of the fluid sold as bichloride of methyline as I can of its anæsthetic properties. But whatever may be its chemical composition—whether it is or is not chloroform mixed with some spirit or ether, or whether it really is bichloride of methyline,—I am still content with the effects of the liquid sold under that name, when properly administered. The only deaths ever attributed to it were, I believe, rather due to asphyxia. No air was given with the methyline. By Junker's apparatus, air charged with methyline vapour is given—not the vapour itself,—and, so employed, it has always been, in my experience, both efficient and safe. I am sorry that some of the analytical chemists whom I have asked to clear up the question of its composition have not done so. It ought to be done, it can be done, and it must be done.

The Committee appointed in Edinburgh two years ago, reappointed last year in Sheffield, but which has never met until this morning, might very well undertake this task. Perhaps, as the Committee is a very large one, and is made up of members from Aberdeen, from Edinburgh, from Dublin, as well as from London, it is almost impossible for them to do what is required in the words of the resolution, namely, "to inquire into and report upon the use in surgery of various anæsthetic agents and mixtures of such agents, and to collect and summarise the evidence of British practitioners in surgery and medicine as to the relative advantages of chloroform, ether, nitrous oxide gas, and other agents, and to carry on suitable experimental investigations." It would appear to me far better to expend any sum devoted to this purpose by the Scientific Grants Committee—and this sum ought to be a sufficient one,—so as to encourage one really competent investigator to do the work thoroughly well, bearing the full responsibility, and taking the credit which is due to work well done. The valuable reports on the life-history of contagium, on the electric currents of the brain, and on the biliary secretion of the dog—which have already appeared in the *Journal*, and others of equal importance waiting for publication—are quite sufficient encouragement for us to extend the practice of entrusting original investigations to individuals, who should be as liberally remunerated as the funds of the Association will permit, rather than trusting to the uncertain or impossible conjoint action of honorary committees. Perhaps we are hardly aware how much the public expect from us in this matter. Deaths from chloroform are alarmingly frequent, yet no substitute for it has found universal or even general acceptance in this country; and I am not speaking too

strongly if I say it is the duty of the Association at once, without any unnecessary delay, to satisfy the public that all that is possible is being done to discover the means by which anæsthesia, effectual now, may be rendered safe for the future.

It is more than twenty years since I brought Wutzer's operation for the

Radical Cure of Reducible Hernia

to the notice of English surgeons. Wutzer's practice, afterwards modified by Rothmund, and the much more important change introduced and so successfully practised by Mr. Wood, of drawing firmly together the hernial apertures, so as to establish again the valve-like action of the inguinal canal, have hardly had the effect of generalising any of these procedures. For reducible hernia a truss, for strangulated hernia operation, are still the rule. I believe the time is coming when most cases of reducible hernia, at any rate those not completely secured by a truss, will be radically cured by the surgeons, if not of this generation, certainly of the next. In many cases of inguinal hernia in young persons, Wood's operation under antiseptics will become more general. But we have reason to hope that we may obliterate the hernial sac, close its abdominal orifice, and strengthen the abdominal wall by the use of insulated needles connected with the positive pole of the galvanic battery, causing shrinking and occlusion of the sac, while the alternate use externally of galvanisation and faradisation may assist in restoring tone to the weakened muscles. This is by no means the least of the many applications which may probably be made hereafter of

Electricity as a Therapeutic Agent

in surgical treatment.

In 1848 I directed attention to the use of a weak continuous electric current in the treatment of ulcers. Dr. Golding Bird presented the results of my experience to the readers of his well-known work. Although the results were striking, Mr. Nunn is almost the only surgeon who seems to have made much use of the information. But recently a son of Dr. Golding Bird has published some very important additions to our knowledge of this subject, and has most advantageously treated scrofulous lymphatic glands by a painless electrolytic caustic. When chloride of zinc is employed as an arrow or paste, or in any other way, the pain is very severe. But if formed electrically in the tissues of the living body, it acts in the nascent state as a caustic or destructive agent almost without pain. The albuminate of soda formed at the silver or electro-negative plate is probably inert, but the electric current certainly exerts some stimulating action, affects the capillary circulation, and so modifies reparative force as to quicken cicatrisation. In the electrolytic dispersion of tumours, caustic or destructive action at the positive pole, and the influence of the negative pole upon the vaso-motor nerves of the part, are both brought to bear. The more rapid action of the galvanic cautery upon nævus, or as a substitute for the knife, is already sufficiently appreciated; but the slower electrolytic action upon bronchocele, upon fibroid tumours, upon cancer in any of its forms, has yet to be worked out, and I hope that some of you who are now present will not fail to take advantage of so fair an opportunity of doing good and distinguishing yourselves.

You start under immense advantages. When I began to practise surgery, the only test of normal or fever heat was the sensation conveyed to the surgeon's hand. It is hardly more than twenty years since the coincidence of a rigor and high temperature was first satisfactorily proved. Now the most delicate self-registering thermometers are not only carried by every careful surgeon, but every well-trained nurse is taught to make and record as many daily observations as the nature of the case may require. The various forms of surgical fever, pyæmia, septicæmia, erysipelas, are in consequence far better known and more perfectly guarded against, while the ground is cleared for the study of their more successful treatment.

So with the pulse: everyone could count it, anyone could soon learn to distinguish a strong from a feeble pulse, a hard from a soft pulse, a pulse easily compressed from one that was incompressible, a regular from an intermitting beat; but to obtain a trustworthy and exact measure of arterial tension and the influence of treatment upon it, we must have the tracings of the sphygmograph. We are learning from its use after operations that the sthenic pulse with high arterial tension is an important guide for treatment, while the dicrotic pulse of low tension will warn us that septicæmia threatens, if it has not already attacked, the patient. As an aid in detecting the effects of alcoholism, the earlier stages of the disease recently described as capillary fibrosis, and of kidney disease, the sphygmograph may prove of great service to the surgeon who is considering the fitness of a patient for operation. Dr. Mahomed's valuable observations on the exact localisation of an aneurism about the arch of the aorta, and the question of operation for its cure by distal ligature of one or more of the large vessels, are certain to lead to more accurate diagnosis and successful treatment.

In 1853 I introduced the ophthalmoscope of Coccius to the profession in England. One distinguished ophthalmologist still living ridiculed it in print as a toy. Another, also happily among us, wrote that in cases of blindness it must be useless; and in all other cases where the retina was sensitive it was too dangerous ever to be employed. This was only twenty-four years ago, and I ask you what would be thought of an ophthalmic surgeon now who attempted to practise without an ophthalmoscope? I need not weary you by more than the barest allusion to what has been done by the aid of the laryngoscope and the otoscope, or what may be expected from the endoscope or the diaphanoscope, when the instruments are perfected and their use has become general.

Till quite lately the tourniquet or compression of the main artery was relied upon as the chief means of checking the loss of blood in amputations and other operations. Esmarch's system of

Bloodless Surgery

not only prevents the loss of blood much more completely, but, as the parts operated upon are not bathed in blood, the surgeon can better recognise the nature and extent of disease, and perform many operations more easily with a smaller number of assistants, while the process appears to exercise a favourable influence upon the healing of the wound. The elastic constrictor will take an important place in the armamentarium of the surgery of the future, and no doubt many of the inconveniences ascribed to its use will be avoided when it comes to be more generally practised. So also with transfusion of blood. Dr. Roussel's apparatus for the transfusion of pure blood, and the subject generally, are to be specially discussed at this meeting. I need only, therefore, express my hope that everyone who practises surgery hereafter will make himself competent to transfuse safely, not only when a patient is bleeding to death after childbirth, or some accident or operation, but in other cases where the blood is insufficient in quantity or deteriorated in its composition.

A certain section of the community, well-meaning it may be, but led astray by thoughtless enthusiasts or self-interested itinerant lecturers, vehemently asserts that if we are to perfect ourselves in these or in other modes of saving human life, or lessening human suffering, we must only do so by practice upon the human subject; we must not, as a surgeon or a physiologist, take the life of a dog or a cat, a rabbit or a sheep, a pigeon or a frog, for any scientific purpose, or with the object of benefiting the human race. Anybody may slaughter oxen and sheep by thousands for human food, in any way he pleases; oysters may be eaten alive; the pheasant or the partridge, the fox or the deer, may be expressly reared to supply the sportsman with exercise or the amusement of killing,—in a word, the lower animals may be devoted to the use of man for any purpose that is not scientific. But if a surgeon experimentally sacrifices half a dozen dogs or rabbits in the hope of improving some operation which may prevent the loss of human life or lessen human suffering, he is branded as inhuman, and barely escapes the supervision of the police. Possibly some of these benevolent individuals will voluntarily offer up themselves to our Committee on Transfusion, in the hope of perfecting the practice. Until they do so, they will perhaps be a little less clamorous if a few sheep or rabbits are used in the cause of humanity. With regard to splenotomy, pancreotomy, and nephrotomy, accident has proved that the spleen, or the pancreas, or a kidney, may be lost without great injury to the human being. Surgeons have removed a wounded pancreas and enlarged spleens, and a diseased kidney has been extirpated on two occasions at least; but the operative proceedings are still imperfect. Are surgeons to be allowed to excise the spleen or a kidney of a dog or a rat, or will zealous members of some Anti-Vivisection Society enroll themselves as candidates for that immortality which is gained by anyone who immolates himself upon the altar of science?

What is to be the future of nerve-stretching in neuralgia, or of skin-grafting as an aid in cicatrisation or the replacing of lost tissue, it will be for you to say when sufficient observations

have been gathered together. And I pass on to speak of some undoubted triumphs of British surgery in our own time. The cure of vaginal fistula was scarcely ever attempted thirty years ago, and the operation was seldom successful when attempted long after that time. It now, even in very unpromising cases, almost certainly ends well in the hands of many operators in many countries.

It would be false modesty if I were not to say boldly before this Association that I am proud of the share which British surgeons have had, and of the share which I myself have had, in placing

OVARIOTOMY

upon the roll of successful surgical operations. Great leaders among us—Simpson and Syme, Stromeyer and Billroth, Velpeau and Nélaton—have shown a generous appreciation of our work. And can you imagine a greater pleasure to a surgeon than to hear the President of the Medical and Chirurgical Society speak last year of his improvements in the operation of ovariotomy as "one of the greatest achievements of surgery in this century, and that the influence for good extended through every department of operative surgery?" while at the same Society in 1850 Lawrence had asked whether this operation "can be encouraged and continued without danger to the character of the profession."

Less than a quarter of a century after this denunciation, Lord Selborne, one of the most distinguished of our Chancellors, publicly stated the result of a calculation, that by my first 500 operations I had added something like 10,000 years to the lives of European women.

What number of operations has been done by other surgeons I know not, but supposing that the same probability of the duration of life applies to the women who have recovered from operations I have done since the results of my first 500 cases were published in 1872, the gain would be about 18,000 years,—and this by one surgeon alone, and by an operation which only thirty years ago was denounced as so "fearful in its nature, often so immediately fatal in its results," that, whenever performed, "a fundamental principle of medical morality is outraged."

I should not venture to say all this if it were not by way of encouragement to everyone who hears me to do the work which comes before him, whatever it may be. Nothing could be more unlikely than that I, up till 1855 a naval surgeon, serving in 1855 and 1856 with the army in the Crimea, never having till that time treated a single case of ovarian disease, removing an ovarian tumour for the first time in 1858, and waiting three years before I had done ten cases, should now be able to say that I have completed the operation on 870 women.

And, what is still more gratifying, that I should be able, among the performances of the many surgeons who have been running the race with me, striving with generous rivalry to obtain the reward of those who do good in their day and generation, to refer to the brilliant results obtained by my dear friend Thomas Keith, who, out of 241 operations, has saved 206 lives—a success hitherto unequalled in the history of any capital operation. How ovariotomy, since it has become so generally accepted here, has spread in America, in France, and Germany—indeed, all over the world,—I have tried to tell elsewhere, and I will not weary you by telling the story again; but I cannot pass from this part of my subject without expressing my confident assurance that what the surgery of the present age has done for the treatment of ovarian tumours, the surgery of the future will do for that of uterine tumours. Already large fibroid and fibro-cystic tumours of the uterus have been removed in America by Atlee, Kimball, and others; in this country by Clay, Keith, Bryant, Thornton, Routh, and myself; in France by Kœberlé and Péan—quite in sufficient number, and with results sufficiently satisfactory, to prove that we only require a better knowledge of the details of the operative procedure, and greater experience in meeting the various difficulties which may arise, to place the removal of uterine tumours by gastrotomy amongst the most hopeful of the many lines of thought and action open to the operating surgeon of the future.

But I think those who study and are to become the

CONSERVATIVE SURGEONS OF THE FUTURE

must not be content with saving limbs only. It is life that must be saved. And the great lesson taught by the success of ovariotomy and of operations for the removal of uterine tumours is, that they must not be done except under the most favourable possible conditions, whether in private houses or in hospitals. We are only just beginning to reap the benefit of the results of the labours of the Health of Towns Commission, and of the work done by medical officers of health all over the country; and a great deal more must be effected before we can insure even to the most wealthy of our patients a plentiful supply of pure water, a room well warmed, well aired, and free from the presence of sewer gases, and security from the entrance of infectious disease.

In hospitals the problem is still more difficult, whether the hospital be large or small, old or new. But we do know that overcrowding of any building is of more importance than its size. A large crowded hospital must be a more dangerous place for operations than a small one equally crowded; but a large hospital, where each patient has plenty of space and fresh air, would certainly be a safer place for an operation than a crowded hospital, even though much smaller. In the hospitals of the future, whatever their size may be, the patients must not be allowed to poison each other. And for my own part I would rather operate in a clean, quiet, well-warmed, and well-ventilated building, be it large or small, without any antiseptic precautions, than run the risk of trusting to the neutralising or destructive power of chlorine or iodine, sulphur or tar, borax or the permanganates, salicylic or any other acid, in a place tainted by the presence of sewer gas or the seeds of some infectious or contagious disease.

I should have said more on this important subject of antiseptic surgery if the bearing of the germ theory on infectious disease had not been so ably and exhaustively treated by Dr. Roberts in the Address on Medicine, and if in the Surgical Section a special discussion had not been arranged. But as both these things have been planned as distinct parts of the meeting, I leave what would otherwise have occupied nearly the whole of this Address, to ask you for a moment to consider what must be the

EDUCATION

of the men who are to advance the science and practise the art of surgery in the future; how some of the best of the men of the coming generation are to be induced to adopt this career.

I need not speak to such an assembly as this in Manchester, where all the essentials of a chartered university already exist, of the importance, or rather of the absolute necessity, that the surgeons of the future must be educated gentlemen; that we should so order our schemes of education, whether conjoint or not, as to bring into the profession, as far as possible, young men who have had the advantage of the highest general culture to be obtained by an English education. Until this is secured, the flower of our university youth will still choose the Church or the Bar, the Army or the Navy, or some branch of the Civil Service of the State, where they at once take an enviable social position as members of an honourable profession, and where a successful career may lead to a seat in the House of Lords, to the pensions and titles freely granted to the fortunate soldier or sailor, and, more sparingly, to the meritorious Civil Servant of the Crown.

It is rather surprising that without any of these inducements, and in spite of the taint of trade forced upon the profession by the powers of the Apothecaries' Company, and its continued alliance with our Colleges and Universities, we still have abundant evidence of a rapid rise of the profession in the social scale. Apart from examples at home familiar to us all, the marriage of the German surgeon, Esmarch, to a princess of his own country, is even a less striking indication of a change for the better in the social standing of our profession abroad, than the fact, much less generally known, that a royal prince by birth, Prince Charles Theodore of Bavaria, is a doctor of medicine, is known to be a clever operating ophthalmic surgeon, and has written a very able article, published in a late number of *Virchow's Archives*, on leucocytes in the substance of the brain in various diseases.

When German princes practise surgery, and a brother of an English earl, a Cabinet Minister, is met with as a practising physician, we may think less of the admission of members of our profession into royal and noble families, and look with more hope for recognition by the Government of services rendered by medicine and surgery to the nation. We shall not then have to notice anything so disheartening to a learned profession as the fact, that while for the affair of Magdala Lord Napier was honoured by a title and rewarded with a pension, the extended average duration of life of the whole population and its actual increase, due to sanitary and medical

science—far exceeding in importance the annexation of a province, or even of a kingdom,—has earned for Simon the barren right, shared by many less honourably known men, of putting the magic letters C.B. after his name, and William Farr still remains without any mark of national gratitude.

Why should a baronetcy be the highest titular distinction conferred upon members of our profession? Is Jenner or Paget less worthy of a life-peerage than any one of the eminent men who now sit on the bench of bishops, or any of the lawyers, soldiers, or sailors who have been rewarded by hereditary peerage? Can any member of the House of Lords do greater service to his country in that assembly than would such a wise and learned physician as Watson, who so very lately has proved himself capable of the highest efforts of statesmanship by his remarkable essay on the abolition of zymotic disease?

Since the health of the people is, or should be, one of the first objects of legislation and administration, the help of acknowledged masters of sanitary science is indispensable. That want now manifest in the recent ill-devised Acts of Parliament, and the imperfect machinery put in action for their execution, must force upon the nation the conviction that medical science ought to be properly represented in Parliament, and especially in the House of Lords. None of our leaders have time for electioneering or the turmoil of party struggles in the House of Commons; whereas many of them are well fitted for the more dignified position, and would be quite able to devote their time and energy to sanitary legislation in the Senate.

And what a task lies before the medical statesman! Never in the whole history of our profession have we had so much work to do, such problems to solve, so many human beings dependent for their health on our knowledge and our care. The Roman Empire in its greatest power sinks into insignificance in comparison with the dominions now under the sway of Queen Victoria, Empress of India. Two hundred millions of human beings in India, other millions in Africa, Australia, New Zealand, the islands of the Pacific, in Canada, and the West Indies, are affected for good or for evil by the action of the sanitary advisers of our Government. At home, until we can disband the great army of paupers, we must at least save them from preventable disease, and the multitudes of our neglected children must be taught some elementary facts necessary for the preservation of their health and the prolongation of life. The day cannot be far distant when this will be done by Parliament under medical guidance.

But until that day comes, it is for this great Association, for every member of it, to strive to secure for our countrymen and our dependants protection from the effects of incomplete and neglectful legislation. And there is ample encouragement to set to work at once, earnestly and with set purpose, acting in the spirit of the noble motto of the French Society of Surgery:—

"Verité dans la Science,
Moralité dans l'Art."

If, in the forty years since this Association was founded, the great progress which I have so hastily and imperfectly endeavoured to review has been made, what may we not augur for it in years to come? The Association had its early struggles, and has passed through them. It is now powerful and vigorous; its organisation is almost complete, its resources are yearly increasing, and its influence, through its annual meetings, its branch operations, and the wide circulation of its invaluable journal, is universally felt. The history of the past and the study of the present, alike help us to look forward with hope and trust to the future.

"Look not mournfully into the past. It comes not back again. Wisely improve the present. It is thine. Go forth to meet the shadowy future without fear, and with a manly heart."

Cyanide of Zinc in Facial Neuralgia.—Dr. Luton, of Rheims, states that he has obtained excellent results from the cyanide of zinc in rheumatic facial neuralgia simulating cerebral rheumatism. He relates two cases in which, with intense facial neuralgia, there was continued and ardent fever, cephalalgia, and tenderness on pressure at the points where the nerves emerged. The symptoms rapidly abated under the use of the following mixture:—Cyanide of zinc one-fifth of a part, distilled cherry-laurel water twenty-five parts, and tragacanth mucilage mixture 100 parts. A tablespoonful from hour to hour.—*Rév. Méd.*, July 16.

ORIGINAL COMMUNICATIONS.

A THERAPEUTIC PROPOSITION.

By ALEXANDER WALLACE, M.D., M.R.C.P.L.,
Physician to the Essex and Colchester Hospital.

1. Evidence in plenty exists to warrant the view that various diseases, such as diphtheritic and other sore-throats, erysipelas, the exanthemata, typhoid and probably typhus fever, etc., are the outcome of changes in the blood induced by a ζύμη, or fermentative organic element, introduced from without, so minute as in our present state of knowledge to defy isolation or demonstration; yet capable of an intensely rapid self-multiplication in the fluids of the body, at the expense probably of some portion (or pabulum) of the same, effecting thereby an alteration in the character and constitution of the blood: destroying life, sometimes with great rapidity, by its poisonous effect on the nervous centres; or less quickly by a rapid oxidation of tissue; or more slowly by local disorganisation.

2. It is possible that the varying virulence of an attack may depend (α) on the varying amount of suitable pabulum existing in individuals, and the sudden change of this from an innocent to a poisonous compound; or (β) on the elimination of the individual being at the time in a defective condition.

3. If it be conceded that rapid changes in the blood, dangerous to life, are thus effected, then our aim, therapeutically speaking, must be rapidly and without endangering life to neutralise the morbid elements, to restore the vital fluids to their normal state, and thus place our patient in the best possible condition to attain convalescence.

4. That it is possible to counteract dangerous morbific changes set up in the blood, is evidenced by the well-known fact, that if an individual receive the contagium of variola, and be at once vaccinated, the incubation of vaccinia—*i.e.*, the change taking place in the blood under the influence of that organic element—not only runs its course in a shorter time than those changes which are effected under the influence of the variolous element, but also so modifies the nature of the blood that the further changes effected in it by variola are of a modified and insignificant nature, and the result, as is well-known, is an aborted or modified attack of small-pox, not dangerous to life; or, as it might be put, the pabulum in the blood, which, if acted upon by small-pox, would result in a product highly morbific and poisonous to life, is under the impress of vaccinia changed into a comparatively innocuous product, and, being once changed, is not susceptible of further change by variola.

5. If a preservative change can be effected in the blood, so as to neutralise the force of one of the most formidable maladies that afflict mankind, not merely antecedent to, but even after its impress, we may fairly hope to find other influences modifying diseases of a like nature—nay, more, it is our duty to look for them.

6. Surgery, our sister science, reads us a lesson in this direction by her antiseptic treatment of wounds. She has demonstrated how the healing processes are promoted—(1) by the exclusion of poisonous germs floating in the atmosphere from contact with wounded surfaces; (2) by processes by which, if not excluded, these may be devitalised and rendered innocuous, through the interposition of certain fluids destructive of microzootic organisms between them and the cells of the wounded surfaces.

7. Could we apply to the internal fluids of the body the principles which the surgeon applies to the external surface—viz., the destruction or neutralisation of morbific germs by antiseptic remedies not injurious to life—we should obtain a vantage-ground to operate successfully against blood-diseases, as powerful as that which we already have in vaccination.

8. The exhibition of the hyposulphites of Polli is a move in this direction; and the saturation of the system with salicylic acid in cases of rheumatic fever, and with iodide of potassium in certain forms of syphilis, all point the same way.

9. But whereas the continued ingestion of such remedies by the stomach is apt to upset the digestion and interfere with the alimentation of the patient; and inasmuch as hypodermic injection, powerful and all-pervading though its effect be, is negatived in the case of remedies of an irritant nature likely to produce local ulceration and sloughing: some other mode must be sought for, whereby the blood may be rapidly

influenced, and the internal fluids saturated, so to speak, with an antiseptic remedy innocuous to life.

10. Now, we know that the whole volume of blood passes through the lungs in a brief period, is there exposed to the action of the air, and undergoes a great change—oxygen is absorbed, carbonic acid given off,—and that this change is necessary to life. We have, then, in the lungs a natural apparatus specially framed for the purpose of climinating from the blood a poisonous element, and introducing from without in its place a life-giving element.

11. Here, then, we have an organ of the body specially constructed, as it were, for the purpose—the very means by which volatile antiseptic remedies in a minute state of subdivision can be rapidly and effectually introduced into the blood in an amount easily controllable till saturation is effected, and their physiological effects be produced.

12. Of these volatile antiseptic remedies, iodine, creasote, carbolic acid, sulphurous acid, and chlorine, are the most familiar to us; but it is more than probable that when the attention of the profession has been drawn to the requirements indicated, other more suitable agents may be brought into notice by the chemistry of the age.

13. It was once the fashion to attribute to inhalants a very low place in therapeutic treatment, but when we reflect for a moment on the great benefits resulting from the inhalation of ether, chloroform, and nitrite of amyl, it is quite clear that inhalants must be raised to a very high rank in practical utility; and it is also most probable that as yet we have advanced but a very little way in the knowledge of the uses to which such remedies may be applied.

14. I propose, therefore, to the profession, to make a trial, in diseases which have the characters of blood-poisoning, of the exhibition of volatile antiseptic agents by means of inhalation; and I ask our chemists specially to call attention to those volatile agents which have an antiseptic value, that experiments may be made.

Believing as I do that the propositions I have put forward contain a germ of truth powerful for good to mankind, and not knowing that they have elsewhere been urged, I venture to offer them to my brethren, feeling sure that whatever good may be underlying, it will more speedily be brought to light by general professional examination, than were I alone to undertake to disentangle it.

Trinity House, Colchester.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

MIDDLESEX HOSPITAL.

CASE OF ASYNERGIA WITH ARTHROPATHY.

(Under the care of Dr. HENRY THOMPSON.)

[The following record is in the main an abridgment of the notes taken by Mr. E. A. Fardon.]

Emily W., aged fifty-three, the wife of a labourer, was admitted May 11, 1877. There is no history of any neurosis in the family. Two of her brothers died of phthisis. She herself enjoyed good general health until four years ago. She has been married twice, and has given birth to ten children, six of whom died of diseases incidental to childhood. Her climacteric period arrived two years ago, and to this date she refers the full development of her malady. For two years, however, prior to this time she had suffered from severe menorrhagia, accompanied by pain across the loins; the pain was confined to this region, and disappeared when menstruation ceased. Two months before the cessation of the menses, without any preceding pain, she noticed a numbness in both lower limbs. This feeling persisted, and grew upon her gradually. She then lost command over the movements of her legs, and began to walk in an awkward, ungainly fashion. On the occurrence of the menopause the unsteadiness in walking increased, and now arose a new assemblage of symptoms —derangements of vision and hearing, with pain and swelling in the lower extremities. All these symptoms seem to have made their appearance about the same time, and to have rapidly reached their present climax, but the patient is unable to assign exact dates, and can give no more than a general account of their sequence. They have all been more or less persistent during the last two years. The pains she describes as often occurring two or three times in twenty-four hours; they were always worse at night; they were either lancinating in character, shooting sometimes from the hips to the ankles, at others from the ankles to the hips, or they were constrictive, and then limited to the neighbourhood of the knees and ankles. The affections of the eye seem to have been purely nervous; her sight, she says, became "all dazzling." There is no history of strabismus, ptosis, or muscular paralysis in any form. In the ears she heard singing and roaring noises. A slight degree of deafness supervened. The increased difficulty in walking was well marked. At first it did not interfere much with the distance she could go; it was more in the manner of doing it that she broke down. At dusk she could hardly walk at all. Soon her movements became so disorderly that her husband often took her to task for her awkwardness, and even her friends complained of the noisy way in which she stamped about. Her excuse was, "she could not help it; she could not feel the ground." The swelling in the joints began first in the left knee. It was attended with a constrictive pain. The swelling and the pain lasted about two or three months, and then disappeared, their disappearance being immediately followed by a similar attack upon both ankles simultaneously. On this occasion the legs were swollen over a space of four or five inches above the ankles. The swelling in the ankle-joints subsided in the course of a month, when the disease reappeared in the left knee, where it has remained ever since. Even the ankle-joints never entirely cast off the lesion; they have been weak, loose, and at times painful. She has often distinctly heard crackling in all the afore-mentioned joints when she has put them in motion. The upper extremities have escaped scot-free in every sense save one; they are liable to occasional tremors.

State on Admission.—Patient is a fairly nourished woman, singularly intelligent and well-spoken for her condition in life. The left knee is swollen, but not tender; it is one inch in circumference larger than the right. There is a feeling of fluctuation on each side of the patella. The ligaments and parts around are relaxed—so much so that the joint admits of considerable deflexion laterally. The head of the tibia is enlarged, the margins of its condyles projecting beyond those of the femur, especially on the inner side, where also may be perceived what are apparently new outgrowths of bone springing from the natural bony prominences. On flexing and extending the joint, distinct roughness and grating may be felt, and with the aid of the stethoscope crackling may be heard. The right ankle-joint is slightly swollen, and presents the same grating and crackling on movement. The girth around the thigh and the calf is exactly equal in both limbs. The patient offers strong resistance to flexion and extension—stronger by far, however, in the right knee than in the left. There appears to be little or no difference between the two limbs in their degree of electro-contractility, which is exceedingly slight in both. Electro-sensibility is less impaired, but it differs on the two sides; it is more acute in the left limb than in the right. When she is told to shut her eyes, and the legs are crossed one over the other, she never gives a wrong answer respecting their relative position. There is no strabismus, no apparent over-action or inactivity in any of the muscles of the orbit, no oscillation of the eyeballs; the discs are well defined, and the vessels large; the pupils are contracted, and respond imperfectly to light. There is nothing abnormal in the behaviour of the arms, hands, and fingers, except that they show a marked tremor and unsteadiness whenever she assumes the standing posture. She can manage to maintain this posture fairly well when the feet are apart, but the moment she puts them together there is obvious instability, and if she closes the eyes she instantly loses her balance altogether. When she walks, her whole mind seems to be engrossed in the operation. She raises her feet abruptly, and brings them down with a stamp, staggering forward to the place she has fixed upon for the end of her journey. If she is tired with any unwonted exertion, this manner of walking becomes exaggerated; she can hardly feel the ground, and it seems to her as though she were walking upon springs. The pulse, the temperature, and the characters of the urine were normal, or nearly so, throughout the whole career of the case.

May 24.—To-day there is much tremor of the hands, and a shooting pain across the forehead and temples, with photophobia. She is liable to similar attacks. A decided but short systolic murmur may be heard at the heart's apex, where the first sound is briefly though roughly prefaced.

30th.—Pupils still contracted. Shooting pains in both legs.

She stands well with the feet asunder, or even in apposition, when her eyes are open, although she is not looking at her limbs, and although the sight of the limbs is shut off by the interposition of the medicine-card; but in the same attitudes she at once loses her equilibrium the moment her eyes are closed.

31st.—Suffered from flashes of pain in the night, and now suffers from headache and præcordial distress.

June 11.—Pupils inordinately contracted, almost to the size of a pin's head.

17th.—Severe frontal headache, relieved in two hours by twenty-five grains of guarana.

21st.—Great improvement in her power of walking, standing, and resisting flexion and extension. Left knee markedly diminished in bulk. She is perfectly and instantaneously conscious of degrees of temperature. On the application of a pair of compasses there was no constancy in her replies as to whether she was touched in one, two, or three points; nor did the distance they were apart appear to make much difference. In the evening she complained of tingling in the knees and legs, and of darting pains in the *right* knee, which, she said, kept her from sleeping.

22nd.—Went to sleep after chloral, but the right knee is still painful, though not apparently tender. It hurts her, however, when moved, and yields a distinct crepitus, which may be felt by the hand, or heard with the stethoscope.

July 6.—Electro-sensibility remains as before, more acute in the left leg than in the right. Sensibility to ordinary stimuli is peculiar. She invariably calls pinches "pricks," but is generally correct in other matters, such as rubbing, pricking, pressure, and the application of heat and cold. She never fails to name the seat of irritation.

From this date until the day of discharge nothing material occurred to break the monotony of the case. She only varied with the vicissitudes of the weather; damp and gloom were sure to call forth a visitation of pain, and clear sunshine was sure to dispel it. After many advances and backslidings, due to this cause, on the whole she gained ground, and took her departure July 31, greatly improved in all respects.

As for treatment, nitro-hydrochloric acid was given in the first instance, and at a later period iodide of potassium, in deference to Fournier, who holds that a large proportion of cases may be traced to syphilis. For the alleviation of pain, opium was freely exhibited, and belladonna liniment rubbed over the parts involved. Electrisation in all its ordinary modes and degrees of power was fairly tried and found wanting. Unfortunately, nothing would avail to excite muscular contraction save a faradic current too strong to be borne with impunity.

Remarks by Dr. Thompson.—The foregoing case, in spite of a few shortcomings and anomalies, offers a fair presentation of asynergia in its average form. The following points are noteworthy:—1. It is usual, and even convenient, to draw a line of distinction between the premonitory symptoms—or, more correctly speaking, the inaugural symptoms—and the proper phenomena of the declared disease. The order, however, is not invariable, and may be reversed. It has been reversed in our case. The malady *began* with incoördination and loss or perversion of sensibility, and the so-called prodromata ran last in the race. 2. The joint-disease (the arthropathy) is not in accord with the classical description of Charcot. In the first place, there was no general turgescence of the limb when the original attack was made upon the left knee-joint, although there seems to have been a circumscribed swelling of the tissues around when the ankle-joints were secondarily invaded. Again, Charcot makes no mention of bony protuberances; in fact, on his showing, the whole process is one of dwindling and decay. In our case overgrowth of bone stands conspicuously in the foreground. From the cases recorded in the *Medical Times and Gazette* for June 16, 1877, it appears that the bones are open to attack apart from the articulations. Arthropathy, then, after all, is only a species of osteopathy as a genus. The bone-change may occur anywhere in the osseous system, but by preference it assails the articular extremities, where the movements of bone are freest and the exposure to injury is greatest. 3. Much stress has been laid on the value of seeing the limbs as a guide and support to the asynergic in steadying the acts of locomotion and equilibration. The experiment recorded in the note to May 30 plainly shows that this cannot be all that is lost on closing the eyes. Dr. Bazire suggests in a general way the loss of the confidence inspired by light. Surely there must be something more particular in operation. The main disadvantage of darkness would seem to be the loss of the sight of surrounding objects, which, in their ever-changing relations to the percipient, help to maintain the movements and the equilibrium of all men alike, whether they be ataxic or eutaxic.

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SATURDAY, AUGUST 11, 1877.

THE PRESIDENTIAL ADDRESS TO THE BRITISH MEDICAL ASSOCIATION.

We have on more than one occasion remarked on the difficulty that the President of the British Medical Association must often feel in the selection of the subject of the Address with which it is his duty to open the Annual Meeting. He has to avoid—or, at any rate, it is desirable that he should avoid—trenching on the ground occupied by the orators in the various principal departments of Medicine; and no man will in these days be ambitious enough to attempt a review, or *résumé*, of the progress made in the whole field of the art and science of Medicine. The difficulty becomes greater each year as the growing strength and importance of the Association enables them to command more and more fully the services of the most eminent men in all the branches of the profession; and hence, as the President at the Sheffield meeting last year remarked, it has of late become almost the rule that the President shall, in his Address, "descant upon the merits of the town wherein the Association was actually assembled; should sing the praises of some of its notable citizens, past or present; or should describe in full detail its industries, its position, or its character"; and the President of that year gave a very instructive address on those lines. This year the President, Dr. Eason Wilkinson, might well have felt justified in taking the same line, for besides the addresses-in-chief,—in Medicine, Surgery, and Obstetric Medicine, and addresses that might be looked for from the Presidents of the six sections—viz., Medicine, Surgery, Obstetric Medicine, Public Medicine, Physiology, and Psychology—a special subject had been selected for discussion in every section, except that of Physiology; and in some of the sections more than one subject. Thus in the Medical

Section, Aortic Aneurism, and the Treatment of Pleuritic Effusion, had been chosen; in the Surgical Section, Excision of the Knee, the Treatment of Stricture of the Urethra, and Antiseptic Surgery; in the Section of Obstetric Medicine, Transfusion of Blood; Hospital Out-Patient Reform and the Contagious Diseases Act, in the Section of Public Health; and in the Psychological Section, the Best Method of Treating Habitual Drunkards. What subject, then, the ground being so well covered, was left for the President except the greatness and some of the medical specialities of Manchester? A subject large enough, truly, to satisfy any orator—its very largeness being, however, almost a fault; but Dr. Wilkinson found a more manageable topic in the question of hospital defects and their remedies, which, as is well known, has of late largely occupied the attention of medical and other authorities in that city.

The President prefaced his remarks on this topic by a few words as to the growth of the Association since they last met, twenty-three years ago, in Manchester; and then spoke briefly of the loss the Association and the profession had sustained by the deaths of Mr. Southam, Dr. Sibson, and Sir William Fergusson; and to the loss to medical education and to science experienced through the retirement of Sir Robert Christison from the chair of Materia Medica in the University of Edinburgh. And then entering on the special subject of his Address, he gave an interesting sketch of the rise and growth of the Infirmary—a history which might, in all probability, serve for that of the rise and growth of the hospitals and infirmaries in many of our prosperous and rapidly increasing cities. One of the first provincial hospitals in England, it was erected in 1753 on land situated on the south-west outskirts of the town, well remote from the noise and bustle of business, and with a clear unimpeded view of the country for a distance of eight or ten miles; but by the great extension of manufacturing interests, and the rapid growth of the population, the Infirmary now, instead of being in an admirably quiet and healthy situation on the outskirts, is in the very centre of the busy, noisy, smoky, crowded town. No special or scientific attention was bestowed on the drainage of either the Infirmary itself or the grounds in which it stood; and gradually, as the institution grew in importance and extent, and Manchester grew in population and wealth, the modest red-brick building was embellished, and made to look more worthy of the town: that is, the brick walls were encased in stone, a grand portico and four massive pillars were added to the centre of the building, "giving an almost palatial aspect outside, while, alas! darkening the wards, and preventing a proper circulation of air, so as to render the building decidedly unhealthy," and additional wings were, one after another, added, so as to gradually fill up the site, and further interfere with light and ventilation. The ground under and around the Infirmary also became by degrees saturated with sewage and other drainage; the stone encasement of the walls hindered the escape of the effluvia, which were therefore confined within the building; and "the central corridors, besides acting as shafts for the conveyance of poisonous particles from one extremity of the building to the other, necessitated the placing of beds along dead walls," and so further lessened the supply of air to the patients. Of course erysipelas and other diseases of blood-poisoning became rife in spite of skilled medical attendance and nursing, and of the full supply of everything necessary to the comfort of the patients. As an inevitable result a new hospital must be built, and a much larger one; one more suitable to the size of Manchester and to the growing importance of the Manchester School of Medicine. But in connexion with that there has arisen the question of a change of site for the Hospital. Dr. Wilkinson observed that, in providing hospital accommodation, "we have to consider the site, the value of the ground, the number of sick to be accommodated, the amount of space to be allowed to each bed, the amount of fresh air and light at our disposal, the possibility of conveying thither the sick and wounded, the convenience of the administrative body, and the accessibility for medical officers, students, and patients' friends"; and he adds that, as regards the site of the present Infirmary, he thinks it is generally agreed by the medical staff that it could not be more unfortunate; while "the convenience of the consulting staff and of the Medical School would be as well consulted in a purer atmosphere, and, if the recovery of the sick be the object aimed at, this would be greatly facilitated." As our readers are well aware, the question of removal of the Infirmary has lately been repeatedly discussed, and several new sites have been proposed and considered; but "conflicting interests," to quote again from the President's Address, "brought out such strong feelings that the hope of removal has for a time been checked, while means are being taken to patch up still further the building already patched to death." Dr. Wilkinson added some excellent remarks on hospital construction; alluded briefly to the question of "home hospitals"; and concluded his Address with a short sketch of the rise and progress of the Manchester School of Medicine, now the most important and best appointed Medical School in the provinces. The School needs a much larger and better hospital than the present Manchester Infirmary; and the Manchester of to-day needs a general hospital containing at least 500 beds. There can be no doubt about the thorough unhealthiness and general unfitness of the present hospital-buildings; they have been condemned as defective in construction and drainage, and inadequate in accommodation, by Mr. Netten Radcliffe, and Mr. Field, the sanitary engineer, and their verdict has received general acquiescence. There may, however, be differences of opinion about the advisability of a change of site, as that question has to be considered from many points of view; but such differences certainly ought not to be allowed to delay for any length of time the rebuilding of the Hospital. Everyone must hope that some means may be found shortly of reconciling "conflicting interests," and of removing all difficulties, so that no long time may be suffered to elapse before Manchester is provided with a new Hospital worthy in every way of a city of such wealth and size, and equal to all the needs and requirements of the Medical School.

THE ADDRESS IN MEDICINE.

All those who know Dr. William Roberts, of Manchester, who this year gave the Address in Medicine at the meeting of the British Medical Association, directly, or indirectly through his writings, will have looked to an Address of more than ordinary excellence and finish, as respects both matter and style; and certainly that expectation has not been disappointed. Dr. Roberts took for his subject one of the questions of the day, viz., "The Doctrine of Contagium Vivum, and its Applications to Medicine," and his Address is a lucid and forcible exposition and justification of his own beliefs and theories on his chosen topics. It is simply impossible in the time and space at our command to notice such an Address critically, and we do not mean to attempt to do so. We shall content ourselves with giving some idea of its character and scope, and commending it to the attention and study of our readers.

Dr. Roberts first directs attention to the resemblance between a contagious fever and the action of yeast in fermentation, or the action of bacteria in decomposition. A bottle of fresh saccharine urine is inoculated with a minute quantity of yeast, and kept in a moderately warm place; and "a fever in a bottle" results. After inoculation there is a period of incubation, then a period of disturbance accompanied by elevation of temperature; and to this succeeds a subsidence of the disturbance, and a return to the normal state. Again, if some boiled

hay-infusion is inoculated with the *Bacillus subtilis*, the same succession of events may be observed—a period of incubation, followed by a period of disturbance, succeeded by a period of subsidence, and, finally, restoration to the normal state. In each instance there is a great increase of the infective material, and, finally, immunity from further attack by the same contagium. Dr. Roberts, however, is careful to point out where the comparison with infective fever fails, and to guard himself against being supposed to suggest that the enhanced temperature in the fermenting urine is a real analogue of the preternatural heat of fever. He then observes that the yeast-plant and the *Bacillus subtilis* may be taken as representatives of a large class of organisms which in size and form are among the smallest and simplest of living things, but possess wonderful vital endowments. They are the essential ageuts in all fermentatious, decompositions, and putrefactions, and he proposes to group them together under the general designation of *saprophytes*—"a term intended to include under one heading all the organisms associated with the decomposition and decay of organic matter." The *Bacillus subtilis* is a very common bacterium, and all the organisms as yet found in association with infective inflammations and contagious fevers belong to the tribe of bacteria. Before that association can be properly studied, however, it is necessary to have a knowledge of the origin and attributes of bacteria; and this leads Dr. Roberts to the spontaneous generation controversy, and to the question whether these organisms are the actual agents of decomposition, or are merely associated with that process as secondary or accidental accompaniments. He himself holds most positively that bacteria, like other organisms, arise from pre-existent parent germs, and in no other way, and that they are the actual agents in all decomposition and putrefaction. He brings forward experiments and arguments by which he substantiates, he believes, in a positive manner, the proposition "that organic matter has no inherent power of generating bacteria, and no inherent power of passing into decomposition"; "that bacteria are the actual agents of decomposition"; and that "the organisms which appear as if spontaneously in decomposing fluids owe their origin exclusively to parent germs derived from the surrounding media." We do not doubt that to those who already hold, or are inclined to hold, that the doctrine of spontaneous generation is wrong, Dr. Roberts' argument and demonstrations will appear as conclusive as they are ingenious and clear in expression; but others, among whom we class ourselves as regards the second proposition, will be content to withhold assent till his experiments have been tried by other skilled workers in the same field of inquiry. Following Mr. Gladstone's example, they "keep their minds open." Dr. Roberts of course refers to, and lays stress on, the experiments of Cohn and others, showing the great difference in vitality between the growing organism and the seed or spore—the first is killed by a heat of 140° Fahr., whilst the spores are capable of germinating after being subjected to a heat of 300° Fahr. for ten minutes. "The only group of bacteria, so far as is known," he states, "which form spores, are the *Bacilli;* and Cohn remarks that in all the various cases in which he had observed organisms to arise in boiled liquids, they belonged in every instance to the *Bacilli*." In connexion with this part of his subject, Dr. Roberts adduces an argument that to us is new. Saprophytes are, he says, destitute of chlorophyll; and, like all such plants, they are unable to assimilate carbonic acid. They obtain their carbon exclusively from more complex compounds, which have been prepared for them by pre-existing living beings. Their special function in the order of nature is to destroy, not to create, organic matter; and they constitute the last, not the first, link in the biological chain. The chlorophyll body is the only known form of protoplasm which obtains all its nutriment from inorganic sources. The saprophyte, on the contrary, feeds on nutriment prepared for it by other beings. Consequently, he says, "if ever I should be privileged to witness an abiogenic birth, I should certainly not expect to see a saprophyte: I should rather expect to see a speck of protoplasm slowly formed, without definite shape or dimensions, and nourishing itself, like the chlorophyll body, on a purely mineral diet. The more one reflects on this subject, the more clearly does it appear that the spontaneous origin of saprophytes is logically impossible. Speaking as an evolutionist, I should rather iufer that saprophytes were a late development; probably a degradation from some algal forms which had found their profit in feeding on waste organic matter, and which gradually lost their chlorophyll through want of use, and with it their power of feeding on an exclusively mineral diet." Dr. Roberts then addresses himself to the more practical side of his subject, and to the proof that contagium, like a ferment, is something that is alive: and, further, that if the doctrine of a contagium vivum be true, we are almost forced to the conclusion that a contagium consists (at least in the immense majority of cases) of an independent organism or parasite; and he seeks to produce evidence that this doctrine is undoubtedly true in regard to three infectious diseases—viz., septicæmia, relapsing fever, and splenic fever.

He contends that septic bacteria arc the cause of septicæmia, that the spirilla are the cause of relapsing fever, and that the *Bacillus anthracis* is the cause of splenic fever; but we must refer our readers to the Address for the most skilful and interesting statement of the arguments and observations by which he supports his contention. They will not bear condensing, and we cannot here attempt to examine into or criticise them. We will, however, draw attention to the warning that he gives, that "in applying the doctrine of pathogenic organisms—or *pathophytes*, as they might be termed—to the explanation of the phenomena of infective diseases, we must be on our guard against hard-and-fast lines of interpretation." He says, "So far as our very limited knowledge now extends, the pathophytes hitherto discovered all belong to that group of the fungi which are called bacteria. Now, fungi have two marked characteristics—namely, the tendency to assume the parasitic habit, and the possession by some of them of a special ferment action. Both these characteristics may bear a part in the action of pathogenic organisms. In the complex phenomena of septicæmia such would appear to be the case—a poisonous ferment-product first intoxicates the system, and then the organisms themselves prey upon the dead or moribund tissues."

Dr. Roberts does not take much, if any, note of the arguments of those who have opposed this, which we may perhaps be allowed to call the bacterian, germ theory of the infective diseases. Thus, he does not allude, so far as we see, to Dr. Lionel Beale's statement in his Lumleian Lectures, which are to be found in our volume for 1876, regarding bacteria. Dr. Beale says—"The very last conclusion, it seems to me, that would be adopted by anyone who thoroughly thought over the matter would be, that these low organisms are the *causes* of the changes in the fluids by which their growth was favoured, much less that they were the cause of the diseases which had existed some time before they began to multiply. One might, I think, with as much show of reason, advocate the doctrine that bacteria were invariably the cause of death, since after every form of death they grow and multiply in the tissues and fluids of the body." And in another place he points out that the germs of bacteria are to be found in every tissue and fluid of the healthy body, ready to develope under favourable circumstances into countless numbers of bacteria. But this is perhaps met, indirectly, by Dr. Roberts' statement that septic bacteria cannot live and grow in healthy living tissues. "The healthy living tissues," he says, "are an unsuitable soil for them—they cannot grow there; or,

to put it in another way, ordinary septic bacteria are not parasitic on the living tissues." And, further, he remarks, "It seems also probable that septic organisms enter constantly into our bodies with the air we breathe and the food we take; they pass, presumably, like any other minute particles, through the open mouths of the lymphatics and lacteals, and penetrate some distance into these channels; they certainly come in contact with the accidental cuts, sores, and scratches which so often bedeck our skins. Notwithstanding all this, our bodies do not decompose; indeed, if ordinary septic organisms could breed in the living tissues as they do in the same tissues when dead, animal life would be impossible—every living creature would infallibly perish. How these organisms are disposed of when they do enter our bodies accidentally, as it were, in the various ways I have suggested, we cannot say; we can only suppose that they must speedily perish, for we find no traces of them in the healthy blood and healthy tissues." Are there, then, perfectly innocent bacteria, which cannot be distinguished from septic bacteria save by the mischief the latter cause? or must some unacknowledged state of ill-health or commencing disease prepare the body for the fever-producing septic bacteria? and what is the "cause" of such necessary initial condition?

Dr. Roberts concludes his most able address by saying, "I believe that the doctrine of a contagium vivum is established on a solid foundation; and that the principle it involves, if firmly grasped in capable hands, will prove a powerful instrument of future discoveries. And let no man doubt that such discoveries will lead to incalculable benefits to the human race. Our business is to do battle with disease, and we may rest assured that the more we know of our enemy, the more successfully we shall be able to combat him." The truth of the last clause of this sentence certainly no one will dispute or deny.

WATERING-PLACES AND SUMMER RESORTS.

We more than suspect that the vast majority of English would deem anyone a foolish alarmist who would advise them to consult the Registrar-General's return for the quarter ending in June before deciding to which inland or seaside health-resort they would go, or send their families, during the summer and autumn. Yet, as in England we can learn pretty accurately whether the mortality of any given place is below or above the average, and whether or not zymotic disease has prevailed there of late, it would surely be wise to avail ourselves to some extent of such information. The Registrar-General's quarterly return, just published, gives, as usual, the health-report, or, to speak with exactness, the death-rate, of forty-six English watering-places during the three months ending June last. The mortality returns of the registration districts and sub-districts comprising these holiday and health resorts are altogether very satisfactory. The estimated population of the whole forty-six watering-places, in the middle of 1877, somewhat exceeds one million, and the average annual rate of mortality of the whole during the months of April, May, and June was 18 per 1000. In the thirty-seven seaside districts the rate was 17·8, while in the nine inland places, which are on the whole the densest, it was 18·6—not a great difference; but the death-rate of both classes combined, viz., 18, was 3·5 below the death-rate, 21·5 per 1000, of the kingdom, and 4·7 below that of the town districts. The seaside towns are situated round England and Wales, from Whitby on the north-east coast, to Blackpool and Fleetwood on the north-west, and have a wide range of population, from Brighton, which has over 100,000, to Bognor and Lyme-Regis, each of which has but a few over 4000. The whole mortality was much below the average in some; thus in Margate it was only 13, in Ramsgate and Broadstairs 16, in Eastbourne and Seaford 13, in Worthing 16, in Lyme-Regis 11, and in Lowestoft 14; while in several it was above the average. It may be said, however, that it would be foolish to pay much regard to the whole mortality returns of these places, especially of the small ones, for any one quarter; but it would certainly be unwise not to pay attention to the mortality from the seven principal zymotic diseases during the last quarter; and in this much difference will be found. The annual rate of mortality per 1000 living from these diseases averaged 1·5 in the forty-six watering-places, and was higher in the inland than in the seaside towns. In Bath, with a total mortality of 21·7 per 1000, the zymotic mortality was 3·8; and in Harrogate, with a total mortality rate of 22·8, the death-rate from the zymotic diseases was 3·2. Clifton was, on the whole, the healthiest of the inland towns, its total mortality-rate being 14·3, and its zymotic death-rate 0·7. In Buxton and Malvern the zymotic mortality was slightly lower, but the general death-rate higher than that of Clifton. Among the seaside towns the zymotic death-rate was *nil* in Lyme-Regis, Beaumaris, and Dartmouth; less than 0·5 in Margate, Teignmouth, and Bangor; and below 1 in Yarmouth, Deal, Folkestone, Eastbourne, Worthing, Littlehampton, Ottery St. Mary, and Ilfracombe; while it equalled or exceeded 2 per 1000 in Whitby, Lowestoft, Dover, Weymouth, Penzance, Tenby, Llandudno, New Brighton, Blackpool, and Bognor; and in two last-named districts it reached 3·6 and 6·6 respectively. Of course it should not be forgotten that in places with a small population, a few deaths from zymotic disease greatly raise the mortality rate; and the prevalence of zymotic disease may ere this have quite ceased; and both sets of statistics should be looked at in choosing a place. Thus Bognor, with its high zymotic mortality, had a death-rate of 18·7, while Bangor, with a zymotic rate of only 0·3, had a death-rate of 21·8; and in some places both the rates were high, as Harrogate, the rates of which we have already given; Tenby, which had a death-rate of 20·5 and a zymotic rate of 3·2; Whitby, 23·7 and 2·0; and Llandudno, a death-rate of 26·5 and a zymotic rate of 2·1. A consideration of the two rates together may surely be allowed to have some weight in the choice of a place as a holiday resort; and it will be allowed that, as the Registrar-General observes, the returns show the general character of a district, and will, or should be, of some use to the public, and to medical men in advising their patients. Especially will families with young children do well to take the returns into account.

THE WEEK.

TOPICS OF THE DAY.

At the meeting of the Hospital Sunday Fund, which took place at the Mansion House last week, under the presidency of Sir Sydney Waterlow, a report was read, stating that the total amount now recommended to be distributed on account of the present year's collection was £24,960, to be divided as follows:—£22,747 to seventy-six hospitals, including four institutions which might be classed as hospitals; and £2223 to forty-three dispensaries. Nearly all the present awards were slightly below those of 1876, in consequence of an increasing number of applications to participate, and a slight decrease in the amount to be administered by the Council. It was proposed that any additional payment to the Fund after the present date be allowed to accumulate in aid of next year's Fund. The chairman alluded to some circumstances of a grave character affecting the management of, and the treatment of patients in, the Hospital for Diseases of the Throat, touching which an investigation had been instituted at the instance of the Prince of Wales, the Patron of the Hospital. The Distribution Committee had received a report upon this inquiry, but it was marked confidential, and accordingly could not be read to the meeting. The Committee, however, recommended that any award should be withheld from this Hospital for the

present, and he moved a resolution to that effect, which was unanimously carried. The proposed scheme of distribution was then put and carried, as were several votes of thanks to the Committee of Distribution, the Chairman, and others.

In the reports recently issued by the Inspectors of Factories is a letter from a certifying surgeon in Dublin, which exhibits a want of supervision in preventing the spread of disease, calling for prompt attention. The letter in question says:—"Many rooms and workshops are, to the great danger of the public, in a most unhealthy condition, without medical inspection or certifying. I have met with cases of itch, syphilis, and other contagious diseases among those employed in confectionery and biscuit making. In one of these works close on 200 hands are employed, without any medical inspection or certifying, as I am informed. I have pressed on employers the necessity of letting me know before taking on any hands who may have recently had infectious diseases, with a view to prevent their introduction into factories."

It is stated, apparently with good foundation, that the proposed vote on account of a College for Naval Cadets at Dartmouth will not be brought forward during the present session. Pending the decision of the Admiralty upon the question of establishing a naval college ashore at any of the southern ports, the *Britannia* will be retained as a training-ship; and meanwhile the contemplated purchase of the Mount Boone site at Dartmouth will lapse, although it was favourably reported upon by a committee, including the Director-General of the Naval Medical Department, as it cannot be completed within the period prescribed by the vendors.

It will be a matter of some interest to the public to ascertain who is responsible for the slippery and dangerous condition of the flights of stone steps leading from the Victoria Embankment to Waterloo-bridge. Last week Mr. Langham, the coroner, held an inquiry at Charing-cross Hospital touching the death of Mr. Henry James Potter, a gentleman connected with the London press, who died in that institution on the 28th ult., from fracture of the skull. Mr. Edwards, a witness, was called, who deposed that on the afternoon of the 28th ult., about one o'clock, he saw the deceased ascending the second flight of steps we have referred to. The steps were, as usual, in a most dangerous condition, and on Mr. Potter reaching the fifteenth he slipped, and slid down to the bottom. Witness assisted in removing him to Charing-cross Hospital, where he died in two hours without having recovered consciousness. The jury returned a verdict of "Accidental death," and expressed their opinion that the steps should be at once repaired by the Metropolitan Board of Works. If such work comes within their province, it is to be hoped this suggestion will be adopted without delay.

The scheme for drawing the water-supply for the town of Manchester from the Thirlmere Lake, which we recently noticed, was last week approved at a special meeting of the Town Council, and a resolution was unanimously passed authorising the promotion of a Bill for carrying out the object.

Mr. Hawkesley, C.E., who has been appointed to remodel the drainage of Windsor, reports that the new works are nearly completed. The cost of the undertaking is estimated at £42,500. A new brick sewer from the lowest part of the existing system has been constructed to the Ham at Old Windsor, adjoining the Windsor Castle Sewage Farm, crossing the navigable cut of the Thames at Old Windsor, the distance being about two miles. Tanks have been constructed at the Ham, where it is intended to treat the sewage by precipitation, the effluent water to be disposed of by filtration. At the meeting held last week, the Committee under whose direction the work has proceeded presented their final report, which stated that negotiations had been entered into with M. Hillé, and the Town Council decided to adopt his system for the treatment of the sewage, subject to the preparation of the necessary contracts. It was stated that M. Hillé's system was the cheapest to work which the Committee had investigated. It is expected that, in the course of a very short time, the further purification of the Thames will be effected by the entire diversion of the Windsor sewage. At a recent meeting of the Town Council it transpired that the costs of the prosecution of the Windsor Town Council by the Thames Conservators had amounted to £137.

The scheme for the establishment of home hospitals is now definitely before the public. The Duke of Northumberland has promised to subscribe £1000 to the Association if the whole of the £20,000 named in the prospectus is raised by January 1, 1879. About £4000 has up to the present time been promised, and contributions are requested to be sent to the Honorary Treasurer at the Mansion House.

Perhaps it is as well that some of the dwellers in the metropolis are happily ignorant of what lies beneath the houses they inhabit, but such oblivion has been denied to the dwellers in New Bunhill-fields, at the south side of Church-street, Upper-street, Islington. The owner of the property appealed last week against an order of the parish to demolish these buildings, and in support of the order a Mr. Jones was called, who said he had known the ground for forty-three years, and had been proprietor of it. It was closed as a burying-ground in 1853, but there had been thousands of burials there to his knowledge. On the particular spot where the houses were built there was room for ninety graves, and on an average they put nine coffins in each grave; there would, therefore, be about 600 or 700 bodies in that part of the ground. A great number of burials used to take place there from the Fever Hospital, and the particular spot on which these houses had been erected was not drained at all; the whole of the ground was made up of bones, rubbish, wood, and remains of bodies. Joseph Fursman gave corroborative evidence; he said that when some coffins were dragged out the men employed were up to their knees in black slush, and stimulants had to be given to them in consequence of the stench. Dr. Thomas Stevenson said he had examined the houses, and had come to the conclusion that if there was leakage through the concrete floorings they would be unfit for human habitations. Nothing but entire impermeability would render such houses fit for habitation. Most remarkable to state, however, the Assistant Judge held that this was not a case that came under the provisions of the Artisans' Dwellings' Improvement Act, and quashed the order with costs.

On Monday last the Local Government Board issued a circular bringing under the notice of all sanitary authorities the provisions of the Rivers' Pollution Prevention Act of 1876, and pointing out that after the 15th inst. the proceedings authorised by the Act in respect of offences arising from sewage, manufacturing, or mining pollutions, may be taken. The sanitary authorities are also reminded that they have the power to enforce the prohibition against putting solid matter into streams from the date of the passing of the Act.

During the first six months of 1877 the butchers in Paris who deal in horse-flesh have delivered for consumption 5283 horses, donkeys, and mules. During the corresponding period of 1876 the number of these animals slaughtered for food was 4422. The increase is therefore of a marked character. The persons who endeavour to popularise the use of horse-flesh affirm that it is more wholesome and more nourishing than beef, although not always so agreeable. Paris contains more than fifty butchers' shops specially devoted to the sale of this article. A very good *pot-au-feu*, it is stated, may be made with the inferior parts, at the insignificant price of 25c. and

30c. the pound. The choicest pieces—fillet, undercut, etc.—command a much higher price.

The office of Master in Lunacy, vacant by the death of Mr. Samuel Warren, Q.C., has been filled up by the appointment of Mr. W. Norris Nicholson, who has for the last sixteen years been the Lord Chancellor's legal Visitor of Lunatics, and Chairman of the Board of Visitors. Mr. Nicholson is to be succeeded by Mr. Edward Ross, Secretary of Commissioners.

CONVICTION FOR FORGING DEATH-CERTIFICATES.

At the Leeds Assizes, on the 30th ult., William M'Irvine, an unqualified practitioner, aged twenty-five, residing at Stockbridge, was found guilty of having wilfully made and forged a false certificate, contrary to the Births and Deaths Registration Act, relative to the death of a person at Stockbridge. The prisoner had at one time been acting, at Stockbridge, as the unqualified assistant of Dr. Mason, of Sheffield, and after leaving that gentleman's service had continued to practise on his own account. In the case above mentioned he had attended professionally, and had signed the death-certificate with the name of Dr. J. S. Roberts, of Sheffield, who had refused Mr. M'Irvine leave to act in any way for him or in his name. It appeared that the prisoner had systematically given such certificates when his patients died. The case is of special importance, the prosecution having been instituted by the Treasury, under the Act for the Registration of Births and Deaths. In sentencing the prisoner to one year's imprisonment with hard labour, the judge addressed him as follows:—"The offence is a most serious one. You have acted as though you were a properly qualified practitioner, in open violation of the law of which I am unable to believe you can be ignorant. Your crime is that of forging the name of another person in order to conceal the fact of your want of qualification. This is an offence which, perhaps, is hardly likely to be repeated, still it is necessary to pass upon you a sentence which will mark the character of the offence, and operate, as I hope, as a warning to others."

THE MEDICAL REGISTER AND NEW QUALIFICATIONS.

We understand that, at a meeting of the Irish Branch of the General Medical Council, held in July, the Registrar for the Branch submitted an application from Mr. Arthur Vernon Macan to have tho degree of Master of the Obstetric Art, conferred upon him by the University of Dublin, entered in the Medical Register as an additional qualification; and a letter was read from the Rev. S. Haughton, M.D., claiming on the part of the authorities of Trinity College to have the degree registered, and submitting a certified copy of the decree of the Senate of the University of Dublin, instituting the degree in question. The Council came to the resolution that it does not appear from the wording of the Medical Act that they have any power to interfere, in the first instance, with the registration of any licence or degree, "Section 26 vesting the power of dealing with any application for registration in the discretion of the Registrar of this Council; and that it is only as a case of appeal that the question can come before this Branch Council." The new degree has, we believe, been registered with the Branch Council for Ireland, and will, by transmission thence, come in due course before the Registrar of the General Council.

THE PUBLIC HEALTH (IRELAND) BILL, 1877.

We are happy to say that some most important amendments have been introduced into this measure by the Select Committee of the House of Commons—to which this Bill was referred some three weeks ago—in deference to the representations made by the Irish Medical Association and other public bodies in Ireland. These amendments we hope to specify in detail next week. Suffice it to state at present that Sir Michael Hicks Beach has conceded the necessity of the principle of supervision, the title of "medical officer of health," the amendment of the scale of salaries of the medical officers of health, and other equally important points. To Dr. Grimshaw, the deputed representative and chairman of Council of the Irish Medical Association, the credit belongs of having so well and successfully fought the battle of his professional brethren while the Select Committee were considering the Bill. We understand that Mr. Charles Meldon, M.P., also rendered valuable service in introducing several of the necessary amendments.

ARMY MEDICAL DEPARTMENT.

The following is a list of candidates who were successful at both the London and Netley examinations, having passed through a course of instruction at the Army Medical School, Netley. Tho first-named gentleman gained the Herbert Prize:—

	Marks.		Marks.
1. Mullen, J. J.	5718	9. Armstrong, J.	3970
2. Murphy, F. H. S.	5098	10. Kenny, W. W.	3895
3. Johnston, W. T.	4656	11. Ellis, P. M.	3772
4. De Caux, F.	4595	12. O'Sullivan, P. J.	3758
5. Browne, A. W.	4193	13. Hogan, E. M. A.	3671
6. Hodson, R. D.	4138	14. Irwin, A.	3310
7. Powell, C. K.	4075	15. Kearney, T.	3193
8. Kirkpatrick, H. C.	4038	16. McCarthy, W.	2831

17. Brodie, J. F. . . 2773 marks.

APOTHECARIES' HALL OF IRELAND.

At the annual meeting of the General Council of the Apothecaries' Hall of Ireland, convened, in pursuance of the statute of incorporation, on August 1, 1877, the following members were elected as the office-bearers for the ensuing year:—*Governor:* James Shaw, L.R.C.S.I. *Deputy-Governor:* Henry Palmer Nolan, M.D. *Court of Directors and Examiners:* Edward Howard Bolland, M.D., M.R.C.S.E.; Thomas Collins, M.R.C.S.E.; John Evans, Esq.; Arthur Harvey, Esq.; Charles Holmes, M.D.; Charles H. Leet, M.D., M.C.; Charles F. Moore, M.D., F.R.C.S.I.; Robert Montgomery, M.R.C.S.E.; Jerome O'Flaherty, L.R.C.S.I.; Edward J. O'Neil, M.D., L.R.C.S.I.; Sir George B. Owens, M.D.; John Ryan, M.D., M.R.C.S.E.; John Wyse, M.D. *Examiners in Arts:* John William Moore, M.D., University of Dublin; Edward W. Collins, M.D., Univ. of Dublin. *Representative on the General Medical Council:* Dr. Charles Henry Leet.

MEDICO-PSYCHOLOGICAL ASSOCIATION.

The annual meeting of the Medico-Psychological Association was held on Thursday, August 2, at the Royal College of Physicians, London, and was very numerously attended. Dr. Fielding Blandford, the President, in his address gave an interesting historical sketch of the progress of lunacy legislation during the last hundred years. Dr. Crichton Browne, Lord Chancellor's Visitor in Lunacy, was unanimously chosen President-elect of the Association. In the evening the members and their friends dined together at the "Ship," Greenwich.

HEALTH OF H.R.H. PRINCE ALBERT VICTOR.

The course of the fever in the case of H.R.H. Prince Albert Victor has been as anticipated in our last report. On Saturday last, the twenty-ninth day, the temperature fell to 98° Fahr., together with an abatement of all the symptoms. The convalescence is now satisfactorily established.

MEDICAL PARLIAMENTARY AFFAIRS.

In the House of Commons, on Friday, August 3, the Sale of Food and Drugs Act Amendment Bill was read a third time and passed to the Upper House.

The Committee sat on the Public Health Bill for Ireland and the Local Government Board's Bill for the Improvement of Artisans' and Labourers' Dwellings.

On Tuesday, August 7, the Canal Boats Bill was read a

second time in the House of Lords. The Duke of Richmond roughly estimated the amount of this floating population at from 30,000 to 80,000, whose condition generally was very deplorable. The education of the children was neglected, and the men and women were grossly ignorant. The families all lived and slept in small, ill-ventilated cabins a few feet square, so that infectious diseases spread with very great rapidity. The Royal Commission which had carefully inquired into the condition of this floating population had recommended the adoption of very stringent measures, but the Government did not think it desirable to go to the extent of their recommendations. The Bill which had been prepared would fairly meet the requirements of the case. The Earl of Shaftesbury expressed his thanks to the Government for pushing on this measure during the present session. No doubt they would ultimately carry out the whole of the recommendations of the Royal Commissioners.

THE BRITISH MEDICAL ASSOCIATION.

MANCHESTER.

On Tuesday, the 7th inst., the proceedings in connexion with the forty-fifth annual meeting of the British Medical Association, held this year in Manchester, began, as usual, with a special religious service. This was held in the Cathedral. In the course of it the Bishop delivered a sermon which has been universally praised, not only for its earnestness, but for its sound practical views, strongly and sensibly enforced. The Bishop of Manchester is not so renowned as some of his brother-preachers for eloquence, but he yields to none of them in that sound common sense which is perhaps even a more useful quality in this workaday world.

According to statutory arrangements, the meeting of the British Medical Association begins on the first Tuesday of August; but as this year the month began on a Wednesday, the meeting is a week later than it was last year. A good many men, on leaving off work, begin their holidays by attending this annual meeting, but from its being thus a week later than usual, some may possibly have left town before its commencement. Nevertheless, though the number of London men present may be fewer than we have seen, those who are here are highly representative, including many well-known names, as Sir William Jenner, Drs. Russell Reynolds, Andrew Clark, Priestley, Graily Hewitt, Barnes, Braxton Hicks, A. P. Stewart, Broadbent, Langdon Down, and many others. London surgeons seem to be less numerous; but among them we have seen Messrs. Spencer Wells, Cooper Forster, and W. Adams. Practitioners from other parts of the country we cannot enumerate; for the meeting bids fair to be one of the largest and most popular of recent years. It is curious to a regular attendant of these meetings to note how year by year the physiognomy of the frequenters of it varies. Each district brings out its own contingent of the profession, and though we invariably see some well-known faces, yet year by year there is a change in the great body of members attending. Certainly the profession in and around Manchester have spared no pains and no money to make the meeting a success, and in this they are greatly aided by the facilities offered by the possession of the Owens College, in which most of the meetings are held. This building, which is of quite a recent date, is situated at some distance from the heart of the town, and from the various railway-stations. To remedy the inconveniences arising from this fact, the authorities secured the large Concert Hall in the centre of the town, and converted it into a reception-room. Here, too, the first general meeting was held, and the President's Address delivered, and here tickets are issued and all necessary information given. Access from this central spot to Owens College is easy by 'bus or by cab, or, to those who prefer going on foot, by a twenty minutes' walk. The building now devoted to educational purposes under the name of Owens College stands within its own grounds where town is beginning to merge into country, and the houses are surrounded by greater breathing space than is possible in the centre of the city. The structure itself has, comparatively speaking, a mean and unimposing elevation, and the stranger is surprised on entering it to find how commodious in every respect it is. Corridors seem to run everywhere, but abundance of space is left for class-rooms and laboratories of every description. These are certainly the best we have seen, and contrast strongly with the miserable school accommodation with which we are familiar in London. Apparatus, too, is abundant; in short, the teaching appliances are of the best, and it is not for lack of these that Manchester can fail as a school of science or of medicine. The connexion of the Medical Faculty with Owens College only dates from 1874. Previous to that there was a School (indeed, at one time two) of Medicine in Manchester, but it was only at the period mentioned that medicine was combined with other teaching at Owens College. No doubt this amalgamation is a great and distinct gain to all concerned, but we are so accustomed to look upon a close and intimate alliance between the instruction given in the science of medicine and its practical application in the hospital, that we must look with regret on the distance which separates the Infirmary from the Medical School. This is a great drawback, and may lead, should the Infirmary be still retained on its old site, to the institution of something like a clinical hospital not far from the College—as has been done in Glasgow, for instance.

But to revert to the actual proceedings of the Association. It has during a good many years been the custom for the President to deliver his Inaugural Address in the evening, when the first general meeting was held, but this year it was decided to begin the work in the afternoon. On the afternoon of Tuesday, then, Dr. Eason Wilkinson, the Senior Physician to the Royal Infirmary here, took the chair vacated by Dr. Bartolomé, of Sheffield, and delivered the plain and sensible address elsewhere reported. Somehow or other a kind of fashion has crept in for presidents to found their observations on the medical history of the town where the meeting may be held; and Dr. Wilkinson's address was no exception to the rule. Suffice it to say that it was well delivered, though in a weak tone of voice, and cordially received by the assembly. At the general meeting which followed this address the annual report of the Association was read and passed; whereupon two motions should have come up for discussion. One of them was proposed by Mr. Lowndes, of Liverpool, regarding the extension of the Contagious Diseases Acts to certain seaport towns. This was relegated to the Health Section. The other was one of the usual nonsensical propositions with regard to the editing of the *British Medical Journal*. It is plain that some people do not know when they are well off; but this year's motion was more than usually absurd. It was neither more nor less than to edit the journal by a committee! They might quite as sensibly propose to do away with an editor altogether,—it would be a distinct saving, which is much in the eyes of some. And then—which again would be a great comfort—every member of the Association could edit himself.

In the evening a *soirée* was given by the President and the Senate and Council of the Owens College, in that building. This was most numerously attended by ladies and gentlemen, and was in every way worthy of the character and position of those who gave it. We have seldom seen better or more complete arrangements. Of course, the ample space available aided greatly in this. Lectures were delivered by Dr. Ransome on "The Present Position of State Medicine in England," and by Dr. Boyd Dawkins on "The Antiquity of Man"; and demonstrations were given in Physics and Physiology. The whole was thoroughly successful, and people left in a drizzling rain, well pleased with themselves and with their entertainment.

Wednesday morning opened showery, and towards midday there was a very sharp thunderstorm, with a tremendous downpour of rain. In connexion with this a somewhat absurd incident occurred. About twelve o'clock, whilst Dr. Roberts was delivering the admirable Address elsewhere published, the storm burst. The Address was being listened to by an audience filling to overflowing the large chemistry-lecture theatre, and the windows were open for the purpose of ventilation. Through these the rain poured. First hats went on; next umbrellas went up, until the orator seemed to be addressing an audience, part of which, at least, might as well have been in the open air. Proceedings had to be stopped, until the man could be found who understood how to work the apparatus necessary to close the windows. At one o'clock a demonstration was given by Professor Charcot, of Paris, of certain specimens illustrative of his views as to the pathology of certain diseases of the spinal cord, liver, and lungs. The diseases of the spinal cord were those already identified with his name, and with regard to which his views have been recently

published in his lectures; cirrhosis of the liver, and the tubercular nature of broncho-pneumonia or caseous pneumonia, were also illustrated. This demonstration lasting somewhat longer than was expected, the work of the sections did not begin, as it should have done, exactly at two o'clock, but was postponed for a short space. When, however, the sections were about to be opened there was a great rush to hear Sir William Jenner, the President of the Medical Section. His address was short and pithy in the extreme, but was admirably adapted to its purposes, dealing mainly with the good done by such meetings and by such discussions as those likely to follow in his section and in others. The special subject of the day in this section was the treatment of internal aneurism. This was not, however, reached until a somewhat late period in the afternoon. The other subjects for discussion in the various sections were—in Psychology, the treatment of habitual drunkards; and in State Medicine, the whole question of infection.

The morning was devoted by many to an inspection of the treasures in the Museum. These might be divided into three sections—drugs, surgical appliances, and pathological specimens. We have seen museums richer in pathology, but seldom, if ever, such a collection of drugs and surgical appliances. It would be so unfair to mention any one exhibitor specially that we will name none. There was, however, one feature which forcibly struck us. A few years ago an attempt was made to familiarise the ordinary practitioner with the applications of electricity to medicine. Then it was hardly possible to procure sufficient batteries so as to form a fair show; to-day they were to be seen by the score. And it may be a fact worthy of attention that there seemed to be a constant tendency to fall back on some form of the Leclanché cell as the primary element. This will probably in a few years supersede almost every other form of medical battery. The absurd little electro-magnetic apparatus was conspicuous by its absence.

There was also a good display of microscopes, of various degrees of complexity and price, a good many of them brought forward as competitors with the now well-known and justly esteemed Hartnack. By the way, there was a large number of these Hartnacks exhibited by Messrs. Ferris and Co., of Bristol, from whom they might, in all probability, be more easily procured than from abroad. The price is, we think, seven guineas. In the Pathological Section not very much was displayed which was of real interest. There was, however, a unique collection of distorted pelves exhibited by Dr. Radford, such as is seldom seen, and the same gentleman also showed a most interesting collection of obstetrical instruments of all ages. It might be well, also, to mention a fine collection of photographs of the insane. In the Physiological Laboratory were to be seen some excellent specimens of physiological apparatus, some belonging to the College, some to a Parisian exhibitor. To the Sanitary Museum, established in the grounds, we cannot now do more than refer.

In the evening a reception was given by the Mayor and Corporation of Manchester in the new and magnificent Town Hall, thus for the first time, though informally, thrown open to the public; but details must be reserved for another occasion.

Small-Pox and the Port Sanitary Committee.—The Port Sanitary Committee of the Corporation of London have recently issued an additional notice recommending "as a precautionary measure" that as long as the epidemic exists all seamen should be medically examined in accordance with the provisions of sec. 10, Merchant Shipping Act, 1867. This section is permissive only. It is believed, however, that if some of the cases found afloat affected with small-pox had been examined at the time of signing articles the disease would have been discovered. At the last meeting of the Court of Common Council the Port Sanitary Committee were authorised to prepare estimates and invite tenders for the building of a new steam launch. This launch is to be used by the officers, chiefly in the Pool, to board all such kinds of craft as have their crews always on board; and hence require much more supervision than the large ocean-going ships, which haul into dock and pay off immediately. The ordinary visitation of ships on the river keeps a steam launch very fully employed, and it is calculated that the Corporation's little vessel employed for this purpose is under steam for more hours during the working days of the week than any other craft of her class in the port of London.

REVIEWS.

Smellie's Treatise on the Theory and Practice of Midwifery. Edited with Annotations by Alfred H. McClintock, M.D., etc. Vol. II. London: The New Sydenham Society. 1877.

We are glad to be able to say that we have received the second volume of this work more punctually than the first. The book is one the merit of which is that of a pioneer. We fully recognise its great, its matchless worth. It cannot be surpassed, because no one can ever again write a book under circumstances like Smellie's. But we cannot but remember that *now* any fairly educated physician, even though without a tithe of Smellie's genius, could yet compile a book which should tell more about natural processes, and be a better guide in practice. For we, at the present day, receive, as it were, with compound interest, the treasure which Smellie bequeathed. Therefore we look upon this book as one interesting rather than useful; a staff to be admired rather than leaned on. To the obstetric specialist working at a particular subject, this volume, containing as it does a collection of cases of undoubted veracity, with thoughts thereon by a great and original mind, is, we might almost say, indispensable; but for the hard-working general practitioner, who reads to keep himself abreast of the science of to-day, more useful books might be found.

In making these remarks we refer to the text of the book, not to Dr. McClintock's annotations. He, as editor, has done his part very well. He has numbered the cases, and enriched them with many clear and practical notes and helpful references. The reader will find the notes suggestive as well as the text; and he who consults the book for help in practice may perhaps find some of them (without disparagement of Smellie) more useful.

GENERAL CORRESPONDENCE.

VIN DE BAUDON.

Letter from Dr. Andrew Clark.

[To the Editor of the Medical Times and Gazette.]

Sir,—My attention having been called to an advertisement of the Vin de Baudon in which my name is mentioned in such a manner as to beget the idea that I had employed this compound, that to its employment I had ascribed the recovery of a patient from empyema, and that I recommended its use, perhaps you will kindly permit me to state, in answer to many communications on the subject, that the wine was prescribed by the resident medical officer of the London Hospital; that in my opinion its use exerted no favourable influence upon the patient's recovery; that I have never prescribed the preparation; that the garbled extracts from the reports of the case, neither written nor revised by me, used by the advertisers to promote the sale of their commodity, have been published without my knowledge; and that the continued use of the advertisement as it now runs is contrary to my judgment of what is right. I am, &c., Andrew Clark, M.D.,

August 4. Physician to the London Hospital.

The Library of the Royal Medical and Chirurgical Society will be closed for one month from Monday, August 13, to Wednesday, September 12 (both days inclusive).

Royal College of Surgeons in Ireland.—A special meeting of the Fellows of the College was held on Monday, August 2, for the purpose of electing Professors to fill the chairs in the School of Surgery, vacated by the recent deaths of Mr. Henry Wilson and Dr. John Cronyn. Mr. H. Rosborough Swanzy was elected Professor of Ophthalmic Surgery; and Dr. William Roe, Professor of Midwifery.

The New Hôtel-Dieu.—This Hospital was opened a few days since, with an imposing ceremony, by M. Isnard, Inspector-General of the Assistance Publique, the transference of the patients commencing after each ward had been blessed. Already, however, complaints are commencing, that important body, the *internes*, having addressed a memorial to the Director complaining of the utter unsuitability of the dark and damp condition of the locality assigned to them, and where they have to pass so large a portion of their time, while the bureaux and apartments of the administrative *employés* are luxuriously and sumptuously fitted up.—*Gaz. Méd.*, August 3.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 1st inst., viz. :—

Dunstan, William, L.S.A., Brixton, student of Guy's Hospital.
Keer, John Cordy, L.S.A., Wickham Market, of Guy's Hospital.
Miller, Richard Shalders, L.S.A., Lowestoft, of University College.
Potts, Laurence, L.S.A., Beckenham, Kent, Charing-cross Hospital.
Prideaux, Thomas Engledue Pegamus, L.S.A., L.R.C.P. Lond., Scarborough, of St. Bartholomew's Hospital.
Ross, Richard Alexander, Brighton, of Guy's Hospital.
Sheldon, Thomas Steele, Congleton, Cheshire, of Guy's Hospital.
Shipton, Arthur, L.S.A., Buxton, of King's College Hospital.
Smith, Hugh, L.S.A., Wimpole-street, of King's College Hospital.
Taylor, Harold Gilbertson, L.S.A., Queen's-road, W., of King's College Hospital.
Wilmot, Thomas, L.S.A., L.R.C.P. Lond., Fenton, Lincoln, of St. Bartholomew's Hospital.
Vachell, Herbert Redwood, L.S.A., Llandaff, of King's College Hospital.

Six candidates passed the examination in Surgery and when qualified in Medicine will be admitted Members of the College. The other six candidates were referred to their professional studies for a period of not less than six months.

The following gentlemen were admitted Members of the College on the 2nd inst., viz. :—

Birdwood, Roger Alan, B.A. Cant., Bombay, student of the University of Cambridge and Guy's Hospital.
Burgess, William Milner, L.S.A., Harlesden, N.W., of St. Bartholomew's Hospital.
Cardew, George Arthur, L.S.A., Cheltenham, of the General Hospital, Birmingham, and University College.
Chubb, William Lindsay, Torpoint, Cornwall, of Guy's Hospital.
Davy, Henry, Ottery St. Mary, of Guy's Hospital.
Langdon, John Winkly, L.S.A., Chester, of St. Bartholomew's Hospital.
Paddison, Edmund Howard, Denbigh-road, Bayswater, of Guy's Hospital.
Poland, James Harry, L.S.A., Blackheath, of Guy's Hospital.
Pope, Charles Ernest, Chilfrome, of King's College Hospital.
Prosser, Thomas Gilbert, L.S.A., Monmouth, of St. Bartholomew's Hospital.
Smyth, Albert Charles Butler, L.S.A., L.R.C.P. Edin., Dublin, of St. Bartholomew's Hospital.
White, Robert Godfrey, L.S.A., Chinkiang, China, of the London Hospital.

One candidate, who passed in Surgery at a previous meeting of the Court, having subsequently obtained medical qualifications, was admitted a Member of the College, viz. :—

Hall, C. C. R., L.R.C.P. Edin., Tottenham, student of St. Bartholomew's Hospital.

Two candidates, who had previously qualified in Surgery, having passed in Medicine, were also admitted Members, viz. :

Cobbin, Wm. I., Torrington-square, student of University College Hospital.
Gardiner, John Twiname, Ilfracombe, of Guy's Hospital.

Five candidates passed the examination in Surgery, and when qualified in Medicine will be admitted Members of the College. The other seven candidates were referred to their professional studies for a period of not less than six months.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At the examination for the Licence to practise Surgery, held on July 23 and following days, the undermentioned candidates, having passed the required tests for the diploma, and having made and subscribed the necessary declaration, were admitted Licentiates of the College :—

Arthur, Thomas F.
Bagnell, William H.
Beattie, Joseph J.
Bell, Thomas V.
Blacker, Edward J. L.
Bothwell, James.
Carmody, Patrick J.
Charlton, Henry A. H.
Collins, Patrick J.
Cooper, William R.
Curran, Thomas.
Delmege, Louis.
Evans, William G.
Finlay, David A. M.
Hamilton, John R.
Hoctor, Wm. H. de Burgh.
Kehoe, Matthew
Kerrigan, Laurence.
Leary, Edward G.
Mackey, Wm. B.
Madigan, Bartholomew.
M'Cann, Joseph.
M'Donnell, Edward P.
Mullen, John W.
O'Callaghan, Robert.
Orr, David W.
O'Sullivan, Daniel.
Poirotte, Benjamin.
Russell, Samuel.
Sherrard, Henry R.
Sillard, Thomas P.
Thompson, Andrew C.
Thunder, Edmund J.
White, Thomas G.
Yourell, John B.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, August 2 :—

Eastwood, Lewis, North-road, Darlington.
Temple, Thomas Cameron, Doddington-grove, Kennington.
Young, Alexander Stewart Ward Young, Chandos Villas, Clifton.

The following gentlemen also on the same day passed their Primary Professional Examination :—

Alban, Evan, St. Bartholomew's Hospital.
Blackburn, Herbert B., Guy's Hospital.
Dykes, John Swindells, Queen's College, Birmingham.
Farmer, Ernest W. W., University College.
Nance, Henry Chester, St. Bartholomew's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

ROE, WILLIAM, M.D., F.R.C.S.I., Professor of Midwifery to the Royal College of Surgeons in Ireland.

NAVAL, MILITARY, &c., APPOINTMENTS.

WAR OFFICE.—YEOMANRY CAVALRY.—Staffordshire: Henry Palmer Welshman, gentleman, to be surgeon.

BIRTHS.

ANNANDALE.—On August 2, at Salisbury-green, Edinburgh, the wife of Thomas Annandale, F.R.C.S., of a daughter.

BROWN.—On August 4, at 1, Bartholomew's-road, Kentish Town, the wife of Andrew Brown, L.R.C.P.E., L.R.C.S.E., of a daughter.

DALY.—On August 7, at 101, Queen's-road, Dalston, the wife of Frederick H. Daly, M.D., of a son.

FINNY.—On July 30, at 19, Lower Baggot-street, Dublin, the wife of J. Magee Finny, M.D., of a son.

GUINNESS.—On June 16, at Tonghoo, the wife of H. C. Guinness, L.K.Q.C.P., Surgeon-Major 89th Regiment, of a son.

HOPWOOD.—On August 2, at Warley, Essex, the wife of Surgeon-Major E. J. Hopwood, M.R.C.S. Eng., of a son.

LONGHURST.—On August 2, at 22, Wilton-street, S.W., the wife of Dr. Arthur E. T. Longhurst, of a daughter.

NASH.—On August 4, at Westgate-on-Sea, the wife of Edmund Nash, M.D., of a son.

RATTRAY.—On August 2, at 31, Lauder-road, Edinburgh, the wife of James C. Rattray, M.D., of Coral Bank, Blairgowrie, of a son.

SMITH.—On August 1, at 2, Eastbourne-terrace, Hyde-park, the wife of W. Wilberforce Smith, M.D., M.R.C.S., L.R.C.P., of a son.

SMITH.—On August 3, at London-road, Croydon, the wife of W. H. M. Smith, L.R.C.P., of a son.

WINKFIELD.—On August 1, at Shirley, Southampton, the wife of W. B. Winkfield, L.R.C.P. Edin., of a daughter.

MARRIAGES.

CROCKFORD—KEY.—On August 2, at the Chapel Royal, Savoy, George Thomas Crockford, of the precinct of the Savoy, to Ann Key, daughter of the late David Key, surgeon, of Brixton.

GREIG—BAYLIS.—On August 2, at Westbury-upon-Frome, Gloucestershire, Charles Greig, F.R.C.S., of Clifton, to Nelly, fourth daughter of the late Captain Edward Bayliss, 9th Lancers, of Knuthurst, Staffordshire.

HARRIS—NOTT.—On August 7, at St. Margaret's, Westminster, Henry Graham, only son of Captain Harris, of Alverstoke, Hants, to Frances Isabel, youngest daughter of W. F. Nott, M.R.C.S., of Kennington, Surrey.

HOLLAND—LOMAX.—On August 1, at Cheadle, Cheshire, Robert Holland, of Norton-hill, Cheshire, to Hannah Martha, eldest daughter of the late Henry J. Lomax, M.D.

HUMPHREYS—MCWILLIAM.—On August 2, at St. Michael's, East Teignmouth, Frederick William Humphreys, F.R.C.S., to Catherine, sixth daughter of the late James Ormiston McWilliam, C.B., F.R.S., M.D.

LAYMAN—PAPINEAU.—On August 2, at St. Barnabas, Homerton, Henry Layman, of Lewisham High-road, to Harriet, fourth daughter of Wm. Papineau, M.R.C.S., of Homerton.

MACFEE—CROSS.—On August 2, at the parish church, South Hackney, John Macfee, M.D., to Anne Eliza, eldest daughter of the late John Cross, historical painter.

MADDEN—MELDRUM.—On August 2, at East Teignmouth Church, Devonshire, William Herries Madden, M.D., F.R.C.P., of Torquay, to Mary Anne, daughter of James Buyers, Esq., of Rosebank, Bathgate, and widow of Edward Meldrum, Esq., of Dechmont, Linlithgowshire.

SHIVES—SMITH.—On July 26, at St. John's, Bradford, John Shives, M.D., Liversedge, Yorks, to Elizabeth Smith, of Horton, Bradford.

STIRLING—GILBERT.—On June 27, at Pewsey-vale, South Australia, Edward Charles Stirling, M.A., M.B., F.R.C.S., eldest son of the late Edward Stirling, Esq., of 34, Queen's-gardens, Lancaster-gate, and Adelaide, South Australia, to Jane, eldest daughter of Joseph Gilbert, J.P., of Pewsey-vale.

SWAYNE—CORMACK.—On August 8, at the British Embassy, Paris, Colonel James Dowell Swayne, of H.M.'s Bengal Staff Corps, to Mary Morris, daughter of Sir John Rose Cormack, M.D.

WOOD—HENRY.—On August 7, at Holy Trinity Church, Roehampton, Surrey, William Edward Ramsden Wood, M.A., M.B. Cantab., eldest son of William Wood, M.D., of 99, Harley-street, to Alice Louisa, youngest daughter of James Henry, Esq., of Blackdown, Sussex, formerly of the 72nd Highlanders.

DEATHS.

BROADBENT, EDWARD FARR, F.R.C.S. Eng., of Lincoln, on Aug. 5, aged 63.

GIMLETTE, HART, M.D., Fleet Surgeon R.N., at Sandford House, on August 1, in his 55th year.

LAWTON, JAMES, M.R.C.S. Eng., at Glebe House, Rochdale, on August 4, aged 63.

MAY, EDWARD CURTIS, F.R.C.S., at Bruce Grove, Tottenham, on August 7, aged 80.

MULLANE, TIMOTHY, M.D., late of H.M. 63rd Regiment, at Chexbores, Switzerland, on July 30.

SPARROW, EMILY, wife of Surgeon-Major J. Sparrow, M.R.C.S. Eng., late of the 89th P.V. Regiment, at Coonoor, Neilgherry Hills, Madras, on July 2.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

KENT AND CANTERBURY HOSPITAL.—House-Surgeon. "Bye-Law 58. No person shall be eligible for the office of House-Surgeon unless he bring proof that he is registered under the Medical Acts as legally qualified to practise medicine and surgery. He must be unmarried, and not more than forty years of age, and he shall reside in the house." Testimonials of qualification to be sent in on or before August 24.

ROYAL FREE HOSPITAL, GRAY'S INN-ROAD.—Assistant-Physician and Assistant-Surgeon. The Assistant-Physician must be a Member of the College of Physicians of London, and the Assistant-Surgeon a Fellow of the Royal College of Surgeons of England. Testimonials to James S. Blyth, Secretary, before September 1.

TAMWORTH UNION RURAL SANITARY AUTHORITY.—Medical Officer. Appointment will be made subject to approval of the Local Government Board, and will be from date of appointment until March 25, 1878. Salary after the rate of £120, including travelling and other expenses. Must be legally qualified medical practitioners, registered under the Medical Act of 1858, and must produce diplomas, etc. Applications, with testimonials, in own handwriting, before 10 a.m. on August 11, to John Shaw, Clerk, Tamworth.

TAMWORTH UNION.—Medical Officer. Salary for Workhouse £30, and District £75, which includes all extra fees, except vaccination. Would be appointed Public Vaccinator. Fees 1s. 6d., 2s. 6d., and 3s. 6d. Must be legally qualified. Sealed applications before 10 a.m. on August 11, to John Shaw, Clerk, Tamworth.

WILTS COUNTY LUNATIC ASYLUM.—Assistant Medical Officer. Candidates must be duly qualified and registered medical practitioners. Applications, stating age, and accompanied by not more than six recent testimonials, to "The Clerk to the Committee of Visitors of the Wilts County Lunatic Asylum, Devizes," marked "application," on or before Aug. 21.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATION.

Brentford Union.—Mr. Fredk. Davies has resigned the Workhouse; salary £140 per annum.

APPOINTMENTS.

Bath Union.—Angus Cameron, M.D. Edin., L.R.C.S. Edin., to the Second District.

Berkhampstead Union.—Thos. C. Lawson, M.R.C.S. Eng., L.S.A., to the Berkhampstead District and the Workhouse.

Epping Union.—Fredk. C. Cory, M.D., M.R.C.S. Eng., L.S.A., L.R.C.P., to the Chingford District.

Falmouth Union.—Jacob H. Bartlett, L.R.C.P. Edin., L.F.P. & S. Glasg., to the Constantine District.

DEATH FROM TWENTY GRAINS OF CHLORAL.—Dr. Ingalls reports that he gave to a German woman, about thirty-three years of age, and apparently healthy, ten grains of chloral, and repeated it in one hour. Soon after the second dose she manifested alarming symptoms of poisoning, and died, in spite of all efforts, in about fifteen minutes. No post-mortem examination was made. Only two doses of ten grains each, one hour apart, were taken.—*Boston Medical Journal*, July 7.

COMPOSITION AND QUALITY OF THE METROPOLITAN WATERS IN JULY.—The following are the returns (by Dr. Meymott Tidy) of the Society of Medical Officers of Health:—

Names of Water Companies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, etc.	Nitrogen: As Nitrates, etc.	Ammonia.		Hardness. (Clarke's Scale).	
				Saline.	Organic.	Before Boiling.	After Boiling.
Thames Water Companies.	Grs.	Grs.	Grs.	Grs.	Grs.	Degs.	Degs.
Grand Junction	17·00	0·052	0·120	0·001	0·007	11·0	2·8
West Middlesex	17·10	0·053	0·105	0·000	0·007	11·8	3·3
Southwark and Vauxhall	20·70	0·050	0·090	0·001	0·008	12·1	2·8
Chelsea	17·40	0·057	0·090	0·000	0·007	12·1	2·4
Lambeth	17·00	0·052	0·120	0·000	0·009	11·8	3·3
Other Companies.							
Kent	26·70	0·015	0·300	0·000	0·003	17·0	5·1
New River	16·40	0·019	0·120	0·000	0·006	12·1	3·3
East London	18·30	0·046	0·090	0·000	0·007	12·1	3·3

Note.—The amount of oxygen required to oxidise the organic matter, nitrites, etc., is determined by a standard solution of permanganate of potash acting for three hours; and in the case of the metropolitan waters the quantity of organic matter is about eight times the amount of oxygen required by it.

The water was found to be clear and nearly colourless in all cases but the following, when it was slightly turbid—namely, in that of the Grand Junction, West Middlesex, Southwark and Vauxhall, Chelsea, and the Lambeth Companies.

HEALTH CONGRESS OF THE SANITARY INSTITUTE.—The Mayor and Corporation of Leamington have invited the Sanitary Institute to hold its Congress in their town, and the invitation has been accepted. The Congress will meet early in October.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Devonian.—John Huxham, a physician of celebrity in the West of England, took his doctor's degree at Leyden. He studied there under Boerhaave, and on his return to England settled at Plymouth, where he continued for thirty years to practise with success. He was a Fellow of the Royal Society, in whose *Transactions* are many of his papers. He also published various medical works; and his name is still popular through his well-known "tincture of bark." He was born at Halberton, in Devonshire, and died 1768.

Vice or Disease?—The paper was read by Dr. Bodington, before the annual meeting of the British Medical Association. Dr. Bodington's remark was: "The confusion between drunkenness as a *disease*, and drunkenness as a *vice*, must be cleared up. For my part, I look upon all habitual drunkenness as a disease, and I would boldly call it all *dipsomania*. It is in its character as a disease that we physicians are entitled to deal with it. I would sink the notion of its being a mere vicious propensity. When fully developed there are not two kinds of habitual drunkenness. The cases are one and all cases of *dipsomania*, of irresistible, uncontrollable, *morbid impulse* to drink stimulants."

Chemicus.—Liebig at the age of eighteen was at Bonn, then at Erlangen, where he graduated; and in 1822 he published his first chemical work. There was scarcely a branch of chemistry to which Liebig did not devote attention.

Phœbus.—It was an American editor who did not scruple to issue to the subscribers to his newspaper a sheet which contained, besides advertisements, only these words:—"The wife of our esteemed editor having, since our last issue, presented him with three boys at a birth, his emotions have prevented his supplying the usual leaders and other literary matter. He has caved. The prayers of subscribers are earnestly desired. No cards."

Cave Canem.—The deaths from hydrophobia, during the year 1875, were forty-seven. The largest number of cases (sixteen) occurred in Lancashire.

Hygienic.—The paper read by Mr. Binney last year to the Manchester Literary and Philosophical Society, contending that "the atmosphere of towns may be sensibly ozonised and improved in quality by the action of public fountains," states—"A water-fountain may be regarded as a hydro-electric machine, the friction of the water issuing through the jets developing electric action, materially assisted by the conversion of the spray into aqueous vapour. I would suggest that this fact should be prominently brought before municipal bodies, to induce them to erect fountains in all available places in large cities as sanitary agents. They might prove highly beneficial in crowded localities." The subject of ozone, in its various phases, is engaging the attention of scientific inquirers.

AN APPEAL TO THE HUMANE AND BENEVOLENT.

The following contributions have been received in answer to the above appeal, inserted in our number of July 28:—

	£	s.	d.
Royal Medical Benevolent Fund	20	0	0
Lord O'Hagan	3	3	0
John Leonard, Esq., J.P.	3	3	0
Dr. Mapother	2	2	0
Surg.-Major Nash	1	0	0
Wm. Lynch, F.R.C.S.	1	1	0
Joseph Manly, Esq.	1	0	0
A. H. Lynch	1	1	0
E. Howley, Esq.	1	0	0
Nemo	2	0	0
Major Lynch	1	0	0
A Surgeon-Major	1	0	0
A Lady	1	0	0
Dr. R. Lynch	1	1	0
T. E. M.	1	0	0
R. Howley, Esq.	2	0	0
Mrs. Howley	1	0	0
Miss Sullivan	2	0	0
Surgeon A. M. W.	1	0	0
Surg.-Major Kinahan	1	0	0
Surg.-Major Ramsay	1	0	0
D. G. S.	1	0	0
Mrs. Casey	1	0	0
Rachel	1	0	0
Dr. Brady, J.P.	1	1	0
Dr. Davys	1	0	0
Anonymous	1	0	0
A Friend	1	0	0
Rev. Dr. Coghlan, P.P.	1	0	0
P. M.	1	0	0
L.R.C.S.I.	1	0	0
R. D. Kane, Esq.	1	0	0
K. D. G.	1	0	0
James M'Cann, Esq.	1	0	0
A Medical Student	1	0	0
William Kelly, Esq.	1	0	0
Martha Coleridge	0	0	0
Small sums already acknowledged	10	8	0

Reference kindly permitted to the following, by whom contributions will be thankfully received and acknowledged:—

George W. Abraham, Esq., LL.D., etc., 2, Oakland-villas, Rathgar; E. D. Mapother, Esq., M.D., F.R.C.S.I., 6, Merrion-square, N; Thomas M'Nally, Esq., A.M.T.C.D., 77, Lower Gardiner-street; Austin Meldon, Esq., F.R.C.S.I., etc., 15, Merrion-square North; Joseph Manly, Esq., Manager Hibernian Bank, 21, Lower Sackville-street; Arthur H. Lynch, Esq., Surgeon Army Medical Department, Killester, Raheny; Major A. H. Lynch, Killester, Raheny.

Senex.—The late Samuel Warren, Q.C., was educated at the University of Edinburgh for the medical profession, but afterwards became a law student, and was called to the bar in 1837. He obtained great celebrity as a writer by his "Diary of a Physician," and his novels "Ten Thousand a Year" and "Now and Then."

Secundus.—History tells us that the mother of Socrates was by profession a midwife.

WEATHER STATISTICS.

It appears from statistics issued by the Registrar-General that the most striking features of the weather in the second quarter of this year were the low temperature during the greater part of April and May, and the severe frosts early in May, while the temperature in June was considerably above the average.

COMMUNICATIONS have been received from—

Surgeon-Major R. BERISTEAD, London; THE REGISTRAR OF THE APOTHECARIES' HALL, London; THE REGISTRAR OF THE EDINBURGH UNIVERSITY; Dr. C. M. TIDY, London; Mr. E. M. BODDY, Camberwell; Dr. G. A. WOODS, Southport; Dr. ANDREW CLARK, London; Dr. M. A. EASON WILKINSON, Manchester; Dr. SPARKS, Dorchester: THE MANCHESTER AND SALFORD SANITARY ASSOCIATION; THE SECRETARY OF THE LOCAL GOVERNMENT BOARD, London; Dr. J. W. MOORE, Dublin; Dr. T. WHIPHAM, London; Mr. J. NEVINS HYDE, Chicago; Dr. G. E. HERMAN, London; Dr. W. RHYS WILLIAMS, London; Mr. T. M. STONE, London; Mr. T. SPENCER WELLS, London; Dr. BARLOW, London; Mr. R. BRUDENELL CARTER, London; Dr. ALEXANDER WALLACE, Colchester; Mr. JOHN CHATTO, London; Dr. JAMES RUSSELL, Birmingham; Mr. B. R. WHEATLEY, London; Dr. HENRY THOMPSON, London; Dr. PEARSON IRVINE, London.

BOOKS AND PAMPHLETS RECEIVED—

Charles Kelly, M.D., Third Annual Report on the Condition of the Combined Sanitary District of West Sussex—Water for Manchester from Thirlmere—Model By-laws issued by the Local Government Board for the use of Sanitary Authorities—Robert Bentley, F.L.S., and Henry Trimen, M.B., F.L.S., Medicinal Plants, part 23—Charles Higgens, F.R.C.S., Hints on Ophthalmic Out-Patient Practice - Charles F. Folsom, M.D., Disease of the Mind—J. L. W. Thudichum, M.D., A Treatise on the Pathology of the Urine, including a Complete Guide to its Analysis—George H. Savage, M.D., Some Relations of Mental Disease to Inheritance—Statistical Tables of the Patients under Treatment in the Wards of St. Bartholomew's Hospital during 1876.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Home Chronicler—La Province Médicale—Transactions of the Odontological Society of Great Britain—Analyst—Gazeta Medica da Bahia - American Journal of the Medical Sciences—Union Médicale—Night and Day—Practitioner—Students' Journal and Hospital Gazette—Toronto Sanitary Journal—Cincinnati Clinic.

APPOINTMENTS FOR THE WEEK.

August 11. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

13. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

14. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

15. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex. 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

16. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

17. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, August 4, 1877.

BIRTHS.

Births of Boys, 1271; Girls, 1137; Total, 2408.
Average of 10 corresponding years 1867-76, 2198·8.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	740	699	1439
Average of the ten years 1867-76	796·1	738·2	1534·3
Average corrected to increased population ...	...	...	1642
Deaths of people aged 80 and upwards ...	...	...	26

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	3	7	4	...	3	1	3	1	30
North	751729	6	12	2	3	5	...	3	...	88
Central ...	334369	1	7	...	2	...	...	2	...	17
East	639111	4	21	4	...	3	1	2	6	41
South	967692	8	4	5	3	10	...	3	...	50
Total	3254260	22	51	15	8	21	2	13	7	176

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·881 in.
Mean temperature	63·3°
Highest point of thermometer	88·2°
Lowest point of thermometer	46·8°
Mean dew-point temperature	52·9°
General direction of wind	W.S.W. & N.W.
Whole amount of rain in the week...	0·09 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, August 4, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Aug. 4.	Deaths Registered during the week ending Aug. 4.	Temperature of Air (Fahr.): Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.): Weekly Mean of Mean Daily Values.	Rain Fall: In Inches.	In Centimetres.
London	3533484	46·9	2408	1439	88·2	46·8	63·3	17·39	0·09	0·23
Brighton	102264	43·4	58	40	74·0	48·7	60·3	15·73	0·00	0·00
Portsmouth ...	127144	28·3	65	43	...	...	...	...	...	...
Norwich	84023	11·2	46	19	85·5	48·0	62·9	17·17	0·35	0·87
Plymouth	72911	52·3	56	37	75·0	47·5	60·0	15·56	0·12	0·30
Bristol	202950	45·6	147	64	79·0	47·5	61·4	16·33	0·02	0·05
Wolverhampton ...	73389	21·6	48	25	78·5	48·5	58·5	14·72	0·46	1·17
Birmingham ...	377436	44·9	289	128	...	...	...	...	...	...
Leicester	117461	36·7	100	69	79·8	46·8	60·6	15·90	0·01	0·03
Nottingham ...	95025	47·6	55	41	78·6	45·0	60·1	15·62	0·95	2·41
Liverpool	527083	101·2	394	246	70·0	51·5	57·2	14·00	0·15	0·38
Manchester ...	359213	83·7	248	172	...	...	...	...	...	...
Salford	141184	27·3	119	60	75·5	42·5	56·1	13·39	0·24	0·61
Oldham	89796	19·2	82	40	...	...	...	...	...	...
Bradford	179315	24·8	125	58	74·0	44·8	57·3	14·06	0·03	0·08
Leeds	298189	13·8	242	101	76·0	44·0	58·6	14·78	0·01	0·03
Sheffield	282130	14·4	190	87	78·0	43·0	59·2	15·11	0·00	0·00
Hull	140002	38·5	104	54	75·0	44·0	59·8	15·45	0·15	0·38
Sunderland ...	110382	33·4	77	38	83·0	51·0	61·2	16·22	0·39	0·99
Newcastle-on-Tyne	142231	26·5	85	58	...	...	...	...	...	...
Edinburgh	218729	52·2	130	81	69·5	40·0	56·7	13·72	0·59	1·50
Glasgow	555933	92·1	419	216	63·7	45·0	54·8	12·67	0·23	0·58
Dublin	314666	31·3	155	147	80·5	43·0	59·3	15·17	0·17	0·43
Total of 23 Towns in United Kingdm	8144940	38·3	5642	3263	88·2	40·0	59·3	15·17	0·22	0·56

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·88 in. The highest reading was 30·13 in. on Monday morning, and the lowest 29·69 in. on Wednesday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

THE HUNTERIAN LECTURES FOR 1877.

ON DEFECTS OF VISION WHICH ARE REMEDIABLE BY OPTICAL APPLIANCES.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

By ROBERT BRUDENELL CARTER, F.R.C.S.,
Late Professor of Surgery and Pathology to the College; and Ophthalmic Surgeon to St. George's Hospital.

LECTURE IV.—HYPERMETROPIA AND MYOPIA.

(*Concluded from page* 135.)

I PASS on now to the opposite condition of Myopia, which, as contrasted with hypermetropia, presents a long visual axis instead of a short one, and a focus of parallel rays which is situated in front of the retina. In order that the focus of rays may fall upon the retina, the rays themselves must be divergent; and this divergence may be given to them either by the approximation of the object from which they proceed, or by refraction through a concave lens of the necessary power.

When a person is able to read small print easily and fluently in the hand, but has not the normal standard of vision for distant objects, we may at once infer that he is the subject of myopia; and, if his distant vision is improved by a concave glass, the inference may be accepted as a fact. We then proceed to estimate the degree of the myopia in dioptrics, by test-lenses applied in the ordinary way; always bearing in mind that the weakest concave which affords the best attainable vision must be taken as the standard of the defect. If we find, for instance, that a patient has normal vision, or nearly so, with a concave of three dioptrics, we must not at once conclude that this is the degree of his myopia, but must try whether a result equally good cannot be attained with two dioptrics and a half. Myopic persons often prefer over-correction for a time, and would choose glasses that were too strong if they were left wholly to their own devices. If the lens of two dioptrics and a half, although it improves vision, does not enable the person to decipher the same letters which were legible with three dioptrics, then the correctness of the original choice is confirmed.

The definition of myopia, it will be remembered, rests upon the fact that the *far-point* of clear vision is at some finite distance; and the degree as stated in dioptrics corresponds precisely with this finite distance. To say that a patient has a myopia equal to one dioptric, means, primarily, that a lens of one dioptric renders parallel rays sufficiently divergent to allow them to be united in a focus upon the retina. But a lens of one dioptric renders these parallel rays as divergent as if they proceeded from a point one metre distant; and it follows that the eye would not require any lens for rays which really proceeded from a point at this distance. In other words, the patient can see clearly at the distance of one metre, but not farther away. His far-point is one metre distant from the eye. The degree of myopia has reference to the far-point, and to that alone. If the myopia increases, the far-point approaches the eye; if the myopia diminishes, the far-point becomes more distant. The myopic eye, like all others, has a near-point as well as a far-point; and its near-point is determined by its power or range of accommodation, and recedes in the usual way as life advances. But the near-point has nothing to do with the degree of the myopia. From imperfect knowledge of this very simple matter, many errors have become firmly rooted in popular belief, and some errors have been promulgated by persons who ought never to have fallen into them. It is commonly said that myopia diminishes as life advances. The fact is, that a person who starts with a myopia say of nine dioptrics, and an accommodation of nine dioptrics, as in line four of Fig. 16, has his far-point at ten and his near-point at three inches from the eye. He can read at either of these distances, or at any point between them. At the age of forty, when he has lost half of his original accommodation, his far-point will still be at ten inches, but his near-point will have receded to about five inches, and he will be unable to read at any nearer distance. He will often say, "I am not so short-sighted as I was," although he has gained nothing, and has simply lost the front two inches of his range of vision. Some few years ago, certain operations upon the eye were vaunted on account of their supposed power to diminish myopia; but it is melancholy to relate that their only claim to this power was based upon recession of the near-point; the position of the far-point either not having been recorded, or having remained unaltered. The operations diminished the accommodation, and thus curtailed the range of vision at its proximal extremity, instead of extending it at its distal extremity. The belief that short-sight diminishes with the approach of old age does not, however, rest entirely upon the recession of the near-point, but also upon the contraction of the pupil which is incidental to advancing years. The pupils of young myopes are generally large, and the magnitude of the pupil increases the size of those diffusion circles on the retina, by which clear vision of objects beyond the far-point is hindered. As the pupils become smaller, the diffusion circles diminish; and thus, while the degree of myopia remains the same, remote objects are seen somewhat less indistinctly than before.

The immediate cause of myopia is, of course, the elongated shape of the eye; but the causes which originate this elongation are not completely understood. Myopia is a condition incidental to civilised life, and is said to be absolutely unknown among savage races. I am not aware of any trustworthy observations upon the eyes of new-born infants, such as to support or disprove the hypothesis that the myopic formation is sometimes congenital; but myopia is so often inherited from parents that the tendency to the formation must at least be congenital, whether the formation itself may or may not be so regarded. The affection does not declare itself in early childhood by any subjective signs, although it would be discoverable by the ophthalmoscope; and it is only at the age of five or six years that it is noticed by parents of average intelligence and observation. Very often it is first discovered at the commencement of school life; and only then after some blundering teacher has punished the child repeatedly for the offence of not knowing what was written on a black board situated beyond his range of vision. When once declared, however, the tendency of the higher degrees of myopia is to increase; and this increase seems to be almost entirely due to the enforced convergence which the affection renders necessary. If we consider the points of attachment of the interni, it is easy to see how the tension which they exert upon the ocular tunics must express itself in a tendency to bulging of the posterior hemisphere of the eye; and, when the tension is considerable and frequently repeated, the tunics soon become seriously weakened, and stretch with constantly increasing facility. As a rule, it may be said that all cases of myopia, which require habitual convergence to a distance of eight or nine inches as a condition of binocular vision, will undergo progressive increase; and it follows that every increase of the affection renders farther increase more inevitable and more rapid. Dr. Cohn, from whose highly meritorious work I have more than once quoted, was the first to investigate the occurrence of myopia in schools systematically; and he found that not only the amount of myopia, the numerical proportion to non-myopic pupils, increased with every year of school life, but also that the average degree of the myopia increased in a corresponding ratio. His inquiries have been repeated by other observers in various places, notably by Dr. Erismann in Russia, and by Dr. Agnew in America, always with full confirmation of his results; and it is now beyond doubt that schools form a great machinery for the cultivation of myopia. It is presumed that they may even originate the affection, as well as cause its active development; and the influences which may do either one or the other are mainly defective lighting, books printed in too small a character, and forms and desks so constructed that the pupils sit a long way from their work, and hence fall into stooping positions over it. All these conditions imply the unnecessary or avoidable approximation of the eyes to the books, with a consequent strain upon the accommodation and upon the convergence; and it is easy to perceive in what way myopia may result from such conditions, and how, once commenced, it must necessarily go on increasing.

According to Donders, who has analysed so many cases of myopia, and has observed them for so long a time, that he has left little to be learnt with regard to the facts of its natural history, there are three principal types of the affection: the stationary, the temporarily progressive, and the progressive. He describes as stationary a degree of myopia which does not exceed two dioptrics at ten years old, nor two and a quarter at forty; often declining to one and a quarter or one at eighty. The temporarily progressive may increase from

four to eight dioptrics between the ages of ten and thirty, the increase being most rapid between the ages of eighteen and twenty-two; and the progressive, starting from a high degree at an early period of life, increases steadily and constantly.

When myopia is increasing, the tension upon the ocular tunics, to which the increase must generally be ascribed, is apt to entail other consequences also. The most familiar of these is the so-called myopic crescent, a patch of choroidal atrophy on the outer side of the optic nerve, just where the tension upon the tunics would be most powerfully exerted. As the choroidal tissue wastes, it no longer conceals the sclerotic, which is seen with the ophthalmoscope in its glistening whiteness at the affected part; and the patch of atrophy, losing its originally crescentic form, increases in size, and sometimes completely encircles the optic nerve. Many hypotheses have been framed to account for this crescent; but I think that the most simple of them has most to recommend it to our acceptance. The wasting commences at a place where the choroid is firmly united to the sclerotic, and where, from the mechanical relations of the eyeball, the strain produced by convergence must be chiefly felt. The mere stretching of the delicate vascular membrane impedes its circulation, interferes with its blood-supply, and inflicts a shock upon its nutrition. At the point where these effects are produced in the greatest degree, atrophic changes are first set on foot, and they gradually extend to neighbouring parts as the causes which produced them are increased in intensity. Beyond the region of the white patch, we may often discover by careful examination that the choroid is thinned and weakened; and, as in nearly all the disturbances of choroidal nutrition, there is often an unnatural formation or deposition of pigment about the affected part. In some instances, we may see cloudiness of the retina, effusion from its vessels or from those of the choroid, and manifest signs of inflammation.

When the myopic crescent was first discovered, it was looked upon as an inflammatory change, and the higher degrees of myopia, in which there were large crescents, were said to be attended by *sclerotico-choroiditis posterior*. Such an appellation is sufficient to excite in the minds of all who hear it an intense longing to be able to lay it aside; and I confess that I have not been able to satisfy myself that any kind or degree of inflammation is at all essential to the most complete development of the choroidal atrophy of myopia; or that, supposing inflammation to occur, it is anything more than an accidental complication, probably due to stretching and irritation of the delicate structures which are involved. But, however produced, internal inflammation of the posterior hemisphere of a myopic eye is a very serious and alarming condition. It tends to obscure the transparency of the vitreous body by the formation of films or floating opacities, to extend to the region of the macula lutea, and destroy central vision; and even, in many cases, to produce detachment of the retina and hopeless and complete extinction of sight. To speak at length of these conditions would be foreign to the scope of discourses which profess to deal only with conditions remediable by optical appliances; and I must therefore pursue this part of my subject no farther. I have only referred to it in order to point out some of the chief dangers to which the myopic eye is exposed, and to say that against these dangers optical appliances will often furnish us with effectual safeguards.

It is necessary in this place to refer to a hypothesis, with regard to the formation of the myopic crescent, which has been put forward and defended with conspicuous ability by Dr. Thomson, of Philadelphia. He looks upon the crescent as a change which occurs only in eyes in which myopia is complicated by astigmatism; and he holds that the width of the crescent corresponds to the direction of the meridian of greatest curvature. My own observations have not allowed me either to confirm or to controvert Dr. Thomson's conclusions; but it is undeniable that there is discoverable astigmatism in nearly every instance of a high degree of myopia.

As, in hypermetropia, the eyes are constantly called upon to exert accommodation in excess of their convergence, so in the opposite condition of myopia they are constantly called upon to exert convergence in excess of their accommodation. A person with a myopia of four dioptrics, for example—and hence with a far-point only ten inches distant,—would scarcely ever be required to exert accommodation at all. He would scarcely ever desire to bring an object of vision nearer than ten inches, and he would be unable to see it clearly when farther away. His ordinary visual effort, therefore, would be convergence to ten inches in repose of his accommodatio but in many persons, if not in all, repose of the accommod tion cannot be maintained during convergence to ten inche while any effort of accommodation which the convergen produced would bring the point for distinct vision still near to the eyes, and would thus require a further increase convergence to keep pace with it. In this way, by t reaction of the two functions upon each other, we have potent influence towards rendering the myopia progressiv and it seems probable that this influence would be most powe fully exerted in those eyes in which the union between acco modation and convergence retained most nearly its natural typical character. The liability to accommodation effort as consequence of convergence effort should never be lost sight in estimating the degree of myopia; and we shall frequent find, in the higher degrees of the affection, that saturation the eye with atropine will reduce the apparent myopia by much as one or two dioptrics. In all cases of myopia abo 6·0 I am accustomed, after determining the degree in t ordinary way, to determine it again under the influence atropine. If any material difference is occasioned by t mydriatic, the fact serves as a valuable guide to the prop management of the case.

The indications of treatment in myopia are mainly thes to display the world; to prevent an injurious degree of co vergence; and to prevent spasm of accommodation.

If we consider for a moment what must be the state of person who has grown up to manhood or womanhood with uncorrected myopia say of only two dioptrics, we shall fail to perceive that the first-named indication is one of small importance. An emmetropic subject may produce t condition artificially by placing convex spectacles of t dioptrics before the eyes. The artificial myopia thus produc would be deprived of half its inconveniences by the previou acquired knowledge of the exact forms and characters numerous objects which would be only dimly seen; but t subject of it would find, for example, that instead of bei able to tell the hour by an ordinary drawing-room clock fr any part of the room, he would have to approach within th or four feet of the dial in order to perceive dim indications of hands. He would lose all the play of expression on the faces persons with whom he was engaged in conversation. I once p scribed glasses to correct the myopia of a lady who had for ma years been engaged in teaching, and who had never bef worn them. Her first exclamation of pleasurable surprise, she put the glasses on and looked around her, was a curi commentary on the state in which her life had until then b passed. She said, "Why! I shall be able to see the faces the children!" If we think what this exclamation mea and if we apply the lesson which it teaches to other pursu we shall not fail to perceive that the practical effect of myo is to shut out the subject of it from a very large amount the unconscious education which the process of seeing world involves, and thus to occasion losses which can hai be made up in any other way. Taken in detail, these los the mere not seeing of this or that seeming trifle, may apj insignificant; it is their aggregate which becomes import A very distinguished man of science, who is myopic in a l degree, and who did not receive glasses until he was ninet or twenty years old, has often told me how much he had t in order to place himself upon the same level, with regar experience of quite common things, with many of his norm sighted contemporaries; and it will be manifest on reflec that the matters which are lost by the short-sighted, a the partially deaf, make up a very large proportion of pleasures of existence. I am accustomed, on this grou strongly to urge upon parents the necessity of correc myopia in their children; and I am sure that a visual hor of ten or even twenty inches, with no distinct perceptio objects at a greater distance, has a marked tendency to pro habits of introspection and reverie, and of habitual inatten to outward things, which may lay the foundation of g defects of character. Landscape painters are the only peop whom a small degree of myopia can be useful. I once ac panied a landscape painter on a sketching expedition, and a time asked him whether he intended to omit a certain h from his sketch. He looked up with surprise, and said, "V house? There is no house there!" I at once understo certain haziness of aspect with which it was his custo clothe distant scenery in his pictures, and which was much admired by persons who mistook it for a skilful rende of an uncommon atmospheric effect. In fact, it was only

ie short-sighted man saw always before him; and I am sure e must himself have been greatly puzzled by much of the raise which he received. Soon after I first published a ference to this effect of myopia upon painting, in the *ractitioner* for 1874, Mr. Liebreich attempted to explain some the peculiarities of Turner's style by the peculiarities of his sion; but, as I shall have to explain when speaking of stigmatism, Mr. Liebreich's view of this matter appears to me be wholly untenable.

The indication to display the world may be fulfilled, enerally speaking, by complete correction of the myopia; at is to say, by the use of glasses of the same strength as ose which express the measure of the defect. If the commodation were perfect, and bearing its proper relation the convergence, these glasses would obviously convert the yopic eye into a normal one; giving it clear vision at infinite stance without accommodation, and rendering the assistance accommodation necessary in looking at near objects. We id some myopic eyes in which these conditions are nearly lfilled; and, in most cases when the myopia does not exceed ur dioptrics, and when the range of accommodation is fairly ood, we may prescribe full correction of the defect for all irposes; always remembering that this prescription may quire to be modified after experience of its effects. In many stances, and probably in most of those in which the myopia ceeds four dioptrics, the range of accommodation is only nited; and then, whether the limitation be due to mere dis- e of the muscle, from the absence of any demand for its rvices, or to the structural formation described by Iwanoff, id shown by the dotted line in Fig. 23, the practical result ll be that the eyes, when corrected for the horizon, cannot ercise enough accommodation to bring their near-point ithin reading distance, or cannot exercise this amount for ore than a short period without fatigue and distress. When is happens we must lay aside the full correction when the es are to be employed about near objects, and must be con- nt to fulfil the second indication—the prevention of undue nvergence—by the use of glasses which are just sufficient keep the visual distance at about fourteen or fifteen inches om the eyes. For this purpose, it is a good general rule to ave two dioptrics of myopia uncorrected by the reading- asses; as by giving reading-glasses of three dioptrics for nyopia of five. With glasses of three dioptrics, the two corrected dioptrics of myopia will leave the far-point enty inches from the eye; and there will generally, except very high degrees, be sufficient range of accommodation bring the reading distance five or six inches nearer without tigue. With myopia under four dioptrics, therefore, my le is to prescribe full correction for all purposes, ordering e glasses to be worn from morning to night, and warning e patient that a book must never be brought nearer than urteen inches from the eyes. In order that this injunction ay be fulfilled, it is necessary to give a caution against the e of books printed in very small type, and also against empts to read by defective light, whether natural or arti- ial, as this requires the approximation of the object. Myopic ople, because they can see at a nearer point than others, can e also by a smaller degree of illumination; and hence, children, they often contract a habit of reading by twi- ht, or moonlight, or firelight. It is also necessary to warn e patients that the spectacles will call upon the ocular muscles work under conditions which, although better than those ich preceded them, are still new; and which, while they are w, will inevitably be more or less irksome. If, after two or ee weeks of trial, any discomfort which was felt at first sses away and is forgotten, then the completely correcting ctacles may be used continuously; but if fatigue in reading experienced, we may infer that the full correction throws great a strain upon the accommodation when the eyes are ployed about near objects, and we may order weaker spec- les, which leave two dioptrics of myopia uncorrected, to be d only for reading and analogous occupations. When the opia exceeds four dioptrics, it is usually best to prescribe o pairs of glasses in the first instance, so commonly will they required; and, in every case, we should endeavour to make patient understand that the use of glasses for distance, ough it will enable him to see the world, and to participate ll the advantages of doing so, is of small importance as ards the preservation of sight. On the other hand, the of glasses for reading, "not that the patient may see ter, but that he may see farther off," is an absolute essity in all cases of progressive myopia, and should always be enjoined during school life, or during periods of close study, as the only means of preventing increase of the myopia in consequence of habitual over-convergence. It is the more necessary to render this clearly understood, because patients are naturally most disposed to prize and to use glasses for doing what cannot be accomplished without them; that is, for seeing distant objects. They are often unwilling to use them for near work, alleging, and with perfect truth, that they can see better and more comfortably without them. It is not uncommon, indeed, for short-sighted people, when asked if they have used glasses for reading, to assume a tone almost of self-righteousness in their denial of the imputation. They say, "Oh no, I have never done that!" and are often greatly exercised in their minds when the urgent necessity for a total change of their habits in this respect is explained to them.

The last indication—the avoidance of spasm of the accommodation—is sufficiently fulfilled by spectacles which keep the work at a distance, and thus exclude the excessive convergence by which the spasm is generally excited. Where spasm exists in a marked degree—that is, where the full use of atropine much diminishes the apparent myopia, it is usually prudent to cause the application of atropine to be continued for some two or three weeks, until the habit of spasm has been effectually broken, and the eyes placed, by proper optical aid, under such conditions that the habit is not likely to recur when the drug is laid aside. For this purpose, after the muscle has once been thoroughly relaxed, it is not necessary to use a very strong solution; and one containing a grain of the salt to an ounce of water will generally fulfil all that is desired. A solution of this strength may be applied twice daily for several weeks, unless it should produce symptoms of local irritation.

In either high or low degrees of myopia, if the above described method of treatment should leave the eyes incapable of prolonged exertion, or liable to suffer pain from use, the case passes into the category of asthenopia, and under that designation will be considered in the concluding lecture.

THE LONDON HOSPITAL.—Dr. Thomas Barlow, of the Charing-cross Hospital, was unanimously elected to the vacant Assistant-Physiciancy of this Hospital on Tuesday last. There were two other candidates for the appointment, but they retired from the contest as soon as the wishes of the Medical Staff that Dr. Barlow should be selected had been made known. We congratulate them on their conduct. It is highly important that the staff should practically fill up vacancies as they occur among themselves. Nothing will tend more to cherish that *esprit de corps* without which there can be neither unity nor success, and on the other hand it will increase public confidence in the Committee of Management of a Hospital which is entirely dependent on the public for its maintenance.

ALCOHOL DRESSINGS IN WOUNDS OF THE SCALP.—Prof. Gosselin, in a recent clinical lecture, called attention to a patient with an extensive contused superficial wound of the scalp, unaccompanied by detachment or denudation. He did so because it was an example of the rapid healing of such wounds which has been so frequently observed under dressing with pure alcohol, without the development of any diffused or erysipelatous inflammation. The rapid cicatrisation that takes place is not the result of healing by the first intention, for the edges of the wound still remain a little apart, while the lips and bottom of the wound give issue to sanguinolent sero-purulent secretion, in nowise resembling good pus. This secretion gradually ceases, and the wound becomes dry without ever having been covered with granulations. This instance is a good example of the cases which have for some time attracted Prof. Gosselin's attention, in which wounds are healed by this intermediate mechanism, which is neither immediate cicatrisation, nor cicatrisation after granulation and suppuration. This mode of cicatrisation in wounds of the head especially occurs when these are dressed with pure alcohol; other modes of dressing requiring the formation of granulations for healing. Whatever this dressing may be with regard to other parts of the body, in wounds of the head it seems to be that which gives the patient the most protection from consecutive accidents, and leads to the quickest cicatrisation. So treated these wounds have less tendency to inflammation and suppuration, are cured quickly, and are less often attended with erysipelas and phlegmonous inflammation.—*Gaz. des Hôp.* August 2.

FORTY-FIFTH MEETING

OF THE

BRITISH MEDICAL ASSOCIATION,

HELD IN MANCHESTER, AUGUST 7, 8, 9, AND 10, 1877.

THE ADDRESS IN OBSTETRIC MEDICINE.

By ROBERT BARNES, M.D., F.R.C.P.,
Obstetric Physician and Lecturer on Midwifery and Diseases of Women at St. George's Hospital; etc.

MR. PRESIDENT AND GENTLEMEN,—The more favoured sisters Medicine and Surgery having presented their Addresses, Cinderella, in the guise of Obstetrics, takes her turn.

The President of the Obstetric Section has said fitly and gracefully that there was something specially becoming in giving an Addresss on Obstetrics here in Manchester, the spring whence so much obstetric knowledge has flowed. Manchester in return, I hope, will not frown on obstetrics as Jupiter tonans et pluvius frowned upon her elder sister on Wednesday. I could not hope to charm, notwithstanding, as she did. But I have misgivings I am now suffering the just penalty for my rashness in accepting the task proposed to me by the Council to give the Address on Obstetrics to an audience so peculiarly qualified to criticise, as they ought to do, any short measure of justice to a subject which is so much their own. It is very easy for the Council to select a victim from its flock, and bid him be eloquent, profound, and instructive for their entertainment. But the victim looks upon the matter in another light. To him it may be torture; a process of mental vivisection which ought to fall under the ban of that mediæval Act which our collective wisdom and humanity enacted a year ago when in a hurry to get away to their shooting. I have heard men express gratitude for honours like this conferred upon me. No such sentiment glows in me. The feeling that possesses me is of an opposito character. I mean to indulge it. The personal grievance will find relief in telling some things which, I fear, will not be universally acceptable. But you have given me your ears for an hour; and courtesy, if not duty or inclination, will compel you to listen.

In selecting me for this Address, it is to be presumed that the Council wished to give an opportunity of putting the case of the obstetric branch of medicine in a conspicuous manner before this representative assembly. Some who have preceded me in this task have chosen to make a retrospective survey of the scientific work done in the department, recording its gains, and pointing the road to future achievements. Others, less expansive, have sought to illustrate some particular subject. I will not attempt to emulate either, unwilling to excite comparisons little flattering to myself. My theme will be the scientific and political relations of obstetrics to medical science and the organisation of the profession. The theme is ambitious enough. I cannot hope to do it justice; but I may succeed in awakening attention to some points scientific and political, which it may be to the interest of us all to consider.

In these days, there is a rapidly growing tendency to split up the study and practice of the healing heart into sections. This tendency is in great measure forced upon us by the prejudices of the public, our employers, who, out of excessive veneration, I suppose, for that incontestable maxim of the father of medicine, "Art is long, and life is short," will not believe that life is long enough for any man to acquire a competent "all round" skill in medicine. I am afraid it is hopeless to struggle against this tendency. It is not unsupported by facts and reason. But it entails obvious and serious drawbacks. Against these it is our duty to guard. Medical science naturally takes its form, its direction, its laws, from the great centres of civilised life. In these centres are brought together the means and the great inducements for the cultivation of medicine by theoretical study, by practice, and by teaching. And the social, commercial, and political supremacy of these centres is naturally asserted in the diffusion of medical law. Now, it is in these centres, the seats of scientific culture, that this process of splitting-up exerts itself with irresistible force. In the periphery of our human system, the necessities of the detached communities compel to the concentrated application of knowledge. Here a man will only be credited with knowing one thing. In the outskirts of the world, a man must treat as best he may all the ills that fl is heir to. It is very possible that we, who stand at the cen and therefore flatter ourselves at the head, whence science flo over the globe, might receive our own knowledge returned us fructified a hundredfold under conditions beyond our ran knowledge that would extend, correct, it may be rebuke, o own. But it is unfortunate that the very conditions wh compel our distant brethren to cultivate all department medicine alike, also too frequently prevent them from mov ing their experience into forms, from deducing principles laws which can be sent home to us. Hence, an enorm waste of absolute knowledge, and of suggestion for crit comparison and correction. Hence, the increasing adorat and tyranny of the *idola fori*, that is, of our own cen authority; and the perpetuation of a state of things whic tending more and more to the study of medicine in disjoi bits, to the neglect of those grander lights which can only caught by a well-balanced study of all in their mutual relati There cannot be a doubt that this fragmentary study oppo and retards those generalisations which are the natural c come of extensive and varied observations; and which, revealing the dominion of universal laws, are the high expression, the culminating triumphs of science. So long medicine shall be studied in fragments, and not as a whole long must we be content to grope in the dark, happy to ca a glimpse here and there of a law working in the narrow f of our observation, never to realise the truth that the little of law we see dimly is but a particular application of a ruling all the functions of life. Thus, what we see bit by by accidental flashes of intuition, will almost necessarily k us floundering in a turbid sea of contradictions. So various unequal are the powers of men for observation, for reflection, especially for questioning nature by experiment, that, when one attempts to bring together into one focus the experienc other men who have been examining one subject—say particular subject, physiology, and its outcome patholo from different aspects—he is sure to be perplexed by end diversities of opinion. And yet we are confident that th diversities of opinion are not diversities of fact. There i faith in the world of law, of politics, or of theology, so c so firm, as the faith of the student of nature in the harmo the unity of nature's laws. We do not believe that the op tion of these laws can be for a moment suspended—that t are ever in conflict. The opposite belief, the most degrad form of superstition, the most arrogant form of sceptic which attributes to the Almighty Power the fickleness of negro fetish, is not ours. Whenever we, observing nat see, or think we see, facts or processes that cannot be reconc we conclude humbly either that our observations or our rea ing are at fault. Thus we are driven to renew and ex our observations. And, ever guided and sustained by abi faith, we possess a sure touchstone of truth.

But how, you will ask, am I justified in dwelling on t general and trite reflections? Simply because, however versally their abstract truth is recognised, in practice they too much neglected. Is medicine studied as a whole? entire course of education and practice, at least in this cou declare that it is not. I therefore proceed to the strict cussion of my theme. I procced to show, by a few impe but striking illustrations, how medical science and huma suffer by our neglect.

It will be admitted that the true foundation of all med lies in the study of physiology. It will also be admitted the study of physiology cannot be thoroughly pursued w out the aid of experiments. We must observe nature only in her ordinary moods; we must question her work under conditions devised by science. It may be said truth that the whole study of medicine is but a part of study of physiology. All disease is the reaction of the li economy under the influence of conditions accidentally app These accidental conditions are in reality experiments. could watch and take accurate note of all the actions reactions of the economy under these accidental experim many pathological problems that continue to baffle our sp lations would be solved; we should certainly detect in m cases the links that are now missing in the chain of evid We should thus seize the clue to the institution of specia periments, crucial and luciferous. There is great hope al in this direction in the study of the specific or zymotic fe and syphilis has been studied with considerable success in way. But in a vast number of instances, embracing which follow upon or which induce chronic organic or s

al alterations, the factors concurring to the results we see often so manifold, so intricate, so complicated, so pro-ted in their operation, as to defy continuous or complete ervation and analysis. Their origin is seen dimly through mist of time; their progress is traced doubtfully through myth of history. Now, it is precisely in many of these ases that woman presents the pathological factors in the plest form under conditions of time that admit of the st complete and satisfactory observation. Pregnancy taking ce in a healthy woman may be regarded as an experiment formed under the most simple conditions, from which complications that disturb and thwart observation disease in man are eliminated. Starting with a young healthy woman, we are enabled in the first place to ness a series of the most interesting and instructive siological phenomena. Body and soul are changed. e nervous system, cerebral, spinal, ganglionic, suddenly elopes new forces. The natural, quick, sensitive, mobile ve-action of woman is rapidly exalted. Concurrently with new nervous force, the vascular system undergoes a re-kable development of growth and tension. The blood is longer the same in constitution or in volume. The machi-y which has to distribute the altered blood acquires new ce. These changes in the blood, in the circulatory appa-us, in the nervous system, occur so closely together in time t it is a matter of reasoning rather than of observation to ermine which takes precedence. It is difficult to under-nd how the constitution of the blood can be suddenly cted. The passage from its ordinary state to that in which find diminution of red globules, increase of the white bules, increase of the fibrine and water, must surely take a le time. It is probably the result of certain processes of rition going on in the uterus. But the nervous commotion almost instant; it is at once manifested in the increased bility of the emotional and diastaltic functions. The sub-is at once more responsive to external impressions, sical and moral. The frog itself will not furnish to the erimental physiologist more striking evidence of the play he diastaltic function than the pregnant woman—not alone ing the almost purely diastaltic action of labour, but often oughout the course of pregnancy. One of the most remark-e phenomena, where all are remarkable, is, however, the den direction of newly developed nerve-force to one particular ion—the uterus. At least, whether we detect growth of nerve re, or not, we must perforce assume that nerve-force goes re in increased supply, to direct and maintain the increased ply of blood, to furnish the materials of growth of the rus and the embryo. This new regional vascular develop-nt and concentration of nutritive activity asserts its pre-minance over the whole organism, for elsewhere muscle l fat and other tissue commonly waste. Although the st active building work is going on in the uterus, the rest he organism is affected. It is probably as a consequence of great local constructive work that the blood undergoes its difications, and that the heart and vessels generally are nged in structure. The work going on in the uterus, ing for more and more blood, induces greater vascular ivity; greater driving force; and, wherever this is exerted, driving organ must increase in force—that is, in bulk. It lso more than probable that the altered quality of the od exerts a special influence upon the dynamics of the culation. These new conditions involve augmented vascular sion—a condition that is now expressed and measured by sphygmograph.

Now I must crave indulgence whilst I glance at some ociated phenomena that keep within the range of physiology. m the moment, often, after impregnation, the exalted nerve-sion is manifested in the increased play of the diastaltic func-n. The legs are liable to sudden uncontrollable twitches; niting, the old familiar symptom, sets in. Under no other tes do we ever see such proofs of the intimate interdepen-ce and play of the cerebral, spinal, and ganglionic systems. e emotional exaltation acts upon the diastaltic system, and se together upon the ganglionic or vaso-motor. The pro-ity to convulsion is singularly increased. Concurrently h this augmented nerve and vascular tension, there arises reased strain upon, and therefore increased development of, entire glandular system. This change may be assumed to rt from the new development of the lymphatic vessels in the rine vascular region. Once started, every gland in the ly feels the impulse, and assumes unknown activity. The asts grow under a special impulse analogous to that which moves the uterus; they form a secondary centre of vascular activity. But all the other glands are called upon to act in a subsidiary manner. The respiration is increased; more carbon is exhaled; the skin is more active, throws off more water; the liver and kidneys, the intestinal glands, do more work. The waste materials resulting from the active building process going on in the uterus, added to the ordinary waste from the general economy, demand more active emunctories; and the reply to this demand is seen in the work and products of the glandular system. The glands are doing double duty. The first—the discharge of used-up matter—is obvious enough. But there is another hardly less important, although less commonly recognised; it is the regulating action upon the nervous and vascular system, for which the safety-valve and the governor of the steam-engine offer the readiest illustration. The ordinary degree of vomiting, we know, is attended by relief. Two phenomena especially are observed. There is the nervous explosion, a kind of passing storm, in which I see the characteristics of convulsion. This is a mode of discharge of excess of nerve-force—of reducing tension. Then there is the secretion, the discharge of a quantity of fluid from the glands of the stomach. This gives relief to the vascular system, reducing vascular tension. Applying this reasoning to other phenomena, we shall observe numerous illustrations. The excessive secretion of liquor amnii; the frequent copious discharges of water from the uterus; the occasional attacks of diarrhœa; the not infrequent hæmorrhages from the mucous membranes, as of the lungs, the intestinal canal, the kidneys and bladder even—tell the same tale of discharges designed to relieve excessive vascular tension. If, as is most commonly the case, the overstrained circulating apparatus give way in the uterus, abortion may result; and we may, I am convinced, regard abortion in many cases as a conservative process, averting greater perils. As in the case of vomiting, so in abortion, we see a natural means for the relief of vascular tension and the moderation of nervous tension, which, unless so relieved, might issue in cerebral apoplexy or some other catastrophe.

But the dangers at hand are not always cataclysmic. Other modes in which high vascular tension evinces its influence are manifested more slowly and gradually, yet sometimes swiftly. Such are seen in the behaviour of the glands. The thyroid gland sometimes enlarges notably, and a more or less marked degree of exophthalmos attends. The breasts sometimes pass from engorgement into inflammation and suppuration. But the most important effect is manifested in the kidney. This organ has to bear the strain of two influences, both acting in unaccustomed measure. There is the dynamic hydraulic pressure; there is the irritation of the ingredients brought to it for secretion. Under this double trial, the discriminating faculty of the kidney is apt to be impaired. It lets through albumen; it throws back urea and uric acid upon the circulation. And if this trial be long continued, structural changes are induced in the kidney, and probably in other organs, notably the liver and in the whole circulating apparatus. The passing of the boundary of physiology is made; the precipitance into pathology is almost sudden. Still, the kidney, the heart, and the bloodvessels may recover their pristine integrity; all may be as sound as before, if we take off the arterial tension, if we lesson the irritating qualities of the blood in time. Here we touch upon one of the most interesting and agitating problems in medicine, now being contested by some of the most able physicians of the day: What are the factors, the essential conditions of Bright's disease? Is the starting-point and the main seat of disease in the kidney? Is it found in the central, or peripheral, arterial and venous, or capillary, vessels? Or is it to be sought in the blood? One of the most striking features of pregnancy is the general peripheral development of the vascular system; there is a fulness, a lingering of blood in the capillary vessels, and a development of the veins which amounts to venectasis, which in many cases is never wholly recovered from. This condition is often so marked that it constitutes one of the best tests in the diagnosis of early pregnancy.

I feel very confident that the careful study of the reactions of the kidney and the general vascular system, the nervous system and the blood, under the dominion of pregnancy, will go far to solve the mystery. Whatever the solution offered, it must be in harmony with this history. It must be consistent with the fact that albuminuria may be transitory, last for a time without any organic alteration of structure, and disappear, leaving no trace behind. A distinct experiment has

been instituted and carried through, as if on purpose to illustrate the causes and conditions of albuminuria. I will not in this place do more than refer to the eclampsia, so often associated with albuminuria in pregnant women. I have dwelt upon the subject with some detail in my Lumleian Lectures, on the convulsive diseases of women. Under no other circumstances can we see the phenomena of convulsion so clearly through origin, progress, and decline—through every phase of its history. We start with a healthy subject. Pregnancy is induced. Under the consequent exaltation of nerve and vascular tension, the proclivity to convulsions, we have seen, grows; the twitchings of the limbs, the vomiting, the increased mobility of the cerebral centres, are indications of the exaggerated disposition to convulsions. Then there comes a *tertium quid*, which seems to be necessary to produce the outbreak of convulsion. This is found in the blood, which, carrying elements that ought to be excreted by the kidney or other emunctories, to the nervous centres, by some mode of irritation excite the convulsion. We may trace a similar process in the albuminuria and convulsion that sometimes complicate scarlatina, and in other forms of acute albuminuria. But nowhere but in pregnant women can we observe all the stages of a pathological struggle so closely and completely, from the moment of departure from health to complete recovery.

Illustrations of the history of other forms of convulsions are numerous and instructive. Chorea, for example, must be studied through its relation to menstruation and pregnancy. In the great majority of cases of chorea in children which come under the physician, the convulsive disorder yields after a time. The return to health, *quoad* the liability to convulsion at least, seems complete. And so it is, unless we test the soundness of the recovery by pregnancy. Apply this test, and back comes the chorea, and that with an intensity unknown before, even issuing in insanity or death. Here, then, we see new illustrations of the fundamental conditions of exalted nerves and vascular tension belonging to pregnancy; we see how pregnancy becomes a test of physical soundness; we see that the study of chorea, if limited to the observation of ordinary cases, would lead to false conclusions; we discover that, even after apparent recovery, there must linger in the nervous centres some latent infirmity that, but for pregnancy, would have remained unsuspected, but perhaps important in its future influence under any conditions of the subject, but which is revived with unmistakable force under the trial of pregnancy. A like remarkable illustration is furnished by ague. The pertinacity of this disease is well known. We are accustomed to see marks of its abiding influence long after the fits have ceased, long after the patient has lost all consciousness of suffering. But here, as in the case of chorea, I have seen ague fits reproduced years after under the condition of pregnancy. We cannot fail, then, here to see that there lingers somewhere in the system some change, the stamp of the original disease; and we may fairly presume that this change is in the nervous centres. Perhaps the precise organic change may long baffle the skill of the microscopical analyst to detect; but there it is proved by anticipation to exist, as real a thing as the planet discovered by Adams and Leverrier before it was seen by mortal eye through the telescope.

This chapter in the history of chorea and ague leads, by natural process of reasoning, to the relation of pregnancy to hereditary or transmitted disease. I cannot do more than glance at syphilis, that terrible scourge that works with the more disastrous effects because it works unseen through generations. It is obvious that, if we would pick up many of the links in the often broken chain of the history of this disease, which has nevertheless been working continuously, silently, producing pathological states of the most varied and diverse nature, we must not omit that most important epoch of its history: its relation to pregnancy. Nor can I do more than glance at the history of insanity. The appearance of insanity under the trial of pregnancy is a familiar fact. It is also established as a general fact, by obstetrical operations, that, in a considerable proportion of cases, there is a transmitted diathesis, working through one or more generations. If we take into account, not alone overt insanity in ancestors, but other pathological manifestations, as chorea, other neuroses, tuberculosis, syphilis, we shall attain to a far more general and accurate law. We shall discover, by the observation of the reactions of the nervous system under the trial of pregnancy, new evidence of the transmission and perpetuation, it may be, of morbid peculiarities of structure, of nutrition, which, under the ordinary conditions of li would remain latent, undreamed of.

Reverting for a moment to the glandular system, let call attention to the fact, that that most striking form jaundice associated with acute yellow atrophy of the liver m be investigated through pregnancy, since it is under pregnan that the greater number of cases occur. I think it more th probable that the light to be thrown upon this disease, a other forms of jaundice, will strengthen the theory that chief factor must be sought in the disturbed action of t nervous system, aided by pre-existing or induced alterations the blood. The influence of emotions upon glandular acti is familiar; but it is during pregnancy, when the nervo system is in a peculiarly exaggerated state of excitation, th we may witness the most striking illustrations of this influen and found conclusions which observations detached from t history of pregnancy would not justify.

I might here refer to glycosuria. Physiologists have lo investigated this condition almost solely by aid of experime upon animals, but here in pregnant women we often ha experiments instituted under conditions equally, if not mo deserving consideration. Many women exhibit the phenomen of sugar in the urine at every pregnancy; it disappears wh the pregnancy is over. The subject calls for examination connexion with the function of the breasts as well as with t functions of the liver and kidney, and especially the action the nervous system must be borne in mind.

I might, did time permit, dwell upon some of the conditio of the skin during pregnancy. I can only suggest the i portance of observing these conditions in connexion with t fundamental nervous, vascular, and blood-changes. I cann doubt that by this study we shall one day unravel the myste of pigmentation; and who shall tell, when this mystery sh be unravelled, what light will not be thrown upon otl problems in physiology and pathology? There are few phen mena so marvellous as the darkening of the skin in particul regions of the body under the influence of pregnancy. M it be associated in any way with changes in the supra-re gland, and thus be a phase in the history of Addison's disea That it is in some way dependent upon nerve-distribution a tension I have seen unmistakable evidence.

Before leaving this topic, and sparing you many reflectio connected with it, I cannot help referring to the light that t study of obstetrics throws upon thrombosis and embolism. is not too much to say that pregnancy furnishes the m frequent and the most uncomplicated illustrations of th blood-change. Any speculation, any theory, of this proc must embrace, and be in harmony with, the examples we s in pregnancy. It is well known that phlegmasia dole most commonly occurs after labour, and other forms thrombosis and embolia are equally rare during pregnanc But cases do occur. Why, we naturally ask, does t blood show such special disposition to clot in the vess quickly after labour? Observation suggests a solution. T predisposition is that found in the increase of fibrine a other changes in the constitution of the blood. The fibrine precipitable; something is wanted to precipitate it, and th something is at hand. It is found in the products of invol tion of the uterus, of decomposition of blood in the uteri sinuses, in short, in some form of septic matter, which, ent ing the lymphatics and veins, precipitates the fibrine. T suddenness with which the phenomena are developed points this direct chemical action. Now, during pregnancy th source of septic invasion can rarely exist. Hence, althou the blood is eminently coagulable, for want of the coagulati factor it preserves its fluidity. And the exceptions, I suspe are more apparent than real. Thus, in one case which I ha recently seen in St. George's Hospital, of a young wom four months pregnant, in whom phlegmasia dolens of the le supervened, I found that the embryo was dead, and tha process of separation of the ovum had set in. But there another coagulating power apart from septicæmia, that found in nervous action, in the influence of emotion. T influence is nowhere so remarkably shown as in pregnanc I have seen violent emotion followed almost instantly thrombosis in the iliac and femoral arteries, issuing gangrene.

Here we approach the wide subject of septicæmia, puerpe fever, and we might trace endless instructive relations betwe these states and the various blood-poisonings, with whi surgeons are familiar at the bedside, although their intim history is still imperfectly known. This history will alwa

main obscure until studied by the aid of obstetric observa-
n; for labour is still the grandest of all surgical operations.
hy do I weary you with these speculations? I do it to
nt my theme. I do it because they are practically neg-
ted. Search our medical literature; you will hardly find,
n in our special obstetric works, evidence of due apprecia-
n of them in their togetherhood; and in our standard works
general pathology there is barely a hint, a suspicion, of the
ce they challenge in the science of medicine. Medicine
l surgery are studied far too specially, in isolated parts.
e hear sometimes of "pure" physicians and "pure"
geons; and I presume, by implication, that other prac-
oners are "impure." But if it be shown, as I think I have
least partly done, that a philosophical comprehensive science
medicine or surgery cannot be built up without an earnest
dy of obstetrics, then it will appear that the word
ure" must change its accepted significance. Is it unfair to
ggest, if only under the justification of retort, that a "pure
ysician" is one who is purely ignorant of much that is
ential to the right intelligence of his subject? We hear a
od deal about specialists. Shall I venture upon a definition
the specialist? The specialist in medicine is one who,
iting his attention to one or more detached parts of his art,
cially neglects other parts which are essential to the making
the true physician. Tried by this test, who is the specialist?
it the obstetric practitioner, who embraces within his range
study all the knowledge he can collect from every source?
it not rather the pure physician or pure surgeon who care-
ly shuns all knowledge of obstetrics, and shuts his eyes to
light which this study can throw upon the subjects he
re especially professes to understand?

I may fairly sum up the scientific head of my theme with
s proposition—*As pregnancy is the test of soundness in the
ividual, it may be of all her blood-relations too, so is pregnancy
n a crucial test of the soundness of pathological doctrines.*

Upon this basis let me pass to the political corollary. If the
entific study of obstetrics has been neglected, it will not
m strange that the position of those who practise obstetrics
uld be ambiguous and unsatisfactory. Men in authority
n hardly be expected to recognise merits of which they are
norant. There is a College of Physicians and a College of
geons; there is no College of Obstetrists. I do not think
lesirable that there should be. But this is no reason for
ng left out in the cold. It is to the interest of the medical
porations no less than of the community that obstetric
dicine should be fairly represented. Men who professedly,
ost boastfully, disclaim all knowledge of obstetrics can
dly be the best fitted to define the limits of obstetric educa-
n, to decide upon the amount of knowledge or the degree
ignorance upon which candidates for diplomas may be
mitted to practise. Nor is it reasonable to expect that
h men will, in these matters, command the confidence of
profession or of the public. Obstetric practitioners stand
ween medicine and surgery, embracing both. But, strangely
ugh, it is the College of Physicians alone that gives them
honourable place.

n the College of Surgeons, the spirit of Sir Anthony Carlisle
l seems to rule. Sir Anthony said that the midwifery of the
ntry might be undertaken by the wives of the general
ctitioners. The councils of the College during this time
re making surgeons who went forth over the world
horised to practise every branch of medicine and surgery,
of whose knowledge or ignorance of medicine and ob-
ric surgery they took no heed. Young men under the
hority of the College assumed the responsibility of unlimited
fessional skill on the most limited professional knowledge.
e councils trusted, if they thought the matter worthy of
ntion, that their members had, by bringing certificates of
ing attended a few months' hospital practice, a few lectures,
a few cases, given sufficient evidence of competency in
dicine and surgery. But they might have known, as every
her and examiner knows too well, that a large proportion
candidates endowed with "practical minds" get up what
ys" at the examining boards, and no more. What the
miners neglected as superfluous, candidates would hardly
e the trouble to acquire. Few things, in my experience as
examiner, have given me more pain than to be called upon
xamine men older than myself, who had been many years
led in practice, holding honourable positions, some
inguished surgeons in the army, of good repute, enjoying
lic and professional esteem. That such men should, at
advanced period of their career, be suddenly called upon
to prove their fitness to do what they had long been engaged in doing; that such men should, at the busiest and most anxious periods of their lives, be suddenly challenged, be compelled to stake reputation, all they had achieved, on the hazard of an examination, is surely a cruel wrong, and a just reproach to our political constitution. It seems impossible to fix the responsibility for this wrong elsewhere than upon the College of Surgeons. The University of London, from the beginning, made obstetrics an integral and equal part of the examinations for its degrees. So does the College of Physicians in the case of its licence. Both these bodies are continually holding before the College of Surgeons a practical example of what is right and feasible. And the College of Physicians is doing the further public service of correcting, to a certain extent, the evil wrought by the College of Surgeons. Men who have for years been practising on the diploma of the College of Surgeons are constantly presenting themselves at the College of Physicians, anxious to undergo the perils of a new examination. To this they are driven by the pressure of public opinion, by the suggestions, more or less disinterested, of rival practitioners, by the disqualification for certain public appointments, and by their own sense of duty, which all concur in declaring that their surgical diploma is an imperfect guarantee of fitness to practise, an inadequate claim to public confidence.

Herein lies the new strength of the College of Physicians, the explanation why, within a few years, it has made more than 1100 licentiates; why the number of candidates is steadily increasing.

Why, in the face of all this evidence of the evil they are working, does the College of Surgeons still persist in a course condemned alike by professional and public opinion? The College contends, I believe, that its mission is to supply surgeons; and that it is for other bodies to make physicians. The plea is plausible, but vitiated by fatal fallacies. If the argument I have set forth be sound, it is impossible to make a good surgeon without training him in medicine and obstetrics. And granting that the College diploma guarantees competent skill in surgery, the Council very well knows that this diploma, being registered, confers legal right to practise in all departments; that is, far beyond the actual and moral scope of the diploma.

And even at the present day things have not much mended. A few years ago, the Council of the College of Surgeons, under a by-law, appointed two examiners in medicine. They chose two physicians of conspicuous merit—men able and anxious to give due prominence to medicine, and to improve the standard of the diploma. But I do not think those physicians will affirm that the powers entrusted to them were sufficient to insure a satisfactory degree of proficiency in medical knowledge. It was better than nothing; but it was vey little.

But, having recognised the truth that a little medicine was a desirable accomplishment for the surgeon, why did it not, at the same time, occur to the College that a little obstetric knowledge might be useful? The same power which enabled them to appoint examiners in medicine would enable them to attach examiners in obstetrics, and to make obstetrics an integral part of the examination for the member's diploma. But, with stupendous inconsistency, they stopped short in a course of reform which, fairly carried out, would have redeemed the College from the reproach it must continue to bear, that it licenses men to practise all departments of medicine, whilst it tests proficiency only in part.

The answer to this, of course, is that the College had instituted a special separate board of examiners in obstetrics, to which members of the College and others might, if they pleased, go to supplement their imperfect diplomas by a special licence. Now, the institution of this board, useful as its design was, suggests some reflections. Why was it necessary to create it? Why should a College of Surgeons, a College which is never tired of telling the world that its function is to make surgeons proper, create a special board of examiners in obstetrics? Well, was it a confession of laches on their part, a means of repairing the fault of omission of which they had been guilty by issuing licences to practise beyond the scope of their ordinary diplomas? It undoubtedly enabled many men who had gone into practice on the surgical diploma to come back and supplement this diploma by a special obstetric licence. If this were a right thing to do, right to correct the original defect in the surgical diploma, why should they all the time go on perpetuating this original error? Would it not have been a far more simple and effectual

plan to enable those members of the College who had gone into practice with the imperfect diploma to come up for this supplementary obstetric licence, and to make obstetrics an integral part, like medicine, of the general examination for the members' diploma? Why go on repeating *ad infinitum* the error which made the special obstetric licence necessary? Why inflict upon their members the cruelty of compelling them to submit to a new examination many years perhaps after they had been established in practice?—for cruelty it undoubtedly is. Well, but the College is waiting, waiting for the realisation of a scheme—the Conjoint Scheme! Suspended on this doubtful scheme, it still, acknowledging the right, continues to do the wrong. It still grants its imperfect diplomas; it still licenses to practise what it ignores; it still inflicts a double injury upon the public and upon its members. And in this pernicious action it stands alone. Why should it not, whilst waiting for the accomplishment of the Conjoint Scheme, reciprocate the action of the College of Physicians? This body will not issue its licence except to candidates who shall either have passed the examiners in surgery who form part of its own board, or who shall have produced the diploma of the College of Surgeons, or other satisfactory evidence of possessing surgical knowledge. Why should not the College of Surgeons, in like manner, call for the licence of the sister College as evidence of competent knowledge in medicine and obstetrics, and thus put an end to a gross professional scandal? If the College of Surgeons will not do this, there is another alternative. Let the diploma which it grants to members state plainly in terms the fact that it guarantees no knowledge of anything but a modicum of surgery; that it is only a fragmentary diploma.

The College of Surgeons will not escape from the dilemma; it will not do its duty by the revival of the lame expedient of a separate board of examiners in obstetrics. The time has gone by for bit-by-bit qualifications. The surgical fragment cannot be adequately supplemented by an obstetric fragment. Nor will the College be permitted to issue the obstetric fragment alone. Common sense has been outraged by this proposition. The voice of the profession has unmistakably condemned it.

Accustomed to the fragmentary study and practice of medicine, it is not altogether surprising that, in accordance with its traditions, it should treat obstetrics as it had long treated surgery; that is, as a distinct limb capable of being disjointed from the general body of medicine. All this muddle and confusion into which the College has drifted spring from this fundamental error. The political blunder is the natural fruit of the scientific error. It is only in this way that we can understand the strange perversity which led the Council of the College of Surgeons to attempt to create a new order of medical beings, male and female, specially licensed to practise midwifery and to treat the diseases of women. Those who could thus declare that a little bit of medical knowledge was good enough for women—that is, good enough for medical women to possess, and good enough for the women who would be their patients—might be expected to do almost anything; but they certainly touched the climax of *naïveté* when they called upon men who taught and represented obstetric science to be the instruments of their own degradation of this wrong to womankind.

The pertinacious attack waged upon the University of London calls for an observation. The attempt to turn Russell Gurney's Act into a weapon of offence is well known. The rashness of lawyers, by education and training generally innocent of science, and too often by instinct the enemies of science, of pedagogues and their fledgelings, of anti-vivisectionists, the advocates of the rights of women, of the opponents of the Contagious Diseases Acts, of homœopaths, mesmerists, *et hoc genus omne*, may be understood, if not forgiven; but that this restless band of crotchet-mongers should be supported, in this mischievous attack upon the constitution of the University of London, by members of the Council of the College of Surgeons appointed to seats in the Senate by the Crown, is what the medical graduates naturally resent. It is a fundamental principle of the University that its medical degrees imply full and equal knowledge in all departments, in this respect differing entirely from the fragmentary diplomas of the College of Surgeons. It was a grievous wrong to import this worn-out tradition of the College into the University. The University was founded, it may be said, for the express purpose of protesting, by example and precept, against the imperfect schemes of education and qualification which had hitherto ruled in the schools and corporate bodie In any way to recede from this principle is to attack the ver spirit and life of the University. The governing principle i unity of standard, and that the highest. Medicine is one, a parts concurring to form a perfect whole. We have n place for specialism. We recognise no detached qualifica tions or degrees in medicine. We repudiate utterly th proposition that there is one standard which it is neces sary to attain to qualify for the treatment of the disease of men; and another, a lower, standard to qualify for th treatment of diseases of women. The new doctrine, tha there is a special, an inferior, kind of medical knowledg that is good enough to apply to the care of women, is th most transcendent of all medical heresies, the most flagran wrong, the grossest insult, ever inflicted on woman. And a this under the plea of doing justice to woman! Do the right of women consist in giving way to the clamour of a score o strong-minded persons, in arming them with the legal righ to exercise skill which, *ex necessitate rei*, must be of low orde upon womankind in general? Have the mass of women n right? Is it not their dearest right to be protected by man Even against their own sex?

I am not going to discuss the vexed question of the relativ intellectual powers of man and woman, and the dependen question of the absolute fitness of women for the various pro fessions. I will not question that the feminine intellect i equal to the duties of the pulpit or the bar. *Crede experto* There are lawyers and parsons who declare that it is. But a to medicine, the discussion is superfluous. It is conceded, eve by the most strenuous medical advocates for medical wome that the attainments of women must be inferior. It is admitte that there are things that men cannot teach women. Justl or unjustly, the present order of things forbids the possibilit of opening equal means of professional instruction to men an women. And so long will this continue as men and wome retain the physical and mental attributes which have dis tinguished the sexes from the time of the Creation.

Accordingly, in the College of Surgeons, it was propose to make a special medical order of persons to be put on th Register, after a reduced or diluted examination *ad hoc*, to b licensed to practise on women. Accordingly, the female-part in the University contemplate modifying the curriculum an examination for women-candidates. Now, is not this to giv up the whole argument? If we recognise the great principle that medicine is one, and indivisible; that our physiology, ou pathology, rule alike over the organisation of men, women and children, then it follows inexorably that the attempt t split up medicine into parts, one of which can be safel practised by women upon women, is doomed to failure.

The College of Surgeons is actually without examiners i obstetrics, either as forming a supplementary board or as a integral part of the general board; and it appears from th report of its late President, that it is now considering wha measures to adopt in relation to this question: "At an extra ordinary meeting it was resolved that the Council of th College of Surgeons, regarding women as not eligible t become Members or Fellows of the College, is therefore no prepared to admit them to be examined for these qualification whether at the examinations as now conducted, or with th proposed machinery of joint-examinations. But it was als resolved that the Council, if legally authorised, would b willing to take part in special joint arrangements under whic women should be able to acquire the registrable titles fo practice; and the Council authorised the President and Vic Presidents to take such steps as they may find expedient, i order to promote the amendment of the law which may b necessary for this purpose. The President and Vice-President are now engaged in the consideration of the best mode o giving effect to the decisions of the Council in this matter."

Thero this matter stands. Let us hope that the College, b the voice of its Fellows and Members, may be able to ratii the decision that its Council shall arrive at.

I am tempted to cite the most recent illustration of the mis taken spirit that governs some of our professional bodies. Th Council of the Pathological Society of London has issued circular to its members, announcing that an investigation ha been undertaken by the Society relating to the nature, cause and prevention of the infectious diseases known as pyæmi septicæmia, purulent infection, and puerperal fever. Th inquiry has been entrusted to a committee, consisting, first, four members of the Society specially qualified to engage i the necessary anatomical and chemical investigations; secondly

a number of surgeons and physicians representing the spitals of the metropolis, who have undertaken to co-operate ith the first body in organising and carrying ont the quiry. Now, in this work of wide-reaching inquiry it has t been thought necessary to associate a single member who actises or who has any practical acquaintance with obstetrics. ere is an inquiry into the nature and causes of puerperal ver, without the aid of those who almost exclusively see it, udy it, and treat it! To play *Hamlet*, omitting Hamlet, is thing to this! Those who drew up this scheme must lieve in the spontaneous generation of knowledge; in *Lucina ne concubitu*.

Now, I think it is time, more than time, to sum up my litical argument, and conclude a discourse undertaken under vere pressure, and therefore loaded with more faults than ight otherwise have been expected. The political error hich mars the usefulness of some of our medical institutions ws from the scientific fault; a want of due appreciation of e place which obstetric science and practice should hold.

I am sure that, in Manchester at least, that art will be vin-cated by which White, Hull, Kinder Wood, Robertson, and adford have added lustre to the great traditions of their city.

THE SECTION OF MEDICINE.

OPENING ADDRESS.

y Sir WILLIAM JENNER, Bart., K.C.B., D.C.L., F.R.S.,
President of the Section.

THE OBJECTS AND USES OF ASSOCIATION IN THE MEDICAL PROFESSION.

ENTLEMEN,—My duty and desire is to thank the Council of e Association for the great honour they have done me in pointing me to preside on this occasion over the Medical ction of the meeting. At the same time, I must own that feel there is some fitness in the selection made by the Council that I am to some extent in my proper place as President of e Medical Section at this special meeting—for the Address Medicine has been delivered by a physician I am proud to able to claim as a former pupil, and two of the three vice-esidents and one of the two secretaries of the Section owe me, at least, of their rudimentary knowledge of medicine to y teaching.

Seeing that an Address on Medicine of great ability and of nsiderable length, as well as an able and lengthy address on e present condition of State Medicine, has already been livered to the Association, and that gentlemen of the highest stinction in their own branches of the profession are to give ddresses on Surgery and on Obstetric Medicine; that these ldresses are exclusive of those by the President and the esident-elect,—it appears to me that the success of the edical Section, which has so much legitimate business to ansact, will be better advanced by me, as President of the ction, refraining from delivering any special address. The pers to be brought before the Section are so numerous, and any of them of so much interest, and the two discussions to held are of so much importance, that I shall trouble you ith few words and detain you but a few minutes from the oper business of the Section. I shall limit myself, by ay of introduction to that business, to a brief statement of hat appear to me to be the uses, the aims, and ends of these eetings.

All gatherings such as this of scientific men effect, I think, vofold good. They enable men to bring before their fellows—., before an audience capable of appreciating their worth—servations, and conclusions founded on those observations, in e special science represented at the meeting.

The consciousness that their labours will certainly be laid fore an appreciating audience, and be by them at once sub-itted to oral criticism, stimulates men to labour with greater al; to test again and again the accuracy of their observa-ons, in order themselves to detect their flaws; to think out r themselves the objections that may be taken to their ethods of observation, and the arguments that may be lduced against the accuracy of their conclusions; and thus e zealous worker is stimulated in his zeal, the accurate server is encouraged to yet greater accuracy, and the logical asoner more closely trained to admit even to himself only the ost strictly deducible conclusion.

The second and greater good flowing from *all* such meetings is, that the discussions which of necessity arise awake, in those who take part in them and in those who are listeners only, new ideas, and give form to ideas heretofore imperfectly defined in their minds, and do that which for all men is so essential—force them to think. For intellectual and scientific progress, the giving to others and the receiving from others of ideas is essential—the circulation of ideas is as necessary for intellectual and scientific life and growth as is the circulation of blood for physical life and growth. The ideas of others are the seed for new ideas in ourselves—we give, we receive, and new ideas are begotten; a third, differing from its parents, is the outcome of the two. The new ideas thus created open out wider fields for research, and fresh methods of testing the value of the produce of research. Again, as men talk one with another, new modes are discovered of looking at old things—prejudices fade away—identity of fact and meaning are found to underlie differences in words; and, by comparing their own observations and their own conclusions with those of others, they correct the former and rectify the latter.

And thus, although at the dispersion of gatherings such as this, of men of science, it may not be able to be said that any branch of the science represented at the meeting has received an addition which might not have been made in other ways, it can be asserted without fear of question that, not only has knowledge been spread, but also that an impetus has been given of the most forcible and purest kind to the advancement of knowledge in the future, which impetus could not have been given in any other way. Men's minds have been excited to think in new directions, to carry their thoughts into action; and prejudices, those drags on the acquisition of knowledge, have been lightened.

These advantages, I say, flow from all gatherings such as this of scientific men; but from our own annual meetings another and a better good flows. In the social associations which form a part of them, hearts are opened to feel more kindly to all their professional brethren. We become conscious of a real common brotherhood. We see how appropriate is the fable of the bundle of sticks. We find ourselves—how, we know not—regarding facts morally as well as scientifically professional from others' points of view, appreciating more highly others' merits, and looking less hardly on others' faults; feeling less confident that we are right and others wrong; estimating our own merits somewhat less highly, and our professional brothers' somewhat more highly; rejoicing rather that a new fact has been discovered, or a new and more correct conclusion drawn from old facts, than glorying in the part we have played in the discovery; rejoicing in the fact that a discovery of service to the race has been made, and not in the accident that we made it; rejoicing that our generation will hand down the torch of medical knowledge we received from the generation before us with a brighter flame to the generation which succeeds us, and not disputing how much of the brightness is due to a ray emanating from our own tiny taper.

The founders of this Association, appreciating the great advantages the members of our profession resident in London and other large towns derived from the intellectual movements consequent on the opportunities they enjoyed of meeting each other, endeavoured to confer the same advantages on the members of the profession resident in the country, and the increased facilities for travel enabled their aims to be fully realised, and at last an association of the whole profession to be formed, which not only gives the profession the intellectual advantage flowing from intellectual and scientific communion, but also the social and moral advantages which, we hope, the Association confers.

There will be a new feature this year in the section, viz., two papers will be read by distinguished physicians, for the express purpose of eliciting the opinions of members on two subjects of great practical importance, viz., one on Aortic Aneurism and one on the Treatment of Pleuritic Effusion. I have been present at several discussions of the kind at the Pathological Society. The advantages which resulted from those discussions were great. As the time of the oration to be devoted to these discussions is necessarily short, I have to ask the speakers to condense their remarks as much as possible; and to bear in mind that the value of a speech in these discussions is by no means necessarily in proportion to its length. I would, then, strongly urge on the speakers to keep closely to the subject under consideration, and to avoid, as far as possible, all discursions and episodes.

I cannot conclude without expressing, in the name of the section, the pleasure it will give us all if our foreign visitors —men renowned throughout the world—will take part in our discussions. I have said our foreign visitors; but in science generally, and in our profession especially, there should be no foreigners. We have a common language, and seek one treasure—truth—a treasure which, as soon as it is discovered, is the common property of all. In the world of science, and of medical science in particular, all worthy workers are true communists; they know nought of geographical nations, and race for them has no existence.

THE SECTION OF PUBLIC MEDICINE.

OPENING ADDRESS.

By F. De CHAUMONT, M.D.,
Professor of Military Hygiene, Army Medical School, Netley;
President of the Section.

SCIENTIFIC RESEARCH IN RELATION TO SANITARY PROGRESS.

Gentlemen,—It was with feelings of great gratification that I accepted the flattering invitation of the Council to take the chair in this Section, but it was not without some diffidence that I did so. Tempting as it may be to assume that it is a personal honour, I think I ought the rather to take it as a compliment to the institution I represent, the more so as the chair I hold is one that is inseparably connected with the loved and honoured name of Parkes. To him, and to many others of the medical officers connected with the public services of the Crown, a great debt of gratitude is due, both for the work they actually did and for the start they gave to the great principles of sanitation. The opportunities furnished by our troops and scamen for observations on an extended scale have been of great value, and have, I venture to hope, not been neglected; whilst the vast field of observation in our Indian empire has been productive of a great mass of sanitary knowledge. I may refer to the works of two eminent observers—Dr. Timothy Lewis, of the British Service, and Dr. D. Douglas Cunningham, of the Indian Medical Service—who have been employed for a number of years as special commissioners, primarily for the investigation of the causes of cholera, but secondarily for various other inquiries, which have proved of marked importance. Their appointment to this work is greatly to the credit of the Indian Government, and the productive character of their labours has been most encouraging. Among these, I may cite their valuable contributions to the history of cholera, in the course of which they have cleared away much that was of an untrustworthy and misleading character; their researches on the nature of the soil, air, and the ground-water fluctuations of Calcutta: the observations on the suspended matter of the atmospheric air; the discovery of the *Filaria sanguinis hominis;* and their more recent researches on the Madura foot, the Delhi ulcer, and upon Indian leprosy. It is not, of course, my object to praise one class of medical men as sanitarians above another; and, indeed, it would be unbecoming in me to do so; but my desire is twofold: first, to point out the advantages to the community of special scientific inquiries on an independent basis; and, second, to vindicate to some extent the position of our profession in sanitary work.

With regard to the first point—the encouragement of special scientific research—this touches the much vexed question of the "endowment of research," about which so much has been said and written in late years. To a certain extent, the principle has been recognised by the Government in the admirable series of inquiries first carried on under the enlightened direction of Mr. John Simon; but, excellent as these were, and as those still are which are continued under his successor, they are far too limited in scope for the requirements of the age; and it would have been a movement particularly appropriate for a Government whose motto *was*, "*Sanitas, sanitatum, omnia sanitas*," to extend such inquiries in a much wider circle, and so encourage investigations which can seldom be adequately conducted by means of private resources. In private life, those who have the means sufficient have rarely the knowledge or the inclination proper for such researches, whilst "chill penury" too often "represses the noble rage" of those who could most effectually carry them out. Such men as Cavendish are rare, of whom his French biographer said, "Il était le plus riche de tous les savans, et le plus savant de tous les riches." But it does seem a strange anomaly that almost unlimited sums can be obtained for experiments on "Woolwich Infants," "torpedoes," and the like—in short, anything that will most effectually destroy the human family on the largest scale; whereas there is untold difficulty in getting the most modest amount if the experiment be merely for the purpose of *saving* life. Of course I know it will be said that this is a trite complaint—one that has been made over and over again; also that upon the efficiency of our torpedoes and big guns depends our existence as a nation. Well, I can only answer that, if the complaint is trite, it is all the greater reason that the evil should be redressed; and that, if our existence depends upon our means of defence against a foreign enemy, it depends tenfold more upon the efficiency of our defence against a host of enemies, most of whom we carefully nurture in our own homes, and to which a foreign army is mere child's play. Preventable disease kills annually in this country not less than a quarter of a million—a number more than ten times greater than the "horrible and heart-rending" loss which our army sustained in the Crimean war—a loss which stirred the feelings of the country from one end to the other. It is true that ours was an invading army, and that the sufferings of an invaded country are greatly enhanced. The siege of Paris cost the city 50,000 lives; but, even with this large number, the whole losses of that great war were probably little more than perish in a year from preventable disease. War, besides, is a rare occurrence in a country; whereas our other foes are always with us, hardly ever ceasing from their destructive work. While, therefore, admitting that war is a gigantic evil, against which every precaution ought to be taken, it cannot be too often repeated that there are other even greater evils constantly in our midst, against which at least equal precautions ought to be provided, but which have as yet, unfortunately, failed to impress the governing classes with their immense importance. It is not that we would stop the attempts to keep ourselves in the van of science as regards war, but that we should devote more time and money to other matters too, so that, while the one thing is done, the other shall not be left undone. It is true that much has been accomplished—more, perhaps, than might have been expected not many years ago; but still so much of our legislstion in sanitary matters remains merely permissive, that a great deal less is really done than might be hoped for from the machinery. For true sanitary progress, we require an accumulation of facts and observations, as well as an organised series of original researches and investigations, such as can only be done on a great scale by State help and authority: a department of health, in fact, which shall be looked upon as equal in importance to any of the other great departments of the Crown.(a) Part of its duties ought to be to organise a system of extended and continuous investigations into the conditions of the soil, the air, and the water of the kingdom, such as could not fail ultimately to add vastly to our sanitary knowledge. As regards water, much is being done by individuals in different places, chiefly in the way of chemical analysis; but the microscopical examination is comparatively little studied, whilst anything like a systematic method of inquiry has still to be organised. Of course I do not forget the large mass of information collected by the Rivers Pollution Commission; but that is by no means enough. There is no "rest and be thankful" in such a matter. As regards air, a step in the right direction has lately been taken by the establishment of a section of sanitary meteorology in the Government Meteorological Office; but chemical and microscopic investigations are also necessary, and ought to be continuous and in a multiplicity of stations. For the soil, we may say that nothing is being done. It is true we have many details about its geology, so far as its solid constituents and their arrangement go; but the study of the soil-atmosphere and its variation under different conditions has been hardly even touched upon in this country.

Another most important inquiry has been much urged of late upon the attention of the profession and the authorities; namely, the registration of disease. Without the information that would thus be obtained, it is hardly possible to know the history and etiology of maladies—points so essential to a true knowledge of their means of prevention. Almost the only records of the kind are those of the army and navy, and they give information only about certain classes and ages, in numbers too small to have more than a limited value. Still,

(a) In reference to this, I may recall the eloquent address of Dr. B. W. Richardson, F.R.S., at the opening of the Sanitary Institute of Great Britain.

from them much information of a valuable character has been obtained. I may cite the important statistics of the influence of the Contagious Diseases Acts, which up to the year 1873 gave much valuable information. The unfortunate concession to pharisaical clamour in that year—viz., the infliction of a fine upon soldiers suffering from venereal disease—has done much to vitiate the returns as true statements of its amount. At all events, it has unfortunately given a handle to the opponents of the Acts, of which they have not been slow to avail themselves. Still, the statistics that are even now published, notwithstanding the somewhat modified value which must be attached to them, are, let us trust, sufficiently instructive to render the repeal of the Acts improbable. Few pieces of legislation have, to my mind, been more successful, and it would be a lasting pity if the good were arrested by the well-meaning but misguided efforts of its opponents. At the same time the preposterous way in which the latter handle statistics makes them no more formidable than the anti-vaccinationists, al least so long as our legislation is conducted by people of ordinary sense and perception, who will be content to deal with facts and not with fancies, and not make or repeal laws in a fit of hysterics.

I have said that I proposed, in the course of this brief address, to vindicate to some extent the position of our profession in sanitary work. It may seem to many somewhat strange that this should be at all necessary. One would have thought that, if sanitarians were to be drawn from any profession, it would certainly be from the medical; yet it is remarkable how strong a tendency there is in some quarters not only to disregard the advice and counsel of medical men, but even to shoulder them out of the work altogether. Were medical men nowadays, as used to be said of them formerly, merely givers of nasty pills and nauseous potions, with but a limited knowledge of disease itself and a blank ignorance of its causes, the opposition might have some fair ground; but, in the present day, even our sarcastic enemy Montaigne, who implored that he might get no physic until he was well and strong enough to bear it, might have looked with some favour upon a profession whose motto is not merely "*Venienti occurrite morbo*," but "*Principiis obsta*," whose most strenuous efforts are towards the prevention, and even, if possible, the extinction of disease. Again, in how many instances has our profession in vain called attention to sanitary evils and urged their remedy, with no other result than being sneered at first, and finally having their labours quietly appropriated, and the glory given to another! There are several forms which this opposition may take. The first is the purely *Philistine*, which from time to time finds its expression in local governing bodies when the necessity for a medical officer of health is gravely questioned. In one instance, it was objected that it was a waste of money to pay a salary for the office at all, on the ground that there was nothing so cheap as science, and that you might get one for nothing. In another case, it was gravely said that all that was wanted was a good inspector of nuisances, sanitary work consisting merely in the removal of dung-heaps, clearing out privies, and the like. The second form of opposition I may call the *obscurantist*, which in some points differs but little from the former in practice. This would resist the appointment or co-operation of any one who did not hold the particular view which they especially favour, who would, like the grammarian that cursed his opponent for his theory of irregular verbs, introduce what I may call an *odium ætiologicum;* and from participation in this form of opposition our own profession is, I regret to say, not altogether free. The third form is one which is a little complex and rather difficult to name in a single expression; it is partly "rest and be thankful," combined with a spirit of resentment against the medical profession as that which especially troubles their Israel, and partly an extreme timidity in the matter of expenditure. It is this that induces local authorities to give the Poor-law doctor an annual ten or fifteen pounds as health officer, really as a retaining fee to make him hold his tongue, instead of appointing a competent officer, who should have no interest in anything except keeping his district in the highest state of sanitary efficiency. It is this spirit that induces high official persons to disregard the sanitary counsels of medical men, and, if possible, to compass their exclusion from sanitary work on the plea that they are *impracticable*. Being *impracticable* usually means that the recommendations of the individual so styled will lead to the expenditure of money—a thing generally abhorrent to the official mind (unless it be for its own particular job). But it is farther asserted that mistakes are made, and that things directed to be done at one time are disapproved of at another, so that changes are rendered necessary, to the hindrance of true progress and (of course) waste of public money. But, I may ask, are mistakes peculiar to the medical profession? Do no others ever make them? Are there never any legal or engineering mistakes; no military, naval, or political mistakes? Considering all things, it seems rather wonderful that the mistakes have been so few; and that may be taken as a proof that the teaching and habits of thought of the medical profession form an excellent training for sanitary work. At all events, we may safely say this, that, many as the mistakes may be that can be laid at our door, they would have been many times greater had the work been entrusted to any other class of men. If we have slain our thousands, they would have slain their tens of thousands. I am very far from being forgetful of the fact that many distinguished sanitarians have come from ranks non-medical; but I do uphold that it is from our ranks chiefly that sanitarians must and ought to come, for in no other profession is that class of knowledge acquired that best fits a man for sanitary work. Not that I wish by any means to exclude members of other professions. We require the assistance of all, and desire the co-operation of all; but to attempt to work sanitary reform without the medical profession would be like making wine without grapes; it might be wine of a sort, but it would only be gooseberry after all. We are not without illustrations of the results of attempting to act without, or contrary to the advice of, the profession. Let the history of the Crimean war serve as an example. Perhaps the best abused man of that time was the late Sir Andrew Smith, the Director-General of the Army Medical Department; and yet, when the true story of the war came to be told, it was found that he had foreseen only too well the breakdown that must occur, and proposed measures which, had they been adopted, would have at least greatly mitigated the terrible evil. The French Government were not more wise than our own, for they disregarded the warnings of their medical staff in the autumn of 1855, when it was plain to the eye of science that a terrible invasion of typhus was imminent. The ruling powers were deaf, the blow fell, and many of the unfortunate doctors fulfilled their prophecy in their own persons. Look at the history of the last Arctic Expedition and of the present Indian Famine, and say whether dire disaster might not have been averted had medical counsel been listened to. On the other hand, we have the history of the campaigns in China in 1860, in Abyssinia in 1868, and in Ashanti in 1873, in which medical counsel was sought, and, still more, acted upon; and what do we find? A series of triumphs won at a cost that was positively insignificant; a sanitary success that was little short of perfect, even in the terribly trying climate of the Gold Coast. This last was appropriately called a doctors' war; and it will be golden wisdom in governments to try and make all other wars more and more doctors wars, as well as to listen to their counsel in times of peace, whether they deal with soldier or civilian. To attempt to do without the doctor now is hopeless, although it is possible to conceive a time when such a consummation may arrive. Indeed, the progress of medical science has been constantly tending towards abolishing the necessity for the physician; so that, in a remote future, a physician will be honoured less for the uses men may have of him, than because by his prevenient science he renders it unnecessary to use him as a physician. And this is a healthy sign of progress. Every pursuit has its own mission to fulfil; and, if it do it well, its highest point of aspiration must in many instances be its own effacement. When the prophecy is fulfilled, the mission of the prophet is accomplished. All the world holds his secret, and he passes away out of notice; the time and place know him no more. Thus, as I have said in a former lecture, "State medicine will have both reached its perfection and extinguished itself when both sanitarian, as differentiated from the community generally, and State, as a controlling and interfering influence, shall have ceased to be; the one, because every member of a perfected community will be a sanitarian in the best and truest sense of the word; and the other because, from the very condition of the community, State interference will have become perfectly unnecessary."—("Lectures on State Medicine," 1875, page 6.) But, gentlemen, this is an ideal time, and, for the present at least, an Utopia; between it and us lies a wide and stormy sea of doubt and difficulty, across which our profession will unquestionably furnish the most trustworthy pilots. The saying

of Descartes is still true, that, "if the perfectability of man be possible, it will be through the medium of the medical sciences."

ORIGINAL COMMUNICATIONS.

STATISTICS OF DISEASE IN KING WILLIAM'S TOWN, BRITISH KAFFRARIA.

By CHAS. JAS. EGAN, A.B.T.C.D., M.R.C.S., etc.

In continuation of my account of disease as met with, in practice, in Kaffraria, I will consider next those of the liver, as this is one of the organs most usually affected by residence in a hot climate.

The statistics are taken from the same source as those used in the former paper on disease of the respiratory organs, and for the same years—viz., 1870 to 1875, both inclusive.

The total number of cases brought under review here is 718, and their classification is shown in the following table :—

Table I.—*Diseases of the Liver.*

	1870.	1871.	1872.	1873.	1874.	1875.	
Functional . .	26	58	53	83	52	76	= 348
Congestion . .	42	41	33	73	24	97	= 310
Hepatitis . . .	1	—	1	4	4	2	= 12
Abscess . . .	—	3	—	1	2	—	= 6
Gall-stones . .	3	6	4	4	5	4	= 26
Amyloid degeneration	3	3	—	—	4	6	= 16
	75	111	91	165	91	185	= 718

The first class includes all ordinary attacks of functional disorder of the liver unaccompanied by congestion or inflammation, often attended with colicky pains of very violent character, and followed by diarrhœa, or else nausea, loss of appetite, and other feelings of uneasiness and ill-health, usually referred to, and depending on, inactivity of the organ or depraved secretion. Indeed, many of the cases included in this class might be considered in the first stage of congestion. In many of them the old treatment by blue pill and seidlitz-powder, or podophyllin, is sufficient to remove the symptoms. This latter medicine I find most uncertain in its action, not only in the manner in which it affects different individuals, but also in its different effects on the same person at different times.

Twelve deaths occurred among the 718 cases while under my care—viz., 4 from abscess, 3 from gall-stones, and 5 from amyloid degeneration—making a percentage of 1·62 on the total number.

The percentage of deaths from disease of the respiratory organs was found to be 2·17, showing that they are more fatal in this country than disease of the liver.

The frequency with which functional disorder occurred in the different quarters of the year is shown in the following table :—

Table II.—*Functional Disease of the Liver.*

	1870.	1871.	1872.	1873.	1874.	1875.		
Spring ...	4	16	8	20	14	17	= 79, or 22·70	p. cent.
Summer..	10	21	20	33	18	22	= 124, or 35·65	,,
Autumn.	4	16	12	19	4	23	= 78, or 22·43	,,
Winter ...	8	5	13	11	16	14	= 67, or 19·25	,,
	26	58	53	83	52	76	= 348	

It will be seen that the hot weather of summer makes these affections largely predominate, spring and autumn have an almost equal ratio, and the winter the least.

The next class is congestion, distinguished from the above by fulness and slight enlargement of the liver, heaviness, and pain, with a tendency to jaundice, and continuing longer than cases of the former class :—

Table III.—*Congestion of the Liver.*

	1870.	1871.	1872.	1873.	1874.	1875.		
Spring ...	11	8	11	24	3	20	= 77, or 24·84	p. cent.
Summer..	12	12	7	24	14	30	= 99, or 31·93	,,
Autumn.	9	11	5	13	4	30	= 72, or 23·21	,,
Winter ...	10	10	10	12	3	17	= 62, or 20·00	,,
	42	41	33	73	24	97	= 310	

Acute inflammation of the liver is not at all common in this country. The statistics of it are shown in the next table :—

Table IV.—*Inflammation of the Liver.*

	1870.	1871.	1872.	1873.	1874.	1875.		
Spring ...	—	—	—	3	4	—	= 7, or 58·33	p. cent.
Summer..	—	—	—	—	—	—	= —	—
Autumn .	—	—	—	1	—	2	= 3, or 25·00	,,
Winter ...	1	—	1	—	—	—	= 2, or 16·67	,,
	1	—	1	4	4	2	= 12	

Besides these cases of hepatitis, all of which recovered, six cases of abscess occurred; all of them belonging to the class named "pyæmic" by Dr. Murchison. In one case the patient contracted the disease in India after dysentery. In this, signs of pointing appeared near the umbilicus, and a trocar was used; and a canula with indiarubber drainage-tube was left in the wound. The patient progressed favourably, and returned to Europe; but after a residence of about four months in England the disease returned, and he died. Another of the deaths from this disease took place from the matter escaping through the lungs, and the two others from the abscess bursting into the peritoneum. In the case of recovery the matter found an entrance into the bowels, and was evacuated by stool.

Of amyloid degeneration of the liver, sixteen cases came under my notice during the six years, of which five died while under my care. The others removed to other parts of the country, and I have not heard how they terminated.

Cases of gall-stones are not infrequent, twenty-six cases, with three deaths, having been noted. These cases represent twenty-four individuals, as there have been many cases of second and third attacks in the same person. Among these three deaths occurred: one from collapse, in a person suffering from great debility brought on by over-lactation, and also the subject of valvular disease of the heart; in another case the gall-bladder ruptured into the peritoneum; and in the third, death resulted from jaundice after repeated attacks of bilious colic.

I have not met with any case of hydatid disease of the liver, although tapeworm is very common in this place, especially among the natives.

Of the total number of cases of these diseases now brought under notice, 24·11 per cent. occurred in the spring months, 33·43 per cent. in the summer, 22·93 per cent. in the autumn, and 19·72 per cent. in winter.

The next class of diseases that I will consider are those of the bowels—viz., diarrhœa and dysentery. The frequency of diarrhœa in the different quarters of the year is shown in the following table :—

Table V.—*Diarrhœa.*

	1870.	1871.	1872.	1873.	1874.	1875.		
Spring ...	10	32	20	21	29	17	= 129, or 20·84	p. cent.
Summer..	32	31	42	39	66	40	= 250, or 40·39	,,
Autumn .	13	13	34	28	48	22	= 158, or 25·52	,,
Winter ...	9	9	11	23	16	14	= 82, or 13·25	,,
	64	85	107	111	159	93	= 619	

This table includes all cases of diarrhœa, both in adults and children, but I have excepted from it cases of cholera infantum, characterised by violent vomiting and purging, coming on suddenly, and producing great prostration, the child soon becoming thin, with sinking-in of the eyes, and, if the sutures have not closed, sinking-in of the fontanelle. It is most common in children when they are cutting the first set of molars, and is very fatal. Out of thirty-six cases attended, nine died, or about 25 per cent. Among the other cases of diarrhœa nineteen deaths occurred, or about 3·07 per cent.

Dysentery is not, I should think, more common here than in England, and is not more fatal. The following table shows the number of cases which I attended in the six years :—

Table VI.—*Dysentery.*

	1870.	1871.	1872.	1873.	1874.	1875.		
Spring ...	—	4	—	4	4	2	= 14, or 23·73	p. cent.
Summer..	1	—	1	—	3	4	= 9, or 15·25	,,
Autumn .	4	3	2	3	12	3	= 27, or 45·77	,,
Winter ...	2	2	2	1	—	2	= 9, or 15·25	,,
	7	9	5	8	19	11	= 59	

The number of deaths which occurred was five, or 5·08 per cent. It will be seen that the disease was more prevalent in 1874 than in any other year, and it will be found that the rainfall in that year amounted to 37·15 inches, being ten inches above the mean annual rainfall.

We have thus analysed 714 cases of disease of the bowels, among which occurred thirty-one deaths, or about 4·34 per cent., being the highest death-rate of the three classes of disease brought under notice. Disease of respiratory organs, giving a death-rate of 2·17 per cent.; disease of liver, 1·62 per cent.; disease of the bowels, 4·34 per cent.; and on the whole number of cases (viz., 2233) the death-rate is 3 31 per cent. This, I think, will compare favourably with the statistics of disease as met with at home, though I must confess I am not in a position out here to make any positive statement on this subject.

No regular registration of births and deaths is kept here, so that it is impossible to give the death-rate of the population, but I hope to be able at some future time to make some approach to an estimate of the death-rate by examining the books of the cemetery, and distinguishing the burials of residents of the town from those of persons brought in from the country for interment here.

Affections of the kidneys are those least met with here of all diseases of the internal organs. In the six years only nine cases of degenerative disease of the kidneys are recorded. Of these two died while under my care; and no case of acute nephritis was met with.

Calculous disease is also very infrequent. I have not met with any case of calculus in a person who has been long resident here. During the twenty years that the Civil Hospital has been established here, only three cases of urinary calculus have been admitted and operated on (all successfully), and these cases came from other districts of the colony. I have had a few cases of gravel under my care, of the lithic acid diathesis.

King William's Town.

CASE OF

DOUBLE OVARIAN DISEASE: REMOVAL OF ONE OVARY.

By FREDERICK ENSOR, M.R.C.S. Eng., L.S.A.

Iaria, a Cape Malay, aged thirty-eight, widow. Had one child, which lived to eighteen months; ten miscarriages. Menstruation regular; profuse for last two years. Treated for ozæna and syphilitic headache (?) in February last. Got well by hyd. bichlor. and pot. iod. Had pain in left groin in November last. Six months ago found her stays uncomfortable.

June 17, 1875.—Admitted into Port Elizabeth Hospital. Measurement round umbilicus 31 in., ensiform cartilage to umbilicus 7½ in., umbilicus to pubis 6¾ in., right anterior spine of ilium to umbilicus 6½ in., left anterior spine of ilium to umbilicus 6½ in. Not emaciated; sober, temperate. No œdema of face or feet; mammary areolæ not darker than usual; micturition frequent and difficult; bowels obstinate; tumour movable in front; fluctuation distinct; crepitus felt on first day in front, but not afterwards; some tenderness; dull sounds on percussion in front of abdomen and in *left* hypogastric and *left lumbar* regions, as if there was another cyst extending to the left (or is this colon?); auscultatory sounds *nil;* uterus pulled up and movable; anterior vaginal wall depressed, and fluctuation felt through it; catamenia rather free last period; hysterical and very talkative; heart and lung sounds good; sleeps best on her left side; pulse normal.

Diagnosis.—Ovarian cyst, possibly double, springing from left ovary. Ordered a quarter of a grain of belladonna extract and half a grain of opium occasionally for the pain.

July 7.—With the largest aspirator needle drew off fifty-five ounces of gelatinous fluid, occasionally tinged with blood; punctured three inches below umbilicus in linea alba. Ordered a quarter of a grain of belladonna and one grain of opium every twelve hours.

8th.—Distension relieved, and sickness, which had been troublesome for days before, subsided.

August 18.—Has suffered much from pain in the groin and over the pubis; cyst has apparently refilled, and the tumour to the left has grown larger; vomits daily; looks distressed and worn; occasionally passes abundance of lithates, but urine has cleared in the last few days by use of lithia and potash water. Had a warm bath for last two nights; to have an enema to-morrow morning.

19th.—In a separate apartment of the Hospital, especially prepared by previous cleaning, ventilation, etc. (weather bright and warm for the season; temperature in room 65°), in presence of my two colleagues and three visiting medical men, I made an incision an inch below umbilicus in median line to two inches above the pubis; came nicely down on the peritoneum, and opened it on a director the length of the incision. A considerable amount of peritoneal fluid escaped. Some slight adhesion of tumour to abdominal wall in front, and a little to the right, was easily overcome, and the ovarian tumour (about the size of a large cocoanut) was punctured and drained in usual way. A second cyst was then made out, and punctured through the septum, but fluid was too viscid to flow freely. The tumour was then drawn out without much tension on the aperture; the pedicle (of moderate bulk, and rather short) was attended to. It was found that a portion of what seemed small intestine was so firmly adherent to it as to require careful dissection, to make a space for the application of the clamp. After the clamp was screwed fast, and tumour removed, some difficulty was experienced in arresting bleeding from the patch of tissue which had been dissected off the pedicle with the adherent intestine. It was stopped by fine silk ligature holding the cut surface *en masse*, no one particular vessel being tied. The intestines and abdominal walls showed signs of active peritonitis. On this tumour being removed, another tumour presented itself, apparently filling up the pelvis, right in the median line, just above the pubis. It was very firmly attached on its site, had large vessels ramifying over its surface, and evidently contained fluid. It looked like a cyst, but seemed too dark and freely supplied with vessels to be an ovarian cyst. It could not be the bladder; the urine had been carefully removed previous to operation. It seemed too firm and immovable for an ovarian cyst. The finger in the vagina came on the os uteri, and then the finger seemed to pass up and around a swelling, apparently the uterus. All present inclined to the opinion it was uterus, and it was consequently left alone. All bleeding having ceased, the parts were sponged and cleaned. Five deep silk ligatures were inserted, and strapping, cotton-wool, and bandage applied. The woman bore the chloroform and operation well, without causing any alarm. An injection of tinct. opii ℥xl., tinct. belladon. ℥xxx. was thrown up into the rectum. The patient was removed to bed, and her legs supported by pillows. The operation took one hour and ten minutes in performance. To make the story as short as possible, I will remark that vomiting set in the same evening. Pulse rose to 140; temperature 101·2°.

22nd.—Pulse came down to 110; temperature 99°; vomiting less, but still present; can only keep milk and lime-water on stomach.

23rd.—Pulse 120; temperature 97°; deep sutures removed; vomiting same.

24th.—Clamp came away itself this morning; pulse weak, 120 to 140; evening temperature 99·2°; vomiting continues.

25th.—Died quietly, vomiting having ceased from yesterday. The urine was drained off every four or six hours, and enemata of tincture of opium and belladonna gave much comfort as regards pain; no medicine given by the mouth; enemata of egg, milk, and brandy were administered to no good effect.

Post-mortem (August 25, 1875, 5 p.m.)—Body still warm. Abdominal section quite firmly united to within a short distance of where the clamp had been situated; soft fibrinous effusion slightly gluing the intestines together; not much fluid in the peritoneal cavity. The tumour which we had come upon at the time of the operation had risen nearly as far as the umbilicus. On cutting into it, it proved to be a multilocular ovarian cyst; four or five septa, very thick, and filled with very thick colloid fluid. The tumour adhered so firmly to the pelvic brim and sides, also the back of a very small wasted uterus and bladder, that on using much force I could not even lift it out of the pelvis, the adhesions were so universal and strong. The evidences of peritonitis were not much more marked than those observed at the time of operation. The patient seemed to die exhausted from vomiting; vomiting before the operation was the most distressing symptom. I believe this is the first case of ovariotomy which has been performed in South Africa.

I must confess that I was not prepared to meet a second tumour; and the question arises, whether, with a second

*

ovarian tumour so adherent, could I have done better; or had I evacuated, would there have been a better chance of life? The fixity, the position, the dark surface, the enlarged vessels, made us think it was the uterus. I am sorry that the first case in Africa has been a failure. But what surgeon does not learn more by his failures than by his successes?

Port Elizabeth, South Africa.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

ST. BARTHOLOMEW'S HOSPITAL.

CASES OF "GASTRIC CRISIS" IN LOCOMOTOR ATAXY.

(Under the care of Dr. PATRICK BLACK.)

[Recorded by Dr. ROBERT BRIDGES, Casualty Physician to St. Bartholomew's Hospital.]

Case 1.—D. C., aged thirty-nine, a loader of ships, admitted to St. Bartholomew's Hospital on April 24, 1876, suffering from obstinato vomiting and pain in the lower part of the belly, running round the flanks, these symptoms having come on on the fourth day before admission. Patient has a light complexion and red beard; appears strong and in good health, and does not look as if he was troubled with dyspepsia, or as if he had suffered much pain. Pulse 80, regular, full, rather sudden. Skin natural to touch; body-heat normal. Pupils equal and natural. Tongue rather furred, and yellow at the back. He states that he has had similar attacks of obstinate and continued vomiting before. He never had jaundice; he is in no pain at present. when he vomits he sees double; his sight is dim now. He has a great sense of weakness in the knees, and a trifling pain there, but no other pain in the legs. On exposing the legs, they exhibit a great contrast to the upper part of the body, being thin and wasted. No local swelling nor trace of anasarca; no anæsthesia nor retardation of sensation. On examination of chest and abdomen all physical signs were normal. There is no blue line on the gums. The urine, on boiling, precipitates a thick cloud, dissolved entirely by nitric acid. He states that he has difficulty in passing his water at present. Examination of the eyes: Slight internal squint of left eye. causing double images to be seen looking to left (due to weak external rectus of left side). Both optic discs depressed, and paler than natural; right decidedly paler than left; arteries small. [Two examinations were made, one by the Ophthalmic Surgeon, Mr. Vernon, and one by the House-Surgeon, Mr. Barton]. On questioning him about his history, he cannot say exactly how many attacks of sickness he has had; the first attack he remembers was five years ago, the first few attacks were more widely separated than the later ones; the only accurate dates he can give are these—that the last attack was six weeks ago, lasting eleven days; the one before that commenced the first Monday in August, 1875, lasting about the same time; the one before that was this time last year, when he was in Poplar Hospital for an accident. When questioned about ataxic symptoms, it is evident that he has attached no importance to them. The "weakness in his legs," as he terms it, came on after the attack last year. He has not remarked weakness in any other part of the body, and does not remember to have felt weak in the legs before one year ago. This weakness is worse during the periods of sickness. As for his sight, he has remarked no actual loss of vision; but a dimness of sight, especially in the left eye, has come on after his attacks of sickness. During the last attack he had decided diplopia, having to move his head to the left, over the left shoulder, to see with distinctness objects in front of him. He has not seen double since. The ataxic symptoms, when the patient was asked to walk, were very marked. He was himself evidently not aware how weak he was, and when he shut his eyes he would have fallen at once but for assistance. The sickness lasted about ten days altogether. The vomit was green, fluid, and much mixed with mucus. The patient was very thirsty; there was a tendency to constipation; the difficulty in micturition was but slight; he slept badly; subcutaneous injections of morphia had some soothing effect. The sickness stopped the day after counter-irritation was applied to the spine. Sleep returned as soon as the vomiting subsided.

Case 2.—J. M., a carpenter, aged thirty-seven, from Sydney, admitted on October 13, 1875. A spare but hearty-looking man, unable to walk or stand without assistance; gave the following history:—He has not done any work for twenty-one months. Illness began two years ago, with darting pains in the legs, which came on at night, and would last thirty hours; sensation of cold in knee-caps; loss of power in running, and ataxy in the dark. His disease has gradually increased on him, with loss of power and inability to use his legs. He has had occasional difficulty in passing water. Arthritis: Eighteen months ago the right knee-cap swelled, and was painful; this lasted a month; it seems to have left no trace. Gastric Crises: At Sydney, just before embarking, he had an attack of pain in the stomach with retching, which lasted a week; the pain was so great that he groaned with it. This was May, 1875. There was difficulty in micturition. The second attack was during the last fortnight of the voyage (October 1 to 13, 1875). He had never been sea-sick during this voyage, nor before; the weather would not account for it. The difficulty in micturition was so great that the ship's surgeon passed a catheter. The third attack was while under observation; it lasted only one day, but some discomfort for three days. This sickness was again accompanied with difficulty of micturition—a catheter passed easily; the pain he described as heavy and dull; the body-heat neither rose nor sank. Examination of Eyes: Ophthalmoscope showed no certain change in discs; sight was good. There was ataxy of both legs, which were also wasted and weak, not paralysed; there was some loss of sensation, nowhere complete; there was no retardation of sensation; the disease was from the hips downwards; the patient seemed free of other disease; the urine was natural, no albumen.

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Medical Times and Gazette.

SATURDAY, AUGUST 18, 1877.

THE ADDRESS IN SURGERY.

THE name of Mr. Spencer Wells, as the author of this very interesting Address, is a sufficient guarantee of its excellence, and therefore there is little need for us to preface any remarks we may make, by eulogisms which can add nothing, either to the value of the Address, or to the surgical reputation of its author. We shall endeavour to briefly summarise the chief points of the Address, and then commend it to the careful study of all our readers.

Mr. Spencer Wells, in order to point out how, individually as well as collectively, every one of us may assist in the advancement of the "surgery of the future," traced the history of the past, so that "our followers, taught by our success, warned by our failures, knowing where our knowledge is defective, our methods faulty, may so work and so observe that in each succeeding year surgery may become more perfect as an art, more exact as a science, and more honourable as a profession." Indeed a retrospect of the practice of surgery is absolutely necessary if we would rightly appreciate the rapid strides with which this art is now advancing. Few amongst us at the present day can remember what surgery was before the introduction of chloroform, and most of us are so used to it that the dangers and difficulties which attended its introduction are as little appreciated by us as are the obstacles which, before its use, beset every large or even small operation that the surgeon might be called upon to perform. In saying this we are not glorifying ourselves at the expense of our old and bygone predecessors. We point out the fact simply that chloroform has opened up a road which rendered progress—and rapid progress—almost inevitable. The mere fact of the artificial but beneficent slumber which chloroform brings about, allows the surgeon to peacefully think out and perform his operation, unharassed by any of the humane but bewildering consideration which the cries and sufferings of one's patients must needs give rise to in the most callous and indifferent surgeon. Such a revolution has taken place since chloroform came into use as never before happened, and Mr. Wells justly characterises this as the "commencement of a new era in surgery." There had, no doubt, been other and great changes in the practice of surgery, such as the ligature of arteries instead of the old and barbarous method of "choke-bands," boiling pitch, and hot irons for the staunching of blood after amputations and other wounds, but the introduction of chloroform threw this and all others into the shade.

Mr. Wells showed how the "age of Victoria" is inseparably connected with all the most recent and most important advances in surgery as an art and as a science, and he pointed out too how this advance has corresponded with the development and growth of the British Medical Association. "Almost coincidently with the formation of this society in 1832, there began to be spoken about vaguely, and as curiosities, things which are now so universally practised, that probably very few of those who listen to me recollect how very recently they have been accepted as part and parcel of surgical practice. I am not one of the oldest here, but I can well remember when lithotrity was a novelty, when the subcutaneous section of tendons was absolutely new, when orthopædic surgery was unknown, when the torsion of arteries was spoken of as a barely possible substitute for the ligature, when the radical cure of hernia was scoffed at as a French delusion, when the treatment of aneurism by compression had hardly even entered into the professional imagination." "In 1835, at Oxford, Costello publicly demonstrated lithotrity as a novelty before the assembled Association, and I think we may fairly date the establishment of that operation, now so carefully and generally practised by so many of our associates, from that meeting."

Passing on from general topics to special ones, the orator referred in turn to anæsthesia and anæsthetics, the radical cure of hernia, and the use of electricity as a therapeutic agent. In reference to the last subject, Mr. Wells referred to the electrolytic dispersion of tumours—a subject which is yet quite in its infancy, but which is well worthy the attention and study of all surgeons. That tumours have been completely dispersed by the continued action of the electrolytic needles is a well-known fact; that bronchoceles may also be dispersed, and subcutaneous nævi destroyed in such a way that little or no scar is left behind, are things now established beyond a doubt. Such facts should surely lead to further study and researches. Speaking of the value of accurately knowing the temperature of our patients, Mr. Wells compared the sensitive clinical thermometers of to-day with the rough-and-ready guesses at temperature of olden times before these instruments were invented. Many of our readers will scarcely credit, what is nevertheless a fact, that the ophthalmoscope was jeered at and "ridiculed in print as a toy." And yet what surgeon or physician would now venture into our hospital clinical wards without this little companion and aid to diagnosis in his pocket? Esmarch's bandage was next referred to, and the orator thought "that many of the inconveniences ascribed to its use will be avoided when it comes to be more generally practised." Transfusion of blood by Dr. Roussel's apparatus was spoken of: "I need only express my hope that everyone who practises surgery hereafter will make himself competent to transfuse safely, not only when a patient is bleeding to death after childbirth, or some accident, or operation, but in other cases when the blood is insufficient in quantity or deteriorated in its composition." It may interest our readers to know that, while Mr. Wells was even speaking these words, Dr. Roussel was engaged in consultation with Dr. Thorburn in transfusing blood for post-partum hæmorrhage. The husband of the woman supplied the blood, and it is satisfactory to know that the operation has been highly successful, although the woman at the time of its performance was almost past hope.

Speaking of vivisection and recent legislation on the subject, Mr. Wells said "anybody may slaughter oxen and sheep by thousands for human food in any way he pleases; oysters may be eaten alive; the pheasant or the partridge, the fox or the deer, may be expressly reared to supply the sportsman with exercise or *the amusement of killing*—in a word, the lower animals may be devoted to the use of man for *any* purpose that is *not* scientific. But if a surgeon experimentally sacrifices half a dozen dogs or rabbits in the hope of improving some operation which may prevent the loss of human life or lessen human suffering, he is branded as inhuman, and barely escapes the supervision of the police."

One of the last subjects, though by no means the least, to be considered was ovariotomy. This operation, said Mr. Wells, had been almost denounced from the chair of the Royal Medical and Chirurgical Society in 1850 by Lawrence, who asked "whether this operation can be encouraged and continued without danger to the character of the profession." Mr. Spencer Wells's name is so intimately associated with this operation that it is impossible to think of the one without the other; and his 800 cases will ever stand out as a gigantic landmark, not only in the history of surgery in all time, but as the unparalleled achievement of one great master-hand in the lifetime of a single generation. We can appreciate Mr. Wells's pride and pleasure in hearing from the same chair, less than thirty years later, that "his (Mr. Wells's) improvements in the operation of ovariotomy were among the greatest achievements of surgery in this century, and that the influence for good extended through every department of operative surgery." This was indeed a recompense for all the thought and anxiety which must have been given to the perfecting of an operation which at one time was considered so "fearful in its nature, often so immediately fatal in its results, that, whenever performed, a fundamental principle of medical morality is outraged."

In concluding, the orator impressed on his hearers the great value of scientific education, not for doctors only, but for the lay public. "At home, until we can disband the great army of paupers, we must at least save them from preventable disease, and the multitudes of our neglected children must be taught some elementary facts necessary for the preservation of their health and the prolongation of their lives. The day cannot be far distant when this will be done by Parliament, under medical guidance." "There is ample encouragement to set to work at

once, earnestly and with set purpose, acting in the spirit of the noble motto—

"'Vérité dans la Science,
Moralité dans l'Art.'"

THE ADDRESS IN OBSTETRICS.

The Oration in Obstetrics is one which the profession to whom it is addressed will read with interest, if not with conviction. It is marked by the author's wonted force of style and fertility of illustration; and the high position which he holds in the department for which he spoke, gives it the more weight. Looking at it, as it is our duty to do, from a critical point of view, it seems to us to possess the one fault which an utterance inspired by strong feeling and firm opinion is almost sure to have: it is the address of a counsel, strong, able, and convinced that right is on his side; but it does not, like the judicial summing up, unfold with equal care each side of the case. Its argument is a simple one, and is developed with that abundance of apposite illustration which is the mark of a full mind.

Dr. Barnes first enters a preliminary protest—not put one bit too strongly—against "the rapidly growing tendency to split up the study of the healing art into sections," tending to "the study of medicine in disjointed bits, to the neglect of those grander lights which can only be caught by a well-balanced study of all in their mutual relations." Reflections such as these, he goes on to say, "however universally their abstract truth is recognised, in practice are too much neglected." The principle here stated is then illustrated from the author's special subject. He takes pregnancy as his example; and about half the Address consists of a brief, though full, summary of those changes in the whole organism which accompany the gravid condition—not a mere catalogue of separate facts, but a philosophical survey of them, showing how they are brought about, and their relations to one another. Having set before us the physiology of the pregnant state, Dr. Barnes takes us to its pathology, and cites many examples of the remarkable influence which gestation has in determining or modifying the phenomena of disease. This part of the Address is summed up in the proposition:—"*As pregnancy is the test of soundness in the individual, it may be of all her blood relations too, so is pregnancy often a crucial test of the soundness of pathological doctrines.*" This section will be read with profit by all. So compressed and so accurate as to be useful to the student, it is yet so full of thought as to be instructive and suggestive to those of larger acquirements.

The scientific basis thus laid, Dr. Barnes passes to his political corollary, which is this: "A philosophic comprehensive science of medicine or surgery cannot be built up without an earnest study of obstetrics." "It is impossible to make a good surgeon without training him in medicine and obstetrics." It is therefore a reproach to the College of Surgeons that it licenses men to practise *every* branch of medicine and surgery of whose obstetric knowledge it takes no heed. "It grants imperfect diplomas; it licenses to practise what it ignores." If this proposition be true, it is a still worse step to propose to license persons to practise upon women, whose knowledge in the larger branches has not been tested. Such a thing is a degradation to obstetrics, and a wrong to womankind. So far, we think, Dr. Barnes will carry his readers with him. His premises are undeniable, his reasoning sound, and his language not at all too forcible.

The Address concludes with a vehement condemnation of the recent step which the Senate of the University of London has taken. It is to this part that our criticism most applies. His refereuce to it is but a vigorous expression of opinion, not an exhaustive argument—a mode of treatment probably imposed upon him by limited time. His words, "We repudiate utterly the proposition that there is one standard which it is necessary to attain to qualify for the treatment of diseases of men, and another, a lower, to qualify for the treatment of diseases of women"; "Medicine is one and indivisible,"—all this we heartily endorse. But his utterance is so outspoken, his attitude so uncompromising, that we do not think it will win over many of the opposite side.

He lastly refers to the appointment by the Council of the Pathological Society of a Committee to investigate, among other infectious diseases, puerperal fever,—this Committee not including anyone practically acquainted with the disease in question. We here differ from Dr. Barnes. We look upon this Committee with feelings precisely opposite to his, and yet prompted by the same reasons. It seems to us a proof of that interest in obstetric science which, we agree with Dr. Barnes, is wanted; and surely it would not be considerate to ask men whose line of practice is such that they cannot safely enter a post-mortem room, to assist at an investigation which must be chiefly concerned with the dead subject.

The drift of the whole Address is summed up at the end, in this sentence, which is the last that we shall quote:—"The political error which mars the usefulness of some of our medical institutions flows from the scientific fault—a want of due appreciation of the place which obstetric science and practice should hold."

We have said enough to show that in Dr. Barnes's main position we entirely agree. No one can be a sound physician or surgeon who has not laid a good broad foundation, and learnt the facts of disease as it affects every part. It is no more safe for a man to leave out of his studies the diseases of one set of organs than it would be to overlook their anatomy and their physiology. In the latter case the principle is recognised; in the former not. We would add the converse proposition: No man can be a good obstetrician (or specialist of any other sort) who is not well grounded in general medicine and surgery.

The importance of obstetric knowledge to the general practitioner is obvious, for he has to practise it. And that the education of the pure physician, and pure surgeon, should not be thought complete without a knowledge of obstetrics is also to be wished, not only for the light that such knowledge may throw on other diseases which he has to investigate and treat, but because it would give obstetricians the advantage of better criticism and help.

The position which obstetric science and practice will hold must depend upon those who practise it. If all obstetric works were written with the full knowledge and scientific method which characterise those for which the profession is indebted to Dr. Barnes, the boastful contempt of obstetrics which he refers to would not exist. But when we find, written nine years ago, by an obstetrician whose name we are sure Dr. Barnes holds in honour—"The fittest of fates, oblivion, awaits much that is now vaunted: the discovery and diligent treatment of diseases which do not exist; the use of treatment the danger of which is greater than that of the disease; the recommendation of remedies and operations regarding which little more is known than their names; the facile juggling with remedies of which it is the one sufficient recommendation to have a new name; the systematic concealment of disasters resulting from such treatment,"—all we can say is, that if the profession acquiesce in these sweeping sentences, no regulations can make obstetric science highly thought of. The remedy for such things as these, if they exist, is *light*. In proportion as obstetricians show that they possess a body of verified truth, and that they investigate this class of diseases according to scientific method, so the more eager and the more competent will become other members of the profession to appreciate the value of their work.

THE PUBLIC HEALTH (IRELAND) BILL, 1877.

Notwithstanding its untimely fate at the hands of Messrs. Parnell and Biggar, in Committee of the House of Commons last Thursday week, the Public Health (Ireland) Bill, 1877, cannot be allowed to pass out of sight without some notice in our columns.

For many reasons the withdrawal of the measure by the Chief Secretary for Ireland is to be regretted. If, however, the emendations introduced by the Select Committee which recently considered the Bill are included in a similar measure next session, and if the delay in legislation affords further opportunity of developing and perfecting a sanitary code for Ireland, the present evil of withdrawing the measure may ultimately become a boon to the sister country. For, numerous as are the improvements already introduced, much yet remains to be done in the way of amendment and of further legislation.

The Bill, as amended by the Select Committee, consists of 292 clauses—four more than were in the original draft. The introductory memorandum by Sir Alfred Power, Bart., Vice-President of the Irish Local Government Board, is omitted.

The new clauses are the following, viz.:—Clause 5, which enables an urban sanitary authority to delegate to a committee certain of its functions under the Bill. Clause 46, which allows other means of removing house-refuse than by the watercloset or dry-earth systems—*e.g.*, by the pail system. Clause 145, which imposes a penalty on persons sending to school any child "who, within the space of three months, has been suffering from any dangerous infectious disorder, or who has been resident in any house in which such dangerous infectious disorder shall have existed within the space of six weeks," without a medical certificate that such child is free from infection, and unless his or her clothes have been *properly* disinfected. Clause 154, which empowers any sanitary authority to provide hospital accommodation, *including convalescent homes*, for its district. Clause 155, which enables the said sanitary authority to recover from patients who are not paupers the cost of their maintenance in such hospitals. Clause 256, which provides that *every* sanitary officer shall attend and assist at prosecutions by the sanitary authority, *any medical officer so attending being entitled to remuneration from the sanitary authority at such rate as the Local Government Board shall approve, unless it shall have been agreed that the duty of affording such attendance and assistance shall be included in his salary, or that his whole time shall be occupied in the discharge of the duties of his office*"; and Clause 277, which relates to the construction of Schedules.

Of these new provisions, Clauses 46, 145, and 154 are most important from a sanitary point of view, and Clause 256 removes a grievance to which the Irish dispensary medical officers, acting as sanitary officers, have been subjected since the passing of the Act of 1874. It marks one of the decided successes gained by the Colleges of Physicians and Surgeons of Ireland, and by the Irish Medical Association, in their representations to the Chief Secretary on the Bill.

It is with great pleasure that we approach the consideration of Clause 11, which as "Clause 10" in the original Bill so intimately concerned the interests of the members of the profession. The commencement of the clause now reads—"Every medical officer of a dispensary district shall be a sanitary officer for such district, or for such part thereof as he shall personally be in charge of, *under the title of Medical Officer of Health*," etc. The words which we have italicised embody one of the emendations in the law which was most eagerly sought for by the profession in Ireland. The medical officer's status under the sanitary code is secured by those words, and he can no longer be regarded by obtuse sanitary authorities as an inspector of nuisances or a general sanitary drudge.

In the same clause occurs the objectionable provision as to the payment of the medical officers in accordance with a scale to be approved by the Commissioners of her Majesty's Treasury. Under the Act of 1874 the Local Government Board fixed as a *maximal* scale one-fourth of the salaries enjoyed by the sanitary officers in their capacity of dispensary medical officers. Had such a scale been a *minimal* one, no reasonable objection could have been taken to it; but, as it is, the dispensary medical officers are almost to a man in open rebellion against the existing system of payment by scale. Although the obnoxious words still stand part of Clause 11 of the amended Bill, we are happy to say that Sir M. Hicks Beach has given a positive verbal assurance that the scale will be altogether withdrawn. He has said so to the Chairman of Council of the Irish Medical Association, and there can be no doubt that he would himself have proposed the omission of the words in question in committee of the whole House. As the Bill is withdrawn for this session, we must only hope that Sir Michael will be in a position next year to redeem his promise.

With a view of protecting the medical officers in the discharge of their onerous duties—duties which are often calculated to bring them into opposition with their clients in private practice—the necessity of providing supervision was strongly urged upon the Government. The Conjoint Sanitary Legislation Committee for Ireland drafted the following clauses to be added to Clause 10 (now 11) of the Bill:—"The Local Government Board shall, from time to time, appoint so many fit persons as the Lords Commissioners of her Majesty's Treasury shall sanction, being practising physicians or surgeons, to be inspecting medical officers of health, to assist in carrying out the provisions of this Act, and may remove all or any of such officers and appoint others in their stead. There shall be paid to such inspecting medical officers of health such salaries as shall from time to time be appointed by the Lords Commissioners of her Majesty's Treasury, out of any moneys which may from time to time be provided by Parliament for that purpose. Within *six* calendar months after the passing of this Act, the Local Government Board shall divide the whole of Ireland into districts, for the purposes of sanitary inspection, and every such district shall be subject to the supervision of an inspecting medical officer of health."

The Select Committee did not adopt and introduce these clauses, but the desirability of—nay, the necessity for—supervision has been fully recognised by the Chief Secretary and by the Select Committee, and the reason the clauses were not adopted, is simply that the Local Government Board already has the power of appointing inspectors for the purposes contemplated by the amendment.

Among other improvements in the amended Bill, we observe that Clause 139, providing conveyances for removing the sick to hospital, is made compulsory on every sanitary authority, instead of being permissive as heretofore. Clause 144 now extends the penalty hitherto inflicted only on persons *letting* houses, to persons *taking* houses, who may make false statements as to the existence of infectious disease. Under Clause 151 the Poor-law Medical Officer becomes entitled to costs for attendance on board vessels *at a rate to be fixed by the Local Government Board*. In connexion with this mention of remuneration for skilled services, we must express our regret that, in Clause 157, the fee for a certificate by a qualified medical practitioner has, apparently by an oversight, been allowed to remain at *ten shillings*. It should certainly be not less than one guinea. Clause 157 now includes the following provision against the dangerous practice of "waking" those who have died of zymotic disease:—"The body of any person who has died of any dangerous infectious disease in any hospital or place for the treatment of the sick shall not be removed from such hospital until removed direct to a mortuary or cemetery; and

any person violating, or any officer of a hospital, or other person, who knowingly permits the violation of this provision, shall be liable to a penalty not exceeding *five pounds*."

With a view of improving the registration of deaths, the following addition has been made to Clause 190 :—"The clerk or secretary, or registrar to any burial board and cemetery company, shall make or cause to be made at such times and in such manner as the Local Government Board may direct, a return of the names, addresses, dates of death, and causes of death, so far as ascertained by him, of the persons whose bodies have been interred in such burial-ground to the registrar of the district in which the burial-ground is situated."

Space would fail us in an attempt to give in detail the minor amendments introduced by the Select Committee. The more important ones, already specified, show how energetic were the labours of that Committee while sitting, and increase the regret we feel at the withdrawal of a really good measure. Let us hope that the Chief Secretary will introduce a similar and even better Bill at the beginning of the next session of Parliament, so that Ireland shall no longer be deprived of the advantages of a sanitary code—for the present lost to her by shipwreck among the many shoals and quicksands that, towards the end of a Parliamentary session, endanger the course of vessels, however goodly, well officered, and well manned they may be.

THE WEEK.

TOPICS OF THE DAY.

Of late years the neighbourhood of Battersea has been selected by chemical manufacturers as a convenient spot for their operations, but the Wandsworth Board of Health are not altogether satisfied with the arrangement, and last week they instituted proceedings against two firms at the Croydon Assizes. The first prosecution was against Messrs. Wallace, who manufacture sulphate of ammonia, a product of the refuse liquor of gas works, treated with sulphuric acid and lime, etc. In this process it was sought to be proved that baleful fumes were emitted, not only odious and sickening to the smell, but distinctly injurious to health. Indeed, one sewer man is said to have died of these fumes. Many witnesses, including some medical men, were called to prove the case. The defence was, that although the smell was certainly bad, it produced no ill effects. After a trial lasting five days, however, the jury were unable to come to a conclusion, and were discharged without giving a verdict. The other case was a prosecution against the Alum and Ammonia Company, whose process is different, though dealing with a similar material, and also with the aid of sulphuric acid. It was found impossible to form a jury, and the case was ordered to stand over.

The *Sanitary Record* remarks that since civil registration was established in England, there has been a considerable increase in the relative proportion of the male death-rate to the death-rate amongst females. According to the English Life Table, in equal numbers living the deaths of males (at all ages) are somewhat less than 105 to 100 deaths of females. During the last quarter the annual death-rate amongst males was equal to 23·1 per 1000, whereas that among females did not exceed 19·9 per 1000; thus, in equal numbers living, the deaths of males were as 116 to 100 deaths of females. In urban populations the relative excess of the male death-rate is more marked. In Lancashire, for instance, the death-rate of males to that of females was as 121 to 100, and in the West Riding of Yorkshire as 123 to 100.

Last week the town of Barnsley was presented with a park, being a large addition to the piece of ground already in possession of the Corporation, at the cost of Miss McCreery, of London, sister-in-law of the late Mr. Joseph Locke, the eminent engineer. The occasion was celebrated as a holiday in the neighbourhood, all the shops and works being closed. The new park consists of about twenty acres of well laid-out ground, together with a handsome tower erected at a cost of £3000, which bears the inscription, "To the memory of the donor of the park, Phœbe, widow of Joseph Locke, M.P., this tower was erected, and twenty acres of land added to the park by her sister Sarah McCreery, 1877." The handing over of the park to the Corporation was undertaken by Lord Halifax, whose family originally belonged to Barnsley.

A very satisfactory report has been issued by Mr. Henderson, Sub-Inspector of Factories for the Western Division of the Metropolis, on the working of the Factory and Workshop Act of 1867. Although great fears were at first expressed by employers that this piece of legislation would be ruinous to them, the result has proved entirely the opposite, and masters confess themselves astonished at the result, which has been to reduce the unreasonable demands made upon them by merchants, and to enable them to employ their workpeople under conditions at once more healthy and more profitable to all concerned. The tendency in all manufacturing industries to the concentration of the workpeople in large factories allows better sanitary arrangements to be made for them, and manufacturers now know that if they desire good work, they must surround their workpeople with conditions which will enable them to exercise all their faculties and energies freely. Not many are now ignorant of the baneful influence of overcrowding, bad air, insufficient meal-times, and uncomfortable workrooms. It is admitted that there is still much room for improvement, but the experiences of the last ten years hold out a good promise for increased reform in the future.

The special correspondent of a contemporary with the Russian army, writing from Sistova, reports that the Russians are beginning to suffer in health, owing, in some corps, to irregular rations, in others to hard marching, in all to heat; but the greatest predisposing cause is the total neglect of all sanitary precautions. They never bury dead horses or oxen, or the entrails of slaughtered cattle; they never dream, seemingly, of the wisdom of the latrine system. The result is a general tainting of the air, which poisons men predisposed to fall ill by reason of lassitude from over-fatigue or long abstinence from food, although men in stalwart health escape. It is a little singular that the greatest proportion of illness has manifested itself in the suite of the Emperor. Out of five officers on personal service about him, four are ill. Nearly everybody is more or less sick, squeamish, and out of sorts, and the reason is not far to seek—the air of Biela is tainted thick and heavy with filth and rotting offal. Even tobacco-smoke and brandy are powerless to avert nausea.

The Lavoisier Medal of the Société d'Encouragement pour l'Industrie Nationale has just been given to an Englishman—Mr. Walter Weldon, F.R.S.E. In presenting it, M. Dumas congratulated Mr. Weldon upon having cheapened every sheet of paper and every yard of calico made in the world; and, at the meeting at which the presentation took place, Professor Lamy stated that whereas at the date of the introduction of Mr. Weldon's invention, seven or eight years ago, the total bleaching-powder made in the world was only about 55,000 tons per annum, it was now over 150,000 tons per annum, and of this vast quantity fully 90 per cent. is made by the Weldon process. The only other recipients of this Society's "great medal," which bears different effigies according to the class of service for which it is given, are Ferdinand de Lesseps, Boussingault, Jaques, Siegfried, Henri Giffard, and Sir Chas. Wheatstone.

A case which was heard this week at the Marlborough-

street Police-court rather forcibly illustrates the necessity for caution before indulging in the practice of bathing in the Serpentine. A man was charged with using soap whilst bathing, and also with washing rags; it was also shown that he had running wounds, and one of the witnesses wished to know if a person suffering in this way could not be prevented from bathing in the limited space assigned to bathers by the Park authorities, as it seemed not impossible that those near might catch some disease. The magistrate, however, said the regulations stated nothing about a man bathing his wounds in the Serpentine, but they did forbid the use of soap by bathers. It appeared to him that a common sense of decency ought to prevent an afflicted person from exposing his wounds publicly. The defendant said he had been ordered by the doctor at St. George's Hospital to use plenty of water; he was only washhis hands and arms, and would not do so again; he also promised to discontinue bathing, and was then fined 20s., or fourteen days. "Common sense," of all varieties, is very often wanting; and certainly the use of a public bathing-pool for the treatment of sores or eruptions ought to be prohibited.

The Commissioners appointed to inquire into the discipline and management of Christ's Hospital, and the circumstances which led to the suicide of the boy W. A. Gibbs, have presented their report to the Home Secretary. The authorities and the monitors are exonerated from any special blame in the matter of Gibbs' death, but the present method of managing the school is strongly objected to, although it is admitted that the system now in force is necessary so long as the school is retained in London. Therefore, the Commissioners suggest its removal to the country, where probably all the defects in management and discipline which are now complained of, and which cannot be effectually cured so long as the school remains in its present cramped situation, would disappear under the government of an able and judicious head-master. Under the present system the masters have no control over the boys out of school-hours, and their engagements do not bind them to be present at any time but the hours for lessons. This is an entirely wrong system, as everybody knows the importance of masters mixing with their pupils during the hours of recreation; and as the retention of the London site precludes the introduction of reform in this matter, it is to be hoped that we shall shortly hear that the school is about to be removed to an appropriate and convenient suburban site.

In view of the deplorable loss of life which annually occurs about this time from injudicious bathing, and which, according to the Registrar-General's returns, has increased between 30 and 40 per cent. during the past year as compared with corresponding periods of the previous year, the Royal Humane Society have again published their often circulated advice to bathers. It runs as follows:—"Avoid bathing within two hours after a meal, or when exhausted by fatigue or from any other causes, or when the body is cooling after perspiration; and avoid bathing altogether in the open-air, if, after being a short time in the water, there is a sense of chilliness, with numbness of the hands and feet; but bathe when the body is warm, provided no time is lost in getting into the water. Avoid chilling the body by sitting or standing undressed on the banks or in boats after having been in the water, or remaining too long in the water, but leave the water immediately there is the slightest feeling of chilliness. The vigorous and strong may bathe early in the morning on an empty stomach; but the young and those who are weak had better bathe two or three hours after a meal, say after breakfast. Those who are subject to attacks of giddiness or faintness, and who suffer from palpitation and other senses of discomfort at the heart, should not bathe at all without first consulting their medical adviser." These rules are simple and good, but in the matter of bathing the public may almost be said to scorn advice.

An extraordinary state of affairs apparently existing in St. Giles's Workhouse was revealed at a recent inquest held upon the body of an old woman, seventy-six years of age, who lately died in that establishment. Evidence was given that the aged paupers in the infirmary have no one to render them any assistance if required at night; and occasionally, for want of better accommodation, they have to walk across the flagstones of a yard, the distance being between fifty and sixty feet. The deceased, about 4 a.m. on the 10th ult., rose and walked across the yard without shoes or stockings, fractured one of her thigh-bones, and lay on the ground in the rain upwards of two hours before she was discovered. The jury censured the guardians for their neglect.

THE MADRAS FAMINE.

We are thankful to be able to state that there is now more than a chance that public feeling will be roused to a full understanding of the terrible state of things in the famine-districts of the Madras Presidency. On the 9th inst. a public meeting, presided over by the Duke of Buckingham, was held at Madras, to consider what steps should be taken to secure help from England. The Duke stated that the affected area contained 18,000,000 people, of whom a large proportion was dependent for its daily food on the exertions and activity of those connected with the transport of grain to the country. His own journeys in the famine districts had convinced him that two-thirds of the Presidency was subjected to such a crisis as had never yet been experienced in Bengal or elsewhere. The failure of the south-west monsoon was admitted, and a more severe famine had to be encountered with a weakened population and diminished resources. Surgeon-Major Cornish stated that there were already 1,500,000 people to be fed; that up to the end of July 500,000 had died; and that the condition of the famine districts was going from bad to worse. Resolutions were passed that appeals should be made to the English people, and to the mayors of the principal cities in England, for help. The *Times* now fully acknowledges the urgency that exists for assistance. And "the visitation which has fallen" upon our fellow-subjects in Madras and Bombay, and in Mysore, has been made the subject of a paragraph in the Queen's Speech on the prorogation of Parliament. We shall take an early opportunity of recurring to the subject, but we have no doubt that the cry from India for help will be nobly responded to.

RECENT DEATHS UNDER ANÆSTHETICS.

Two more deaths in consequence of the administration of anæsthetics have occurred during the past week—one at the London Hospital on the 11th inst., and one at the Royal Ophthalmic Hospital, Moorfields, on the 14th inst. That at the London Hospital occurred about midnight. A man applied with an irreducible paraphimosis. After several ineffectual attempts at reduction, which caused the man very great pain, Mr. Hovell, the House-Surgeon, asked one of his colleagues to administer chloroform. A very small quantity was given on a piece of lint. The patient was quickly under its influence. However, in about two minutes the breathing suddenly ceased, his face became livid, and the pulse failed. Sylvester's method of artificial respiration was at once resorted to, and other measures were adopted, and failed. At the post-mortem examination the heart was found to be flaccid and dilated, and the muscular tissue fatty; it contained a little loose dark clot; there was no valvular disease. No other organic disease. The second death, at Moorfields, befell a woman, aged forty-six; she was extremely fat, and of slow intelligence. She had complained of shortness of breath on exertion, but was not known to be the subject of organic disease. She was to be operated on for senile cataract. A mixture of chloroform and ether, in a modified Clover's apparatus, was being administered

by the House-Surgeon. From the commencement of the administration, respiration was noticed to be shallow, but there was struggling. The pulse was feeble but not intermittent. There was some slight lividity of cheeks and forehead. Chloroform was at once removed, and a few whiffs of pure ether administered as a stimulant. Other means for restoring circulation were tried, but in vain; the patient died. At the post-mortem examination the heart was found flaccid and empty; the mitral valve was contracted, and the aortic valves were incompetent. Kidneys were fatty and granular.

THE PARKES MEMORIAL FUND.

At a meeting of the Committee of the Parkes Memorial Fund, held at the Royal Victoria Hospital, Netley, August 6, 1877, letters received from subscribers, in reply to circular of March, 1877, were read; and, being found to agree together unanimously in approving of the resolution provisionally adopted by the Committee relative to the disposal of the collected money—namely, "That the balance of the money which may remain after paying for the portrait of the late Dr. Parkes, and defraying other expenses incurred by having heliotype copies of the portrait distributed among the subscribers, printing circulars, postages, etc., be placed at interest; that such interest be allowed to accumulate for periods not exceeding three years, and that the amount (about £100) then available be offered for the best essay on a subject connected with hygiene, to be declared at the commencement of each triennial period, the prize to be open to all executive medical officers of the army, navy, and Indian army, on full pay (except the officers of the Army Medical School during their term of office)"—it was carried unanimously: "1. That this resolution be adopted. 2. That, if the Fund admit, a gold medal, bearing the portrait of the late Dr. Parkes, of value not exceeding £15, be given in addition to the £100 prize to the successful competitor, and that a sum not exceeding £50 be set apart for the die. 3. That December 1, 1880, be the date for sending in essays. 4. That the subject for the prize essay be determined by the Professor of Hygiene in the Army Medical School, in conjunction with a Committee formed by the Director-General of the Army Medical Department, the Director-General of the Naval Medical Department, and the Physician to the Council of India."

THE DIAPHANOSCOPE.

Attempts at lighting up the abdominal cavity for the purpose of diagnosis date from 1860. Milliot in 1867 made an instrument, but only used it on animals and dead bodies. His experiments led Lazarewitsch to apply it to gynæcology. He, however, failed to get light without at the same time getting heat, and so burning the patient. Dr. Justus Schramm, of Dresden, has overcome this difficulty, and made an instrument which can be used for any length of time. It consists of two glass tubes, the smaller within the larger, round at one end, at the other fixed to a wooden handle (made, for convenience of cleaning, to screw off). In the inner tube lie two copper wires, connected at one end with a galvanic battery, at the other joined by a slip of platinum. In the outer chamber cold water circulates, to absorb the heat given out by the platinum. In the handle is a button, by which the operator can make and break the current at will. The diaphanoscope is used in a dark room. The patient should be on her back, and her thighs extended. The tube is put into the vagina or rectum; the current is made, and the platinum soon gets white hot, giving a brilliant light. Then a wooden ring is pressed down, and at the same time moved about, so as to stretch and bring near to the light successive parts of the abdominal walls. The contrivance can only be used where the abdominal walls are thin, yielding, and not irritable; and there are many morbid conditions, which we need not specify, in which it is plainly inadmissible. Lazarewitsch has described appearances seen with his instrument, which, if confirmed by extended observations, would give it a certain diagnostic value. Dr. Schramm, however, in the few trials he has made with his more perfect apparatus, has failed to get results anything like so satisfactory. But his observations are as yet very few; and it is to be hoped that further experience with it may lead to something better. Meanwhile we agree with Dr. Schramm's wise remark, that an addition to our resources is always to be greeted with thanks. Although he cannot at present tell us that it is of real use, yet by making known his apparatus he may lead others to experiment with it and improve upon it, and so time may bring practical fruits from it.

THE STIRLING DISTRICT LUNATIC ASYLUM.

In his annual report on the Stirling Lunatic Asylum for the year 1876, the Medical Superintendent, Mr. James Maclaren, remarks that, as compared with the previous year, the chief facts to be noted are the diminished male admissions, these being seventeen less than in 1875; and the increased female admissions, which were eleven more than in the last year. The total removals during the year under notice were twenty-eight less than during the year 1875. Mr. Maclaren calls attention to the fact that one noteworthy circumstance with regard to the admissions for the period is the absence of any preponderance of one kind of insanity over another, or the existence of any special exciting cause in the district. The types of cases were very equally divided between the ordinary forms of mania, melancholia, and delusional insanity. From a study of the individual cases, and their causation so far as he could obtain it, he was led to think that the year 1876 may be taken as a very typical one as regards the amount of insanity likely to be permanent in the district. In a large majority of the cases the exciting and predisposing causes were of a natural character, or of a description likely to remain permanently in operation. There was, in fact, a marked absence of anything exceptional under the head of causation. As a proof of the necessity of early removal on the development of insanity, not only for the benefit (and even actual safety) of the patient, but also for the due protection of others, it is shown that no fewer than three patients died at periods of under one week from admission, whilst delay in another case led to homicide. Mr. Maclaren has succeeded Dr. Skae in the management of the Stirling Asylum, the latter gentleman having received the appointment of Government Inspector of Lunatic Asylums in New Zealand.

THE WATER-SUPPLY OF THE METROPOLIS.

Public attention is being prominently called to the impurity and inadequacy of the metropolitan water-supply, and the general opinion appears to be that the control and supply of such a necessity of life ought to be in the hands of a directly responsible body, instead of under the administration of a number of commercial companies. Such a body exists in the Metropolitan Board of Works, and accordingly it has been already provided that this Board should have power to purchase the undertakings of the several water companies. But even the Board of Works would find it beyond their power to render Thames and Lea water pure, and they have thus been compelled to inquire whether they could obtain a supply for the metropolis beyond the present existing sources. The result has been to obtain an assurance that by sinking wells and borings in the great water-bearing strata in the districts surrounding London an ample supply could be procured for the use of the metropolis. These sinkings would occur at distances varying from fifteen to twenty miles from the centre of London, and the necessary pumping-stations would be provided for lifting the water into four covered service reservoirs. It is suggested that a Bill to carry out the new scheme should

be deposited in Parliament next November; it could then scarcely be expected to lead to an Act before a year hence, and it would take another four years to carry out the details. Meanwhile, if immediate action be not taken, and the Bill deposited by November, another year will be lost, and the improvement in our water-supply will be retarded by that space of time.

THE HEALTH OF ST. PANCRAS PARISH.

The twenty-first annual report of Dr. Thomas Stevenson, the Medical Officer of Health for the parish of St. Pancras, on the sanitary condition of the district for the year 1876, among other information contains a table showing the mortality from each of the zymotic class of diseases, and their variableness, during a period of eleven years. From this it is to be gathered that the gross death-rate in the parish from measles, diphtheria, whooping-cough, and diarrhœa was in 1876 above, and from small-pox, scarlet fever, and continued fevers, below the average of the preceding ten years. From pulmonary diseases (other than phthisis), tubercular diseases (including phthisis), wasting diseases of childhood, and the convulsive diseases of infants, the mortality was in each case lower than during the preceding year. Dr. Stevenson explains that towards the close of the year under notice the rapid spread of small-pox in the metropolis, and its more limited extension in St. Pancras, induced him to advise the re-opening of the St. Pancras temporary hospital. The Sanitary Committee and Vestry at once adopted the suggestion, and entered into arrangements with the authorities of the Small-pox Hospital at Highgate for the reception of patients on payment of a fee by the Vestry for each case. In the temporary hospital on only one day during the present epidemic of small-pox was there insufficient accommodation for those applying for it. Further, to complete the sanitary organisation of the parish, the Vestry have entered into arrangements with the authorities of the London Fever Hospital for the reception of patients who are not admissible into the hospitals of the Metropolitan Asylums Board, and who are without proper lodging and accommodation.

EXPERIMENTS ON HAY FEVER.

At the suggestion of Professor Binz, Dr. G. F. Patton (*Virchow's Archiv.*, lxix., S. 410) applied the pollen of *Festuca pratensis*, *Dachtylis glomerata*, and *Secale cereale*—grasses which flower in early summer—to the mucous membrane of the nose, to the conjunctiva, and to portions of scarified skin, without exciting anything more than temporary irritation. Hence, as far as these plants are concerned, the notion that their pollen is an exciting cause of hay fever may be probably abandoned. Patton recommends a solution of one part salicylic acid and three parts common salt in 500 parts water as a local application in hay fever, in preference to quinine, which Helmholtz suggested, but which is very irritating to the mucous membrane.

HEALTH OF H.R.H. PRINCE ALBERT VICTOR.

We regret having to report that H.R.H. Prince Albert Victor has suffered a relapse. During the fifth week of the illness, from the 4th to the 11th inst., there was an intermission of the febrile state, and H.R.H.'s condition seemed to promise an uninterrupted convalescence. On Saturday last, the first day of the sixth week, the fever sharply returned, though with moderate intensity. We are glad, however, to be able to add that there have been no local complications, and that the case on the whole is progressing satisfactorily.

THE ACTION OF FUCHSIN.

According to some new experiments made by MM. Feltz and Duclos (*Gazette Hebd.*, No. 7, 1877), while the fuchsin of commerce which contains arsenic excites diarrhœa in adults if from eight to ten grammes are taken in about the same number of days, pure fuchsin has no such action. Commercial fuchsin in the dose mentioned does not cause albuminuria or general systemic disturbance. The urine has a rose tint, and is very rich in phosphates. According to Feltz and Duclos, wine adulterated with fuchsin must not contain more than *five milligrammes* per litre if the fraud is to pass undetected, for large quantities tinge the froth of the urine red, cause a large deposit in it, and eventually impart a rose colour to the whole urine. In such small quantities as 0·005, however, fuchsin is unlikely to do any harm. Fuchsin is only excreted by the kidneys when in solution, and not if given in the solid form.

ASTLEY COOPER PRIZE.

We learn that the prize for 1877 has been awarded to the essay bearing the motto "*Facta non verba*," the sealed envelope accompanying which contained the names of Drs. Eulenburg and Guttmann. The subject selected for the next prize is "The Cranial Nerves, with reference to their Anatomy and its Relations to Surgical Diseases and Injuries." The essay to be accompanied by preparations and drawings clearly displaying the course and distribution of the nerves, and especially their mutual connexions. Essays in competition, either written in the English language, or if in a foreign language accompanied by an English translation, must be sent to Guy's Hospital on or before January 1, 1880, addressed to the Physicians and Surgeons of Guy's Hospital.

MEDICAL PARLIAMENTARY AFFAIRS.

Superannuation Allowances.—The Medical Officer of the Handsworth District having resigned his appointment, made application to the guardians for a superannuation allowance in due course, which was refused. Mr. Sclater-Booth said it was in the discretion of the guardians to grant or withhold such an allowance, and the Local Government Board could not interfere. Judging from the information supplied them, he thought this a hard case.

Cattle Plague.—The report of the Select Committee on Cattle Plague and the Importation of Live Stock having been submitted to the House, Mr. Dodson inquired whether during the recess the recommendations of the Committee would be adopted. The Chancellor of the Exchequer replied that the measures hitherto adopted had been successful in checking and stamping out the disease. No alterations were contemplated in the carrying out of existing regulations. The report would be carefully considered during the recess, and, should the outbreak become more threatening, further steps would have to be taken.

Public Health.—Notwithstanding the confident assurances that the Government intended to push forward and pass the Public Health Bill for Ireland, it, along with that for London, has been withdrawn for the present session, three of the most notorious "obstructives" in the House of Commons having opposed the passing of this Bill. Sir Michael Hicks Beach said that he very reluctantly postponed the further consideration of this measure until next session. It was hopeless to proceed to consider an opposed Bill in committee, consisting of 300 clauses, at the close of a session. The order was therefore discharged.

Sale of Food and Drugs.—Mr. Meldon having proposed to insert a provision in the Sale of Food and Drugs Act Amendment Bill, to the effect that where spirits (not being gin) had been reduced below an alcoholic strength of 25 per cent. under proof, this Act should not apply, Mr. Sclater-Booth accepted the clause in question, but he could not approve of the limitation of 25 per cent. He thought it better to decide this point after further inquiry by a Select Committee. Mr. Herschell remarked that the law certainly required amendment. The House, however, was counted out, and the debate adjourned.

The *Destructive Insects* Bill, specially framed for controlling or preventing the ravages of the Colorado beetle in this country, and the *Canal Boats* Bill, made rapid progress through both Houses of Parliament during the latter days of the just expired session of Parliament.

Agricultural Dwellings in Ireland.—Complaint was made by Mr. Callan that no attempt had been made by Government to improve the dwellings of the labouring class in Ireland by

loans for purposes authorised by the Legislature. He said that no class of men were more badly treated; they were badly fed, badly clothed, and badly housed. Sir M. H. Beach said he did not see what advantage would be gained by a new Royal Commission to inquire into this subject. The attempt to consolidate the Public Health Acts having failed, the powers of local authorities to improve the dwellings of the labouring classes would still be very restricted. There was an increasing demand for loans from the Government on very favourable terms.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

MANCHESTER.

In my last account of this meeting I left off with Wednesday evening and the *soirée* given by the Mayor and Corporation of Manchester. I should like to say a word or two on this subject beyond what I have already addressed to you. And first, as regards the Town Hall. The building is of great size, and probably well suited to its purposes, but the structure is not one all of us can admire. It is intensely heavy and sleepily ornate. The idea it forces on you is not that of massiveness, but of weight. The ornamentation is not beauty unadorned, nor the gorgeousness exhausting itself in minute detail, but the cheap finery which pleases the bucolic eye. I will try to give an example of what I mean. Take any of the plainer cathedrals you please—best of all, if you know them, the two Scotch cathedrals of Glasgow and Aberdeen, where simplicity and severity are carried out almost to meagreness, but where massiveness is also impressed on the mind; take again, as the thought arises in our mind, the Houses of Parliament, where ornament is carried to such an extent as to conceal massiveness,—in the Manchester Town Hall we have neither the one nor the other. Take, as a sample, its great archway under the tower opposite the Albert Monument. The arch is pointed, but the point is so rounded that the arch almost seems a Norman one; but the impression forced on the spectator is that the arch might have been at some period sharply pointed, but that the intense weight of the tower above had forced it nearly flat. Nearly all the windows are lancet-shaped; but, medically speaking, the lancets are blunt. In the interior the main feature is corridors—corridors leading everywhere. Doubtless these corridors are useful, and they are not without a sombre magnificence; but my remarks have been mainly addressed to the elevation of the building. One would willingly leave off here, but it would be unfair to do so; for the meagreness of the reception given to the visitors was in such strong contrast with that offered by bodies at whom the Manchester Corporation would turn up their noses, as to attract universal comment. They might have borne in mind the old adage, that "What is worth doing, is worth doing well." Those, however, who carried off their notions of Lancashire hospitality from this *soirée* would have been grievously misled.

On Thursday, the first great feature of the day's proceedings was the Address in Surgery, by Mr. Spencer Wells, that has already been published, and is elsewhere commented on, so here I need say nothing further on the subject. Dr. Sayre, too, gave a demonstration in Owens College of his method of treating curvature of the spine. The Sections resumed at two o'clock, when, in the Physiological Section, a long address on physiological advances was given; and this meeting was graced by the presence of the man who, more than any other, has, by his personal example and influence, contributed to the advance of practical physiology and to the application of exact methods in physiological research. Unfortunately for us, he does not speak English, so that no public address could well be made by him. It could not but be matter for regret that one so distinguished as Ludwig, who had never been in England before, should come to this country at a time when the dull season had already commenced, and when many who would have been glad to try to pay their meed of gratitude to him were necessarily prevented from doing so.

Probably the most interesting discussion which turned up on Thursday was that in the Medical Section under the presidency of Sir William Jenner. The subject selected was Tapping in Pleuritic Effusions, and to this the President adhered firmly and closely. Two papers were read first of all—one by Dr. Wilson Fox, who had come expressly from London for that day on purpose to read it; and another by Dr. Clifford Allbutt, of Leeds. Need I say that both were excellent in their way; and the subject was further illustrated, from a special point of view, by a capital paper on Pleuritic Effusion in Childhood, by Dr. Barlow and Mr. Parker, of London. I will not say more of the papers and discussions now, for the whole subject will well bear a separate and special consideration, but I shall pass on to the next great feature in the programme—the annual dinner. This annual dinner is no doubt an institution, but there is sometimes the risk of its becoming an annual nuisance; and, as it seems to me, the reason is not hard to seek. There are too many toasts, and the corollary to this is that the party sits too long. If with this sitting there is, let us say, nothing more than a very moderate consumption of wine, it is certain that many members accustomed to early hours would have been far better in bed for some hours before the dinner party separated. There was no more popular speech on the occasion than that of Sir Henry de Bathe, the General commanding in the Manchester district, who pronounced strongly and decidedly against the present army system as regards medical men. "This system," he said, "as all of us know well, gives satisfaction to nobody—neither to the soldier, nor to the new-fangled army doctor." It is a good thing that the combatant element begins to recognise this.

On Friday, which was the last real working-day, the Association entered on its work early. At ten o'clock Dr. Barnes gave his Address, elsewhere published. The sectional meetings, which began about eleven o'clock, were not so numerously attended as on previous days, and at half-past one the last general meeting was held in the Chemistry Lecture Theatre. At this meeting it has been customary to announce the next place of meeting, and to elect the President for the ensuing year. On the present occasion this was not done, inasmuch as no place of meeting had been fixed on, and, in point of fact, no really acceptable invitation had been received. We can hardly wonder at this, in view of the labour and expense of getting up the programme of a meeting such as that just concluded at Manchester. It costs weeks of labour, and the labour falls more especially on a few—the energetic few. The labour undergone by Dr. Leech, Dr. Hardie, and Mr. Cullingworth, as local secretaries, has been enormous, and can only be rivalled by that of Dr. Thorburn, Dr. Ross, and Mr. Jones, Secretaries to the Museum Committee. The local fund, too, had not only to pay all kinds of expenses, but was specially devoted to the payment of the cost of all wines at the annual dinner, and of the garden party held on Friday afternoon. Upwards of 1200 visitors were assembled from all parts of the world; and to accommodate and provide for these, though many were going backwards and forwards day by day, even Manchester hotels were pretty well filled. What could be done by a small place in the face of such numbers? It is very unlikely that anything like the same numbers would assemble in a small place; nevertheless, it is true that the Association has been growing at an enormous rate, and there are not awanting symptoms of its developing Frankenstein qualities. However, we have no wish to act the pleasant part of the prophet of evil. The Manchester meeting has been thoroughly successful.

To the invariable relief of all, Saturday comes. During all the week there has been a continually growing tension, which is abruptly brought to an end by the last general meeting on Friday. The meeting is then practically over, and, upon the whole, the dinner parties on Friday are most enjoyable, provided there has not already been a surfeit of good things. There is on Friday evening no longer a question of how the meeting is likely to go. There are no evening meetings to attend; hence the dinner-hour is later, the meal itself is less hurried, and in all these and some other respects more comfortable. But on Saturday morning, dispersion, already begun, proceeds at a rapid rate. Excursions go north, south, east, and west, and few excursionists return to their headquarters in the city of the meeting. The chief excursions from Manchester were to Macclesfield, in Cheshire; to Castleton, in Derbyshire; to Lancaster, to Northwich salt mines, to Southport, and to Blackpool. By far the largest numbers proceeded to Southport and Blackpool. In both instances special trains were provided free of charge. I do not know how fellow-visitors fared at Blackpool, but it would be hard indeed to rival the reception given to those who elected

to go to Southport. On arrival there, the visitors, who numbered about 100, were received by the local profession, carriages were provided, and a pleasant drive through the town led in no long time to the esplanade in front of the sea, where the fresh breeze was not ungrateful to men somewhat tired and jaded. It is difficult to say how much one must be struck with the energy displayed in making Southport what it is. It is built on a sandy soil, where it has been facetiously said that every blade of grass cost a shilling. It is not specially benefited by nature, yet it is one of the most flourishing and most enticing seaside resorts on the north-west coast. It has one of the longest piers in England; its public baths of filtered sea-water are by far the most magnificent we have seen; it has got fine winter gardens with a large concert-hall, where a play was provided for the evening amusement of the visitors, and the largest real-ice skating-rink yet introduced. It is, moreover, exceptionally healthy, as the Medical Officer of Health cruelly and relentlessly made us know; but its healthfulness was, in still worse taste, contrasted by certain well-known dealers in climatism with that of Mentone and Torquay. Though personally I deeply felt the importance of bringing out London, Norway, Iceland, and the Hebrides, together with many other places too numerous to mention, scathless from the heat of such a fierce fire, I had not the heart to do it. On such occasions the eating and the drinking are not to be forgotten; and I do not think anyone who partook of the hospitality of our medical brethren at Southport will easily forget the way in which we were entertained by these gentlemen. Details of eating and drinking require one born to the art to make them palatable to the public. I shall not attempt the unattainable. But, to contrast small things with great, I would again refer to and contrast the hospitality offered to us by the Mayor and Corporation of a great city like Manchester, with that of a few private gentlemen in a comparatively small place like Southport. Strange that the small things should be the great Corporation; the great, the little body at Southport.

In connexion with this excursion, it would be unpardonable not to record in a more distinct manner than was at the time possible how much we all appreciated the kindness of our entertainers. To none were our thanks more especially due, as I believe, than to the father and son, Dr. Woods, sen., and Dr. Woods, jun., who acted as our chairman and local secretary.

FROM ABROAD.

Prof. Nussbaum on Lister's Method in Military Surgery. The *Feldarzt*, Nos. 11 and 12 (supplement to the *Wiener Allg. Med. Zeit.*), contains an abstract of a clinical lecture recently delivered at Munich by the distinguished military surgeon Prof. Nussbaum.

The greatest step in advance which military surgery had made for centuries was, he observes, the introduction of "centrifugal evacuation" in 1859, the efficacy of which was strikingly proved in 1866 and 1870. The disburdening the centres made room for the newly arrived wounded, while the patients, who formerly were kept penned up together for months in narrow spaces, generating a fearful poison that carried off hundreds of them by pyæmia and hospital gangrene, or early fell victims to the pain, want, and misery amidst which they were, are not allowed by the evacuation system to remain long enough for the production of these poisonous effects. Often, even during their very transport, they become infinitely revived and improved, and continue improving as they approach the better condition of things attainable at the periphery. During the war of 1870 many of the very sick were eating their last morsels of pea-sausage cooked in impure water (no fit food for such cases, but still better than none), and while these sufferers were lying in the hard and dirty camps, those at the periphery were in the enjoyment of clean and comfortable beds, and good and even luxurious food. While at the centre even necessaries were wanting, at the periphery brotherly love provided every means of restoration. Through this masterly disposition, that fearful disease hospital gangrene, which in the Napoleon wars carried off in the hospitals more than the enemies' bullets did on the battle-fields, became so great a rarity, that during the war of 1870-71 Prof. Nussbaum never met with a single bad case of it among more than 10,000 wounded.

Another very great discovery has been made recently, which has effected an entire change in our ideas concerning the treatment of wounds. It is that the unfavourable course of a wound does not depend on the nature of the injury or the peculiarities of the individual, but is caused by external circumstances arising from causes that are now pretty well known, and therefore able to be combated. Antiseptics have, in fact, worked wonders. The question has often been put to the Professor by his pupils, How can this masterly method be best employed in military surgery?—for all at once see that so complex and troublesome a mode of dressing is impossible on the field of battle. In answer to this, it may be first stated that there is no longer any doubt that the Lister method of treating wounds is the best; for even those who used to treat it in a rather "step-motherly" fashion were unable at the last Berlin Congress of Surgeons any longer to deny its efficacy. Now that the most important operations have been performed without danger, the open treatment can no longer rival it. Who ever before treated seventy or eighty compound fractures without a death? and who could have imagined dozens of persons living after amputation of the thigh? Lister's method alone can show successes like these. In Italy and the Crimea from 94 to 98 per cent. of amputations of the thigh proved fatal; under Lister's method well-nigh all recover. "You have only to look at our own clinic! Prior to the introduction of this method we had erysipelas in nearly every bed, while dozens died yearly of pyæmia. Of wounds and ulcers, 80 per cent. were affected with hospital gangrene, and the actual cautery had to be employed daily in this frightful disease, or we were in expectation of death from hæmorrhage owing to destruction of vessels. Go through my clinic now! All this has vanished as if by magic. You will not find a single case of erysipelas, not one of pyæmia, not one of hospital gangrene. No longer do you see wounds and ulcers treated by the actual cautery. In the same number of cases we have, since the introduction of this glorious method, not more than one-half the number of deaths, these taking place almost exclusively in aged persons in the subjects of pulmonary disease, and in the badly wounded."

It is not surprising, therefore, that this method should excite enthusiasm, and that the question should be asked how it can be utilised in war-time. Without doubt, all those in military hospitals who do not wish to heavily burthen their conscience can, and must, "listern"; and, indeed, Lister's gauze-dressing is to be preferred to all its modifications, none other being so porous and so quickly absorbing and disinfecting the secretions of the wound. Thiersch's salicylated wadding is without doubt a good antiseptic dressing, but not so good as Lister's. This and other simplifications, especially Bardelebeu's carbolised jute, if Lister's principles be strictly observed, will furnish favourable results; and, on account of their simplicity, one or other of these modifications may be resorted to in time of war.

The Lister method will only furnish its brilliant results when it is carried out in the most accurate manner, and on the battle-field, when we may have to work on barn-floors, court-yards, grass-plots, and in pits, this complicated procedure is impracticable. And yet it is immediately after the reception of the wound that it is of the highest importance, this being the time which is most favourable to the penetration of the generators of putrefaction diffused in the air. At a later period the depths of the wound are protected by a dried covering, while this concentrated condition of the secretions of the wound produced by the evaporation of their water is (as shown by the researches of Nägeli) inimical to the development of these agents of putrefaction. So that it is shortly after the infliction of the wounds that the agency of antiseptics is all-important. Hence arises the weighty question, How is a wound to be treated on the field of battle in order to guard it against these pernicious putrefactive influences? This question Prof. Esmarch has sought to answer by requiring that the wounds shall not be touched by the hands, but closed rapidly by antiseptic plugs, in order to preserve them from the contact of putrefactive agents until they can undergo the Lister treatment in the hospitals. For this purpose he proposes that every soldier should carry in the lining of his uniform two balls of salicylated jute wrapped up in gauze; and when we consider how long the wounded may have to remain before aid can reach them, we thankfully receive this plan, which would enable one comrade promptly to aid another. Still, a soldier's uniform undergoes too many vicissitudes to allow of our supposing

that these balls would retain their antiseptic powers uninjured. Of all antiseptics, salicylic acid seems best suited for the purpose, not being fluid, retaining its power longest, easy to procure and to stow away; so that, while packing these balls away in the soldier's uniform is a doubtful procedure, yet the bearers and the surgeons should be supplied with an ample stock. Perhaps room might be found for stowing away in the soldier's knapsack these salicylated plugs. Between the reception of the wound and the arrival of surgical aid is a fearful interval, and many of the wounded have to lie for eight or ten hours, far into the night, before they are found, and that often by mere accident. As soon as this happens the tragedy is at an end, for from this moment the most loving care is lavished upon them. But the previous terrible time is the black spot in our present war-procedures. The new weapons and the mode of their employment produce in so short a time such a mass of wounded that even the greatest exertions do not enable the sanitary service to rapidly clear the field of battle.

Several surgeons have objected to these balls that they will not enter into all the angles of the wound, and recommend before using them the sprinkling of some kind of antiseptic powder into all its corners. Prof. Nussbaum has tried the effect of thus powdering the wound by means of a small pounce-box with finely powdered salicylic acid prior to applying Esmarch's balls, but he has been obliged to give the plan up, as the powder when thus directly applied proves too irritating to the wound; while the balls really answer every purpose, for let the wound be as narrow or angular as it will, and even when the smaller plug does not penetrate into all its recesses, yet as soon as the salicylic acid becomes dissolved by the blood and secretions of the wound it spreads over all parts of it. This plan of Esmarch's seems simple enough, but it has been well thought out by a man of great experience, and has a great future before it. If the balls are not filled too full, and are made with salicylated gauze and wadding or jute, they will be found of great practical use. By reason of the lasting action of the salicylic acid, a wound may in this way be protected from septic influences for several days; and every hospital surgeon will be delighted to receive the wounded in such a condition. Often a sort of healing process will have been already set up, so that the adherent plug will sometimes have to be left in, complete healing of superficial wounds taking place in this way when there is no foreign body present. In other cases, when the periphery of the wound has been carefully cleansed, the plug is removed under the action of the spray; and after foreign bodies have been sought for and a drainage-tube introduced, the wound is treated by Lister's dressing. The course and final results of cases so treated will far surpass anything that has yet been met with in military surgery. The statistics will excite astonishment, and every wounded person will consider himself fortunate in having undergone such treatment. Several trials have been made of packing away these balls. Each soldier would require only two, and both together would not exceed a child's fist in size—one being as small as a plum, and the other not larger than an apricot. When packed they only weigh eight grammes, which is no great addition to the weight of the knapsack. They should be soft and not filled too full, so that they can be pressed into the angles of the wound. They should be composed of 11 per cent. salicylated wadding or jute, and bound up in salicylated gauze. Before packing they should be protected by parchment-paper—tin-foil or guttapercha paper not answering so well, while leaden capsules are too troublesome and heavy. With a little instruction, one comrade may easily be taught to render to another infinitely important service; and thousands who would otherwise have died of pyæmia may in this way be saved.

The "William and Samuel Tuke Prize" of 100 guineas, offered in 1874, by some of their descendants, for the best essay on a specified subject relating to Insanity, has just been awarded by the Medico-Psychological Society to Dr. Edward C. Spitzka, of New York.

The following City Companies have contributed to the Repairs and Improvement Fund of the Westminster Hospital, as follows: Grocers, £100; Goldsmiths, £100; Mercers, £105; Fishmongers, £52 10s.; Merchant Taylors, £26 5s.; Cutlers, £26 5s.; Skinners, £21; and the Clothworkers, £21 annually to the general fund. In addition to these sums, her Majesty the Queen has also been graciously pleased to forward £50 for the same object.

GENERAL CORRESPONDENCE.

THE HOMŒOPATHIC SCHISM.

Letter from Dr. G. Wyld.

[To the Editor of the Medical Times and Gazette.]

Sir,—As a sequel to my letter on this subject, which appeared in the *Times* and medical papers of June 1 and 2, I trust you will insert in your journal the following form of resolution. I am the more anxious about this because my first letter emanated almost from myself; but this resolution has been signed by every member of our body to whom I have applied *personally*, and the names are those of our leaders.

I have shown the resolution to four members of your body, and they have all said—"If this resolution fairly represents the views of your school, we can see no *logical* objection to its leading to the freest professional intercourse."

Such being the case, I trust you will influence the body of the profession in this direction, because the resolution, although an abstract one, yet comprehends the entire quarrel, and must, if acted upon, end the schismatic element in question.

I am, &c., George Wyld.

12, Great Cumberland-place, August 13.

Form of Resolution meant to be Signed by Both Sides.

We, the undersigned, believing medicine to be a progressive art and science, hold that it is competent for any qualified medical man to adopt any theory or practice which he believes to be best for his patients. Therefore, the adoption of any theory or practice should not exclude any qualified medical man from the freest professional intercourse, provided he does not trade on a distinctive name nor unprofessionally advertise his mode of practice. (Signed)

Frederick F. Quin.	F. Black, M.D. Edin.
Edward Hamilton, M.D.	J. Hamilton Mackechnie, M.D.
Hugh Cameron.	D. C. Lawrie, M.D. Edin.
R. E. Dudgeon, M.D. Edin.	D. Matheson, L.R.C.P. Edin.
George Wyld, M.D. Edin.	T. L. Marsden, M.D.
William Bayes, M.D.	Thos. Engall, M.R.C.S. Eng.
R. Hughes, L.R.C.P. Edin.	Alfred Pope, M.D.
R. Douglas Hale, M.D.	R. Dyce Brown, M.D.

THE DANGERS OF THORACENTESIS.

Letter from Dr. I. Burney Yeo.

[To the Editor of the Medical Times and Gazette.]

Sir,—The discussion on the treatment of pleuritic effusions, at Manchester last week, was conducted under such high pressure, and we were all so repeatedly warned of the virtue of brevity, that I fear, from the observations of subsequent speakers, the few remarks I made on this subject were more brief than clear, and were somewhat misunderstood; and as there was no opportunity at the meeting of correcting this misapprehension, I should be greatly obliged if you would allow me to do so now.

What I chiefly wished to say was this:—First, that when a lung, already the seat of tuberculous disease, is compressed by a serous pleuritic effusion, the phthisis will often remain quiescent so long as that pressure is maintained; and that the removal of the fluid by thoracentesis is sometimes followed by rapid progress of the phthisis. Of this fact I am perfectly sure, and I quoted a striking instance. Secondly, that the conversion of a serous into a purulent effusion, after paracentesis, is favoured by the presence of certain constitutional cachexiæ—as, *e.g.*, the scrofulous cachexia. Of this also I cannot doubt. My statements were in no respect inconsistent with the fact advanced subsequently by the President, that a lung compressed by pleuritic effusion often becomes the seat of tubercle.

Of the influence of the tuberculous cachexia in determining the rate of mortality after paracentesis, the statistics collected by Dr. Wilson Fox, and circulated at the meeting, offer many illustrations. Of the nine fatal cases reported by Messrs. Hughes and Cock, it existed in six; of Trousseau's seven fatal cases, five were complicated with "tubercle or cancer"; of Kussmaul's eight fatal cases, three were tuberculous; of six cases operated on in private and recorded by Dr. West, the only fatal case was a tuberculous one; of Tutschek's

six fatal cases, four were tuberculous; Oeri's two fatal cases, we are told, were both "phthisical," and in both the serous effusion underwent purulent transformation. But I need not continue to multiply evidence, which exists in abundance, in favour of the view I advocated.

I am, &c., I. Burney Yeo.

Hertford-street, Mayfair, August, 1877.

MEDICAL NEWS.

University of London.—The following are lists of candidates who have passed the recent examinations:—

First M.B. Examination (entire).

First Division.—William Banks, University College; Hutton Castle, St. Thomas's Hospital; Norman Dalton, King's College; William H. Russell Forsbrook, Westminster Hospital; Arthur Franklin, St. Bartholomew's Hospital; Richard Gill, St. Bartholomew's Hospital; Francis Gotch, B.A., B.Sc., University College; Robert Hagyard, Leeds School of Medicine; John Edward Hine, University College; Alfred Ernest Maylard, Guy's Hospital; Angel Money, University College; William Henry Neale, University College; James Isaac Paddle, B.A., B.Sc., University College; Edward Penny, Guy's Hospital; Bilton Pollard, University College; Tiaeliesin Wilim Owen Pughe, Liverpool Royal Infirmary and Guy's Hospital; Frank Rushworth, St. Bartholomew's Hospital; Harrington Sainsbury, University College; Robt. Percy Smith, St. Thomas's Hospital; Leonard Charles Wooldridge, Guy's Hospital.

Second Division.—James Balls, King's College; Gilbert Harry Barling, St. Bartholomew's Hospital; Arthur Edward Buckell, University College; Wayland Charles Chaffey, St. Bartholomew's Hospital; Daniel Colquhoun, Charing-cross Hospital; David Samuel Davies, St. Thomas's Hospital; William Whitfield Edwardes, St. Mary's Hospital; Thomas Warberton Fuller, Guy's Hospital; Robert Nightingale Hartley, Leeds School of Medicine; Alfred Harvey, Queen's College, Birmingham; Thomas Hahnemann Hayle, Owens College; John Davey Hayward, Liverpool Royal Infirmary; John Hodgson, Owens College; Arthur Jackson, St. Bartholomew's Hospital; Charles Henry Keep, Guy's Hospital; Greville Matheson MacDonald, King's College; Henry Jas. Michael, St. Thomas's Hospital; William Outhwaite, St. Bartholomew's Hospital; Leicester Cuthbertson Ponsford, University College; Arthur Cresswell Rich, Liverpool Royal Infirmary; Mark Feetham Sayer, University College; Robert Spence Walton, University College; William Hayle White, Guy's Hospital.

excluding physiology.

First Division.—Thomas Crisp, St. Thomas's Hospital; Cornelius William Suckling, Queen's College, Birmingham.

Second Division.—Henry Burry Pullen Burry, London Hospital and University College; George Ernest Fooks, St. Bartholomew's Hospital; George Arieh Herschell, St. Thomas's Hospital.

physiology only.

First Division.—Charles Edward Beevor, University College; Howard Griffiths Lowe, Queen's College, Birmingham; John William Meek, Guy's Hospital.

Second Division.—Frederick Rowland Barker, St. Thomas Hospital; George Shaw, Westminster Hospital; John Hinks Vinrace, Queen's College, Birmingham; Dawson Williams, University College.

University of Edinburgh.—The following is a list of candidates who received the degrees of Doctor of Medicine, Bachelor of Medicine, and Master in Surgery, respectively, on Wednesday, August 1:—

Doctor of Medicine.—Under the New Statutes: Balfour, Andrew, Hong-Kong, M.B. and C.M., 1873; Barbour, James, Scotland, M.B. and C.M., 1872; Bramwell, Byrom, England, M.B. (with Second-class Honours), 1869; Bramwell, John William, England, M.B., 1873; Cameron, John, Scotland, M.B. and C.M., 1872; Casley, Reginald Kennedy, England, M.B. and C.M., 1874; Clarke, John Henry, England, M.B. and C.M., 1875; Crabb, James (M.A. Aber.), Scotland, M.B. and C.M., 1875; Currie, Andrew Stark, Scotland, M.B. (with Second-class Honours), 1874; Eames, James Crompton, England, M.B., 1875; Fairbanks, William, England, M.B. and C.M., 1874; Garton, William, England, M.B. and C.M., 1875; Gibbons, Robert Alexander, Canada, M.B. and C.M., 1874; Henry, Alexander, Scotland, M.B., 1874; Holmes, James, Berwick, M.B. and C.M., 1875; Jamieson, William Allan, Scotland, M.B. and C.M., 1865; Johnston, John, Scotland, M.B. and C.M., 1874; Johnstone, Thomas, Scotland, M.B. and C.M., 1874; Jones, Abraham Emrys, Wales, M.B. and C.M., 1875; Lambert, Richard Anderson, France (B.A. Trinity College, Dublin), M.B., 1874; Little, James, England, M.B., 1874; Maccall, Thomas, Scotland, M.B. and C.M., 1873; Mackenzie, George Hunter, Scotland, M.B. and C.M., 1873; Nankivell, Frank, England, M.B. and C.M., 1875; Parker, Charles Arundel, England, M.B. and C.M., 1873; Pearce, Joseph Chaning, England, M.B. and C.M., 1871; Porteous, Robert Burnet, England, M.B. and C.M., 1868; Roberts, Henry Prescott, England, M.B., 1868; Saundby, Robert, England, M.B. and C.M., 1874; Scott, John Halliday, Scotland, M.B. and C.M., 1874; Scott, Robert, Scotland, M.B. and C.M., 1874; Steuart, Roger St. Clair, Scotland, M.B. and C.M., 1873; Steell, Graham, Scotland, M.B. and C.M., 1872. Under the Old Statutes: Stodart, Alexander Tweedie, Scotland.

Bachelor of Medicine and Master in Surgery.—Adam, John (M.A. Edin.), Scotland; Anderson, Robert Smail, Scotland; Archbold, James John, England; Baker, Henry Morton, England; Balfour, Isaac Bayley (Sc.D. Edin.), Scotland; Baxter, Robert, Scotland; Baxter, William, Scotland; Beaumont, Charles George, England; Birch, De Burgh, England; Black, Alexander, Scotland; Black, George, Scotland; Blanchard, Robert Johnstone, Nova Scotia; Boucaud, Albert Adolphus, Trinidad; Boucher, Arthur Henry, England; Brander, Edward Salisbury, India; Briggs, Hy., England; Burn-Murdoch, Thomas Monck, Scotland; Caird, Francis Mitchell, Scotland; Calder, Augustus Barclay, Scotland; Cameron, John, Scotland; Carmichael, Duncan, Scotland; Carstairs, William Barstow, India; Christie, William Joseph, America; Daniell, Herbert Edward, England; Davies, Ellis Thomas, Wales; Deverell, Henry George, India; Dick, William, Scotland; Dixon, Thomas, Australia; Douglas, Charles Edward, India; Drinkwater, Harry, England; Druitt, Lionel, England; Fairer, Matthew Robinson, England; Ferguson, Thomas, Scotland; Foster, Nelson Spershott, England; Frew, William Simpson, Scotland; Fyffe, John, Scotland; Gibson, William Robert, Scotland; Gloag, John, Scotland; Hardie, Robert, Scotland; Hart, David Berry, Scotland; Harvey, Alfred Joseph (B.A. M'Gill), Newfoundland; Henderson, George, Scotland; Horden, John Oke, Canada; I'Anson, Welby, England; Illingworth, Charles Rumney, England; Johnson, Peter Pearson, England; Johnston, Robert Colquhoun, Scotland; Kay, Walter Smith, Scotland; Law, Edward, England; Le Fevre, George, England; Leapingwell, Edward Jodrell, England; Lewis, Thomas Preston, England; Lindsay, Andrew Walker Herdman (B.A. Dalhousie), Nova Scotia; Lundy, Arthur Charles James Rudd, Canada; Lyon, James Abercrombie (M.A. Edin.), Scotland; MacCulloch, Stanhope Hastings, Australia; Mackenzie, Colin, Scotland; Mackenzie, Daniel, Scotland; M'Laren, Charles, England; MacLaren, James Farquharson, Scotland; M'Laughlin, Henry James, India; M'Neill, Roger, Scotland; Mann, Hugh William, Scotland; Mason, James Inglis, Scotland; Mowat, John (M.A. Edin.), Scotland; Murdoch, William, Scotland; Murray, Walter, Scotland; Penman, Peter Mitchell, Scotland; Plain, Albert, Wales; Playfair, David Thomson, Scotland; Pope, Thomas Henry, India; Potter, George William, England; Purdie, Robert, England; Reed, William Cash, England; Richardson, William, England; Robbins, James, England; Rowland, John, Wales; Rowland, John William, England; Rundle, Cubitt Sindall, India; Scott, James, Scotland; Shannon, Julius Henry, Barbadoes; Shaw, Oliver Cromwell, England; Smith, Thomas Henry, England; Snadden, James, India; Stewart, Douglas Edward, Tasmania; Stewart, John, Nova Scotia; Symington, Johnson, England; Taylor, Charles Vernon, England; Thom, Alexander (M.A. St. And.), Scotland; Thomson, John (M.A. Edin.), Scotland; Thurnam, Francis Wyatt, England; Turnbull, James, Scotland (received the degrees on November 25, 1876); Van Geyzel, Charles Walter, Ceylon; White, Howel Holland, Wales; Whitsed, John, England; Williamson, Robert Lamley, England; Wilson, Ralph William, England; Wood, Russell Elliott, Scotland.

Bachelor of Medicine.—Allen, Edward, England; Chapman, James Milne, Scotland; Daruty, Jean Aristide Clément, Mauritius; Flint, Horace, England; Forbes, Duncan (M.A. Edin.), Scotland; Massiah, Benjamin Jones, England; Strang, Walter James (M.A. Edin.), Scotland.

Master in Surgery.—Alexander, Henry, M.B., 1874, Scotland.

The Ettles Prize for 1877 has been awarded to William Richardson, M.B. and C.M.

The Syme Surgical Fellowship has been awarded to William Watson Cheyne, M.B. and C.M., 1875.

University of Aberdeen.—During the past year the following candidates, after the usual examinations, received degrees in Medicine and Surgery:—

The Degree of M.D.

Alexander, John, M.B., C.M., Western Infirmary, Glasgow; Allardyce, James, M.B., C.M., Rakwana, Ceylon; Bailey, Samuel Henry, M.B., C.M., Nottingham; Barron, John, M.B., C.M., Berks County Asylum; Brotchie, Theodore Rainy, M.B., C.M., Liverpool; Buckland, Alfred George, M.B., C.M., London Hospital, London; Carline, William Arthur, M.B., C.M., Lincoln; Churton, Thomas, M.B., C.M., Leeds; Cran, George, M.B., C.M., Banchory-Ternan; Cruickshank, Brodie, M.B., C.M., Nairn; Dantra, Sorabshaw Homasji, M.B., C.M., Calcutta; Donald, William, M.B., C.M., Bogside of Eden, Banff; Edmond, George Maitland, M.B., C.M., Stonehaven; Fehrsen, James M'Call, M.B., C.M., Cradock, Cape of Good Hope; Gordon, John, M.B., C.M., New Cross, London; Jack, William, M.B., C.M., Keighley, Yorks; Jackson, Francis Edward, M.B., Manchester; James, Arthur Culver, M.B., C.M., Kensington, London; Knowles, William Bisset, M.B., C.M., Murrurundi, New South Wales; Laws, Robert, M.B., C.M., Lake Nyassa; Mearns, John Herbert, M.B., C.M., Gunnerside, Yorkshire; Milne, Irvine Kempt, M.B., C.M., Shipdham, Norfolk; Shand, Henry Miller, M.B., C.M., Port Elliot, South Australia; Skene, Thomas Alexander, M.B., C.M., Stonehaven; Skinner, Charles Gordon Lennox, M.B., C.M., Pontefract; Thomson, John, M.B., C.M., Keighley, Yorks; Urquhart, Alexander Reid, M.B., C.M., Elgin; Weatherley, Lionel Alexander, M.B., C.M., Portishead; Westland, Albert, M.B., C.M., London; White, William Leavens, M.B., C.M., Southport Convalescent Hospital; Yule, Robert Mortimer, M.B., C.M., Towie.

The Degree of M.B.

Allan, James, M.A., Birnie, Elgin; Anderson, James, M.A., Aberdeen; Bartlett, Henry, London; Bennett, Arthur, Stawell, Victoria; Booth, James McKenzie, M.A., Aberdeen; Brenchley, Algernon Dutton, Brighton; Conry, John, Dublin; Eddie, Robert, M.A., Aberdeen; Evans, Frederick William, Cardiff; Ferguson, Alexander Frederick, Cove, Kincardine; Fergusson, William, Ellon; Goldsbrough, Giles Forward, Mere, Wiltshire; Gordon, James, M.A., Walsall, Staffordshire; Gould, Peter Buck, Aberdeen; Guy, John Rapsey, Bristol; Henderson, Alexander Milne, Keith; Huxley, John Charles, Birmingham; Jay, Henry Mason, Chippenham, Wiltshire; Jones, Llewelyn Robert, Denbigh, North Wales; MacGregor, Alexander Gibson, Canisbay, Caithness; Mackenzie, John Alexander, Gairloch, Ross-shire; Moore, Charles Arthur, Thetford, Norfolk; Napier, Thomas Wm. Adam, Montrose; Neil, James, Glengairn; Noble, James, M.A., Fraserburgh; Orlebar, Hotham George, St. Leonards-on-Sea; Philpots, Harris, Leamington; Porter, James, M.A., Monymusk; Richards, Thomas, Cardiff; Robertson, Frederick Freer Leslie, Cosham, Hants; Robertson, William Smith, Peterhead; Ross, James, M.A., Tullynessle and Forbes; Rudd, Leonard, Twyford, Berkshire; Schokman, George Peter, Ceylon; Shearer, Johnston, M.A., Aberdeen; Stewart, William Lemmon, M.A., Keith; Taylor, Seymour, Derby; Tough, Wm. Robb, M.A., Aberdeen; Trail, George Shewan, M.A., Monymusk; Venning, Edmund, Cornwall; Winchester, Henry, Elgin.

The Degree of C.M.

Allan, James; Anderson, James; Bartlett, Henry; Bennett, Arthur; Booth, James M.; Brenchley, Algernon D.; Conry, John; Eddie, Robert; Evans, Frederick Wm.; Ferguson, Alexander F.; Fergusson, William; Goldsbrough, Giles F.; Gordon, James; Gould, Peter Buck; Guy, John Rapsey; Henderson, Alexander M.; Huxley, John Charles; Jay, Henry Mason; Jones, Llewelyn R.; MacGregor, Alexander G.; Mackenzie, John Alex.; Moore, Charles Arthur; Napier, Thomas Wm. A.; Neil, James; Noble, James; Orlebar, Hotham G.; Philpots, Harris; Porter, James;

Richards, Thomas; Robertson, Frederick F. L.; Robertson, William Smith; Ross, James; Rudd, Leonard; Schokman, George Peter; Shearer, Johnston; Stewart, William L.; Taylor, Seymour; Tough, William R.; Trail, George S.; Venning, Edmund; Winchester, Henry.

Of the above-mentioned candidates, James Anderson, Wm. Fergusson, Peter Buck Gould, and Alexander Milne Henderson received their degrees in Medicine and Surgery with highest academical honours; James Allan, Arthur Bennett, Giles Forward Goldsbrough, Llewelyn Robert Jones, James Neil, Johnston Shearer, and William Robb Tough, their degrees in Medicine and Surgery with honourable distinction; and the following are now declared to have passed part of their examinations:—

Aiken, Andrew; Alexander, Lewis Daniel; Allardes, William; Argo, George Collie; Arthur, John Campbell; Barron, William; Benham, Harry Arthur; Campbell, Colin M'Iver; Compton, Thomas Joseph; Congreve, George Thomas; Dixey, Harry Edward; Dobson, Edwin F. H.; Findlater, Sylvester W.; Gayton, Francis C.; Gibbes, Heneage; Harvey, George Henry; Leslie, George; Liebstein, Herman J.; Logie, James; Low, Charles; Lyon, Adam Corbet; Macgregor, Alexander; MacMunn, John; M'Fayden, Alexander W.; Maver, David; Mumby, Bonner Harris; Murison, Alexander A. W. P.; Neilson, William Henry; Petrie, Alexander; Preston, Henry Tolver; Shepherd, Charles C.; Smith, James Murray; Thompson, Lavington G.; Tonge-Smith; Winckworth; Vaisey, Thomas F.; Van Geyzel, John L.; Walford, Robert; Walker, James Hutchison; Waller, Angustus D.; Watson, John Coatsworth; Welford, Charles Henry; White, William Robert.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, EDINBURGH.—DOUBLE QUALIFICATION.—The following gentlemen passed their First Professional Examination during the July and August sittings of the examiners:—

Anderson, Joseph William Townsend, India.
Campbell, William, Caithness.
Chisholm, Duncan William Francis, Nova Scotia.
Conry, John Templer Crosbie, Roscommon.
Coward, Frank Augustus, Cape of Good Hope.
Cuscaden, George, Wexford.
Dartnell, William Abraham, Rochester.
Dunlop, John Jardine, Port William.
Hayes, William Edward, Wexford.
Herbert, Johnson, Whitby.
Mackenzie, Allan Grant, Strathspey.
Mawbry, William George, Northampton.
Miller, Hubert Lindsay, Tasmania.
Mitchell, George Dixon, Coldstream.
Philp, William Cornfoot, Kirkcaldy.
Powell, Henry Richard, South Pacific.
Roberts, Robert, North Wales.
Scanlan, Alfred Ernest, Chester.
Tant, John Yellowlees, Argyleshire.
Weston, Edwin, India.
Wheeler, Albert Victor, Dublin.

The following gentlemen passed their Final Examination, and were admitted L.R.C.P.E. and L.R.C.S.E.:—

Balmanya, Antonio, Cuba.
Baxter, Edward John, Middlesex.
Brannigan, Henry Cooke, County Mayo.
Campbell, Peter, Crieff.
Crane, Alfred Wyatt, France.
Dedrickson, Robert Forrest, Dublin.
Durand, Rudolphé, Mauritius.
Glaister, John, Lanark.
Graham, Andrew, Forfarshire.
Greasley, Joseph, Melton Mowbray.
Hartley, Harrison, New Malton.
Howard, John Albert, Bagborough.
Jenkinson, Alfred Samuel, Yorkshire.
Macgregor, Peter, Perthshire.
Mackenzie, William Gillespie, Belfast.
Macnaught, John, Glasgow.
Maxton, Laurence, Calcutta.
Miller, Alfred Henry, Rochester.
Murray, Hugh, Bonar Bridge.
Naismith, Charles Fergus, Bengal.
Noad, Hartley Innes, Herne-hill.
Reckitt, John Denis Thorpe, Hull.
Stowell, William Hall, City of Wells.
Tait, Richard Knox, Eyemouth.
Vanes, Arthur Bayly, Worcestershire.
Walker, Henry Bournes, Nenagh.

ROYAL COLLEGE OF SURGEONS, EDINBURGH.—The following gentlemen passed their First Professional Examination during the recent sittings of the examiners:—

Dall, John Cameron, Bedlington.
Innes, John Caithness, Marykirk.
Smith, James Alexander John, Stornoway.
Walker, Thomas Charles, Linlithgowshire.

The following gentlemen passed their Final Examination, and were admitted Licentiates of the College:—

Baldwin, Edmund St. George, Toronto.
Croudace, James Henry, County Dnrham.
Duncan, George, Perthshire.
Gordon, Richard, County Sligo.
Hodgson, William Bacon, Middlesex.
Hoernlé, Edward Frederick, India.
Holmes, David, Malta.
Jervis, Henry Prnce, Bombay.
Khambata, Hiraji Jehangir, Bombay.
Koyaji, Beramji Nasarvanji, Bombay.
Lauder, William, Port Glasgow.
M'Nicoll, Edward Day, Liverpool.
Mickle, Arthur William Thomas Flintoff, Yorkshire.
Nariman, Kaikhosro Sorabji, Surat.
Norcop, Percy Grant Hickson, Plymouth.
Parker, James, Indian Ocean.
Reporter, Maneckjee Eduljee, Amrolee, Surat.
Smith, James Alexander John, Stornoway.
Smyth, Albert Charles Butler, Dublin.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, August 9:—

Blott, Herbert, Bassingbourne.
Clements, William George, Fernsbury, Kent.
Dingle, William Alfred, Millbrook, Southampton.
Masser, Herbert Charles Pickard, Foleshill, Coventry.
Todd, William, 301, Mile-end-road.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Bartlett, Charles Richard, St. George's Hospital.
Fuller, Leedham Henry, King's College.
Gardner, John Twiname, Guy's Hospital.
Jones, Frederick Felix, Guy's Hospital.
Morgan, Augustus Kinsey, Guy's Hospital.
Stace, Malcolm Vincent, Westminster Hospital.

NAVAL, MILITARY, &c., APPOINTMENTS.

ADMIRALTY.—The following qualified candidates for the Naval Medical Service have been appointed Surgeons in her Majesty's Fleet, with seniority of March 31, 1877:—William Cotter Williamson, M.D., Charles Edward Geoghegan, Michael Joseph M'Carthy, M.D., John Christian, Howard James M'Chleary Todd, Standish Thomas O'Grady, Percy Kinburn Cree, Wingate Kidd Johnston, John Price, Horace Edward Firmin Cross, Alexander Livingston Christie, M.D., Denis Paul O'Farrell, and Charles Anderson. Fleet Surgeon John Elliott has been appointed Deputy Inspector-General of Hospitals and Fleets.

M'CLOSKY, JAMES HUGH, L.R.C.S. and L.M. Edin., L.S.A. Lond., late Colonial Surgeon, Labuan, Colonial Surgeon Malacca Straits Settlements.

WAR OFFICE—MEDICAL DEPARTMENT.—Surgeon-General John H. Kerr-Innes, C.B., to be Honorary Surgeon to her Majesty *vice* Inspector-General of Hospitals (honorary rank) Charles Scott, M.D., C.B., half-pay, deceased; Surgeon-General Robert Bowen retires upon half-pay; Surgeons-Major Daniel Macqueen, M.D., Robert Thornton, and Arthur Jackson Greer, retire upon half-pay; Surgeons Brodie Cruickshank, M.D., and Pierce George Power, M.D., half-pay, resign their commissions. The undermentioned Surgeons-Major to have the honorary rank of Deputy Surgeon-General on retiring upon half-pay:—Daniel Macqueen, M.D., Robert Thornton, and Arthur Jackson Greer.

MILITIA MEDICAL DEPARTMENT.—Surgeon Richard John Magee (Kilkenny), to be Surgeon-Major, under the provisions of Royal Warrant of July 12, 1876. Surgeon-Major John Walter (Kent Artillery) resigns his commission. Assistant-Surgeon Thomas William Spink Locke (West Suffolk), to be Surgeon, under the provisions of the Royal Warrant of July 12, 1876. The Memorandum which appeared in the *Gazette* of June 29, 1877, changing the surname of Surgeon-Major Enright, Royal Limerick County Militia, to Enwright, is cancelled. The date of the Warrant under which Surgeon Munro, 1st Durham Militia, was promoted to Surgeon-Major is July 12, 1876, and not as stated in the *Gazette* of July 20, 1877.

BIRTHS.

ARBUCKLE.—On August 12, at Thorne, near Doncaster, the wife of Hugh W. Arbuckle, M.D., of a son.

BODINGTON.—On July 29, at Ashwood House, Kingswinford, Staffordshire, the wife of G. F. Bodington, M.D., of a daughter.

BOWES.—On August 4, at Herne Bay, Kent, the wife of J. Bowes, L.R.C.P. Lond., of a son.

BLOXAM.—On August 13, at 8, George-street, Hanover-square, W., the wife of J. Astley Bloxam, F.R.C.S. Eng., of a daughter.

DARKE.—On August 13, at Salisbury, the wife of Fitz Roy P. Darke, M.R.C.S. Eng., of a daughter.

DAVSON.—On August 1, at Campden Villa, 203, Maida-vale, the wife of S. Houston Davson, M.D., of a son.

LEAKE.—On August 11, at Rathkeale House, Giraler's-road, Brook-green, the wife of Jonas R. Leake, L.R.C.P., M.R.C.S., late H.M.'s 80th Regiment, of a daughter.

LLOYD.—On August 9, at Wick, Bath, the wife of John Daniel Lloyd, L.R.C.P. Edin., M.R.C.S. Eng., of a daughter.

MILLER.—On August 11, at Blair-Hyrne, Hampstead-hill-gardens, the wife of Andrew Miller, M.D., of a daughter.

PICKERING.—On August 12, at 6, Rue Aguado, Dieppe, the wife of Thomas Henry Pickering, M.D., L.K.Q.C.P., of a son.

STEWART.—On August 10, at 4 Hut, P Lines, North Camp, Aldershot, the wife of Surgeon-Major W. Stewart, M.D., of a daughter.

THORNTON.—On August 8, at 83, Park-street, Grosvenor-square, W., the wife of J. Knowsley Thornton, M.B. Edin., of a daughter.

MARRIAGES.

BATTEN—MAGRATH.—On August 8, at St. Michael's, East Teignmouth, John Maxwell, second son of J. Hallet Batten, Esq., Bengal Civil Service, retired, to Norice Margaret, second daughter of J. A. Magrath, M.D., Teignmouth.

EWART—BURDER.—On August 15, at St. Mary's Church, Crumpsall, Manchester, John Henry Ewart, L.R.C.P. Lond., of Limefield House, Crumpsall, to Josephine Caroline, youngest daughter of John Burder, Esq., of Wilton Polygon, Crumpsall.

GAYE—WILLIS.—On August 7, at the Church of St. Mary, Trimley, near Ipswich, Robert Edward Gaye, B.A., of Downing College, Cambridge, son of Robert Edward Gaye, M.R.C.S.E., L.S.A., of 57, St. Marylandroad, St. Peter's-park, London, to Maria Elizabeth eldest daughter of the Rev. Henry M. Willis, Rector of St. Mary's, Trimley.

LAMB—PHIPPS.—On August 9, at the Church of St. Colombo, Collingtree, William Henry Lamb, M.B. Lond., of 46, Kensington-park-gardens, W., to Agnes Mary, eldest daughter of Pickering Phipps, Esq., M.P., of Collingtree Grange, Northamptonshire.

SCOTT—PIKE.—On August 2, at All Saints Church, Upper Norwood, William Scott, M.D., of Dumfries, N.B., to Maria, widow of James Lee Pike, Esq., of Dumfries, N.B.

SUTTON—MOXHAY.—On August 9, at the Church of St. John the Evangelist, Reading, Herbert, third son of Alfred Sutton, of Greenlands, Reading, to Emma, eldest daughter of Wm. Watkinson Moxhay, M.R.C.S. Eng., of London-street, Reading.

TOWNSEND—AINSWORTH.—On August 7, at the parish church, Cleator, Thomas Suttou Townsend. M.R.C.S. Eng., of Clifton, Warwickshire, and 68, Queen's-gate, London, to Mary Alice, only daughter of Thomas Ainsworth, of the Flosh, Cleator, Cumberland.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

KENT AND CANTERBURY HOSPITAL.—House-Surgeon. "Bye-Law 58. No person shall be eligible for the office of House-Surgeon unless he bring proof that he is registered under the Medical Acts as legally qualified to practise medicine and surgery. He must be unmarried, and not more than forty years of age, and he shall reside in the house." Testimonials of qualification to be sent in on or before August 24.

ROYAL FREE HOSPITAL, GRAY'S INN-ROAD.—Assistant-Physician and Assistant-Surgeon. The Assistant-Physician must be a Member of the College of Physicians of London, and the Assistant-Surgeon a Fellow of the Royal College of Surgeons of England. Testimonials to James S. Blyth, Secretary, before September 1.

WILTS COUNTY LUNATIC ASYLUM.—Assistant Medical Officer. Candidates must be duly qualified and registered medical practitioners. Applications, stating age, and accompanied by not more than six recent testimonials, to "The Clerk to the Committee of Visitors of the Wilts County Lunatic Asylum, Devizes," marked "application," on or before Aug. 21.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The popnlation is computed according to the census of 1871.

RESIGNATIONS.

Chorlton Union.—Mr. W. H. George has resigned the office of Assistant Medical Officer at the Workhouse; salary £140 per annum.

Lincoln Union.—The First District is vacant; population 26,766; salary £120 per annum.

Nantwich Union.—The Wybunbury District is vacant; area 14,641; population 3516; salary £36 per annum.

Southwell Union.—The Farnsfield District is vacant; area 15,128; population 2453; salary £28 per annum.

Sunderland Union.—The Bishopwearmouth West District is vacant; population about 22,000; salary £50 per annum.

APPOINTMENTS.

Coventry Union.—Charles W. Iliffe, M.R.C.S. Eng., L.R.C.P. Edin., to the Workhouse.

Folkestone.—Mr. Sidney Harvey as Analyst for the Borough.

Manchester Township.—James Magill, L.R.C.S. Edin., M.D. Queen's Univ., Ire., as Resident Assistaut at the Crumpsall Workhonse.

Southmolton Union.—Albert Hind, L.R.C.S. Edin., L.S.A. Lond., to the Ninth District.

TREATMENT OF INTUSSUSCEPTION BY ABDOMINAL SECTION.—Prof. Sands, of New York, on the strength of a case of an infant which he successfully treated, and the results of twenty other recorded cases in which the operation was performed, has arrived at the following conclusions:—1. The success which has already been obtained in the operation of abdominal section for intussusception is sufficient to justify its repetition when other means have proved unavailing. 2. There is reason to believe that in intussusception, as in strangulated hernia, the great danger lies in delay, and that in acute cases the operation, to be successful, must be performed at a very early period, probably within twenty-four hours from the invasion of the disease. 3. In chronic cases the operation is indicated when other means have failed, and there is reason to think that the invagination is still reducible. 4. It has been proved by the case herewith related that the operation may succeed in acute cases, if performed during the first eighteen hours. 5. The greater fatality of the operation in infants has been shown to be rather apparent than real, and it remains to be proved whether, in them, the performance of abdominal section may not yet yield gratifying results. 6. In infancy the operation is the more justifiable, because during that period there is hardly any tendency towards spontaneous recovery after sloughing of the intestine.—*New York Medical Journal*, June.

NOTES, QUERIES, AND REPLIES.

"He that questioneth much shall learn much."—*Bacon.*

Studens.—There is no book like Steggall nowadays. The examinations are quite different, and require other training. Read Druitt's "Manual of Surgery," and Guy's or Tanner's "Medicine."

Cosmo.—Cremation has been legalised in the Canton of Zurich, subject to certain restrictions.

Hereditariness.—It is alleged that the children of skilled artisans are, as a rule, more apt at petty manipulations than the children of ordinary labourers, and that hence the population of certain towns—Birmingham, for example—has a great advantage over that of other towns in point of manufacturing industry.

Explorer.—The Norwegian exploring expedition put to sea from Stavenger for this summer's campaign in the *Vöringen* on June 13. The vessel is now lying at Tromsö, refitting. It is intended first to work two more sections north of Tromsö, and then call there to make ready for the voyage to Jan Mayen. From that island the course will be to westward till ice-cold water is reached, then southwards to a point midway between Jan Mayen and Iceland, whence the expedition will return to Bodö and Bergen.

Paul P.—The eminent chemist James P. W. Johnstone died at Durham in 1853. He was chiefly known as an agricultural chemist. His last work was "Chemistry of Common Life," which originally appeared in *Blackwood's Magazine*, and has since gone through two editions.

O.—The Royal College of Physicians, London, was founded in 1518. The reason for forming the incorporation, as set forth in the original charter, is "to check men who profess physic rather from avarice than in good faith, to the damage of the credulous people"; and the King, following the example of other nations, founds "a college of learned men who practise physic in London and within seven miles, in the hope that the ignorant and rash practisers be restrained or punished." The charter further declares that "no one shall exercise the faculty of physic in the said city or within seven miles without the College licence, under a penalty of £5."

Malt Liquors.—"Porter" came into use in London in 1722. According to Leigh, "the malt liquors previously in use were ale, beer, and twopenny, and it was customary to call for a pint or tankard of half-and-half—*i.e.*, half of ale and half of beer, or half of ale and half of twopenny."

Dido.—Humboldt calculated that the same extent of ground which would produce thirty pounds of wheat would produce one thousand pounds of potatoes. But potatoes are not nearly so nutritious as wheat, and the constant employment of them as the chief article of food is not favourable to the development of the physical powers, and is consequently in its protracted influence unfavourable to mental energy.

Caius.—Yes, an Act of Parliament fixed that the fine dust of which hair-powder was composed should be made from starch *alone*, and we learn from the *Gentleman's Magazine* that on November 20, 1746, fifty-one barbers were convicted before the Commissioners of Excise at London, and fined £20 each, for having in their keeping hair-powder not made of starch, contrary to the Act of Parliament; and on the 27th of the same month forty-nine others were fined for the like offence in the same penalty. The tax put upon the use of hair-powder in 1795 had the effect of causing it to fall into general disuse.

A Free Giver.—Dr. Neil Arnott died in 1874. His widow has made in his name, since his death, the additional contribution of £1000, which he had promised, to each of the four Scottish Universities. He had previously given £1000 to each of them, and £2000 to the University of London. Yes; the doctor declined patenting any of his inventions, of which the hydrostatic bed was one.

DE LISLE ALLEN FUND.

The Hon. Treasurer begs to announce the following additional subscriptions to the above-named Fund received since our last notice:—

	£	s.	d.
Coates, C., Esq., M.D., Bath	2	2	0
Hill, Berkeley, Esq., London...	2	2	0
Page, W. B. Esq., Carlisle	2	2	0
Stephens, H., Esq., Finchley	5	5	0
Whitelaw, W., Esq., M.D., Kirkintilloch	0	10	6

Mrs. Allen begs us also to acknowledge with many thanks the following subscriptions sent to her before the formation of the Fund:—

	£	s.	d.
Clark, Andrew, Esq., M.D., London	2	2	0
Critchett, G., Esq., London	1	1	0
Hawkins, Cæsar, Esq., F.R.S., London	2	2	0
Henslow, Rev. G., London	3	0	0
Ogle, J., Esq., M.D., London	1	0	0
Paget, Sir James, Bart., F.R.S., London	2	2	0
Smith, Thomas, Esq., F.R.C.S., London	5	5	0

Further subscriptions to the Fund sent to the Hon. Treasurer, Benjamin W. Richardson, F.R.S., 12, Hinde-street, London, W., or to the De Lisle Fund, Union Bank of London, Argyll-place, Regent-street, W., will be thankfully received.

The Hôtel-Dieu, Paris.—The new Hôtel-Dieu was officially opened on Saturday by Marshal MacMahon. It appears to have cost forty millions of francs, and as it contains only 400 beds, each bed costs £200 a year.

Humphrey S.—As a tribute to his eminence as an ethnologist, Dr. James Cowles Prichard was elected President of the Ethnological Society, while in recognition of his researches into the nature and various forms of insanity he received the Government appointment of Commissioner in Lunacy. This occasioned his removal from Bristol to London. He was the first to raise ethnology to the rank of a science.

Athlete.—Gymnastic games are so old as to be pre-historic. They are alluded to in the second and twenty-third books of the "Iliad." Before the time of Hippocrates, gymnastic exercises had been adopted in Greece as part of the course of medicine intended to counteract increasing luxury and indolence. The various exercises were soon combined into a system, and gymnasia where they should be carried out were formed first by the Lacedæmonians, and subsequently at Athens.

COMMUNICATIONS have been received from—

Messrs. Burgoyne, Burbidge, and Co., London; Dr. Bucknill, Rugby; Dr. E. Sparks, Dorchester; The Registrar of the Apothecaries' Hall, London; Mr. J. Horne, London; Mrs. De Lisle Allen, London; Dr. A. Carpenter, Croydon; Dr. H. Oliver, Boston; Dr. G. E. Dobson, Netley; Dr. V. M. Church, Edinburgh; Dr. G. Wyld, London; Mr. John Ingpen, London; Messrs. Ferris and Co., Bristol; Dr. J. W. Moore, Dublin; Dr. F. Churchill, London; Dr. Pavy, London; Dr. H. Sutherland, London; Dr. I. Burney Yeo, London; Dr. Herman, London; Dr. Barlow, London.

BOOKS AND PAMPHLETS RECEIVED—

The Advantages of Glengarriff as a Winter Resort and Sanatorium—Richard Barwell, F.R.C.S., On Curvatures of the Spine, their Causes and Treatment—V. P. Gibney, M.D., The Strumous Element in the Etiology of Joint-Disease—Oliver Goldsmith, Asem, the Man-Hater—Edward S. Dunster, M.D., The Use of the Obstetric Forceps in Abbreviating the Second Stage of Labour.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Home Chronicler—La Province Médicale—Cincinnati Clinic—Boston Journal of Chemistry—Glasgow Medical Journal—Indian Medical Gazette—Western Review of Science and Industry—Proceedings of the Medical Society of the County of Kings—Gaceta Cientifica de Venezuela—Dublin Journal of Medical Science—Nordiskt Medicinskt Arkiv—Richmond and Louisville Medical Journal—American Supplement to the Obstetrical Journal of Great Britain and Ireland.

APPOINTMENTS FOR THE WEEK.

August 18. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

20. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

21. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

22. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex. 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

23. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

24. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

Quekett Microscopical Club, 8 p.m. Meeting.

VITAL STATISTICS OF LONDON.

Week ending Saturday, August 11, 1877.

BIRTHS.

Births of Boys, 1154; Girls, 1082; Total, 2236.
Average of 10 corresponding years 1867-76, 2184·1.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	680	613	1293
Average of the ten years 1867-76	790·2	730·2	1520·4
Average corrected to increased population ...	...	...	1627
Deaths of people aged 80 and upwards ...	...	...	39

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	1	6	7	4	3	...	1	...	30
North	751729	11	6	4	...	5	1	2	1	38
Central ...	334369	...	5	...	...	1	...	1	1	15
East	639111	2	17	6	...	8	1	3	...	38
South	967692	6	9	4	2	12	...	3	1	45
Total	3254260	20	43	21	6	29	2	10	3	166

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·637 in.
Mean temperature	62·5°
Highest point of thermometer	79·0°
Lowest point of thermometer	50·2°
Mean dew-point temperature	53·2°
General direction of wind	S.W.
Whole amount of rain in the week	0·71 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, August 11, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Aug. 11.	Deaths Registered during the week ending Aug. 11.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2236	1293	79·0	50·2	62·5	16·95	0·71	1·80
Brighton	102264	43·4	52	37	74·8	51·9	61·1	16·17	1·05	2·67
Portsmouth ...	127144	28·3	73	53	73·0	52·3	61·5	16·39	0·50	1·27
Norwich	84023	11·2	37	27	77·0	53·0	62·7	17·06	0·81	2·06
Plymouth	72911	52·3	39	24	71·5	48·5	59·8	15·45	1·55	3·94
Bristol	202950	45·6	120	85	79·2	45·2	60·3	15·73	1·24	3·15
Wolverhampton ...	73389	21·6	60	38	74·7	48·1	58·6	14·78	1·26	3·20
Birmingham ...	377436	44·9	281	151	...	...	...	...	...	...
Leicester	117461	36·7	83	77	78·8	50·5	61·4	16·33	0·45	1·14
Nottingham ...	95025	47·6	76	40	79·7	47·6	61·5	16·39	0·79	2·01
Liverpool	527083	101·2	348	249	74·5	51·4	58·6	14·78	0·55	1·40
Manchester ...	359213	83·7	248	156	...	...	...	...	...	...
Salford	141184	27·3	115	56	77·1	49·1	59·1	15·06	1·08	2·74
Oldham	89796	19·2	66	42	...	...	...	...	...	...
Bradford	179315	24·8	119	61	72·8	53·0	60·3	15·73	1·12	2·84
Leeds	298189	13·8	239	122	75·0	53·0	61·2	16·22	0·49	1·24
Sheffield	282130	14·4	210	92	75·0	52·4	61·4	16·33	0·62	1·57
Hull	140002	38·5	98	61	74·0	50·0	60·3	15·73	0·63	1·60
Sunderland ...	110382	33·4	86	43	70·0	52·0	58·5	14·72	0·67	1·70
Newcastle-on-Tyne	142231	26·5	101	53	...	...	...	...	...	...
Edinburgh	218729	52·2	124	81	71·0	46·0	58·8	14·89	0·47	1·19
Glasgow	555933	92·1	371	225	71·0	49·2	58·8	14·89	1·11	2·82
Dublin	314666	31·3	175	138	72·2	50·6	61·1	16·17	0·47	1·19
Total of 23 Towns in United Kingdm	8144940	38·3	5357	3204	79·7	45·2	60·4	15·78	0·82	2·08

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·64 in. The highest reading was 29·91 in. on Sunday morning, and the lowest 29·31 in. on Tuesday and Wednesday afternoons.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

THE HUNTERIAN LECTURES FOR 1877.

ON DEFECTS OF VISION WHICH ARE REMEDIABLE BY OPTICAL APPLIANCES.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

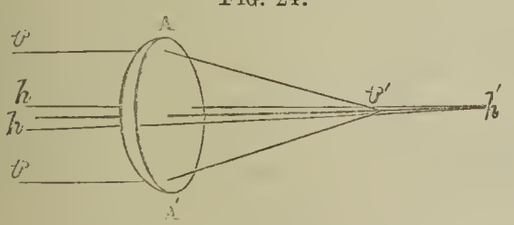
By ROBERT BRUDENELL CARTER, F.R.C.S.,
Late Professor of Surgery and Pathology to the College; and Ophthalmic Surgeon to St. George's Hospital.

LECTURE V.—ASTIGMATISM.

MR. PRESIDENT,—I have already defined astigmatism to be a state in which the curvature of the cornea is different in two different meridians, which are often vertical and horizontal or nearly so, and always at right angles to one another. It is necessary to amend this definition by saying, further, that astigmatism is probably the normal condition of the human eye, and that it must be present in an unusual degree in order to be disturbing to vision. As contrasted with a portion of a sphere, the most familiar example of an astigmatic surface is furnished by the bowl of a spoon, which is turned upon a shorter radius, in a direction transverse to the line of the handle, than in a direction continuous with it. The former is the meridian of greatest curvature; the latter is the meridian of least curvature. In the human eye, the meridian of greatest curvature is most frequently vertical; the meridian of least curvature is most frequently horizontal. This rule applies not only to the normal or moderate degree of astigmatism, but also to the abnormal degrees; although many instances are upon record in which the ordinary direction of the meridians has been reversed, and the greatest curvature has been in the horizontal direction. As a rule, again, the astigmatic formation is symmetrical or nearly so in the two eyes; but to this rule we find numerous exceptions.

When parallel rays of light are refracted by passing through a medium which presents a convex spherical surface, all the rays of which the light is composed become united in a single focal point, except for some trifling irregularities due to what is called aberration. Disregarding these, and assuming the refracting medium to be of circular outline, the light forms a cone between the medium and the focus, and any section of this cone in a plane perpendicular to its axis is necessarily a circle. Hence, the diffusion patches which are formed on the retina of a hypermetropic or of a myopic patient, from rays of light which have not united or which have united and overcrossed, are ordinarily circular; but those formed in astigmatism are only circular if the retina happens to coincide with one particular point of the refracted bundle. In Fig. 24, AA′ represents a lens which is more

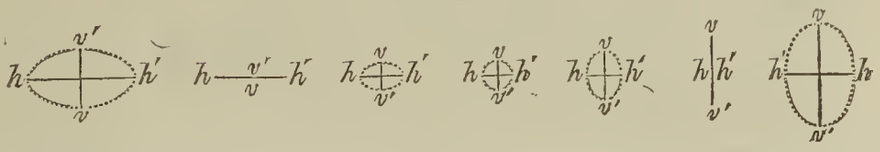
FIG. 24.



strongly curved in the vertical than in the horizontal direction. The result is, that parallel rays *vv*, which fall upon the surface of the lens in a vertical plane, are brought to an earlier focus, at *v′*, than the rays *hh*, which fall upon the lens in a horizontal plane, and are brought to a focus at *h′*. If we suppose AA′ to be the cornea, *v′* will be the focus of the meridian of greatest curvature; *h′* the focus of the meridian of least curvature; and the space between the two, *v′ h′*, is called the focal interval. If we were to intercept the course of the rays by a screen, placed between the cornea AA′, and the focus *v′*, the diffusion patch would not be a circle, but an ellipse with its major axis horizontal. The rays *vv* would have approached each other more nearly than the rays *hh*. At the point *v′*, where the rays *vv* are united, *hh* not being yet united, the diffusion patch would be a horizontal line. A little farther, *vv* having overcrossed, and *hh* approaching each other more nearly, the diffusion patch is a smaller ellipse in the same position as before; and this passes into a circle as soon as the overcrossing of *vv*, and the approach of *hh*, form equal magnitudes. A continuance of the same process of refraction causes the rays to pass into a small upright ellipse beyond the circle, into a vertical line at the point *h′*, and into a larger upright ellipse when both the vertical and the horizontal rays have overcrossed each other. These successive forms of the diffusion patches are represented in the series of diagrams which make up Fig. 25, and which are taken from Professor Donders.

When a cornea is so curved as to bring the rays which fall upon it in one direction to an earlier focus than those which fall upon it in the opposite direction, the resulting astigmatism may assume five different forms, which are governed by the position of the retina with regard to the two foci. In the following figures, *v* is always the focus of the meridian of greatest curvature, and *h* that of the meridian of least curvature. It will be convenient to assume that the former is vertical, and that the latter is horizontal.

FIG. 25.



In the first form, Fig. 26, the focus of the vertical meridian is in front of the retina, and that of the horizontal meridian is upon the retina. In other words, the eye is myopic for parallel rays refracted in a vertical plane, and emmetropic for parallel rays refracted in a horizontal plane. This is called simple myopic astigmatism.

FIG. 26.

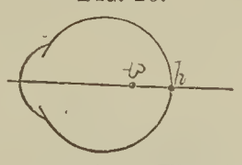
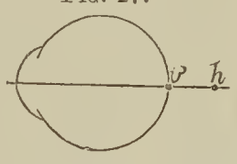


FIG. 27.



In the second form, Fig. 27, the focus of the vertical meridian is upon the retina, and that of the horizontal meridian is behind it. In other words, the eye is emmetropic for parallel rays refracted in a vertical plane, and hypermetropic for parallel rays refracted in a horizontal plane. This is called simple hypermetropic astigmatism.

In the third form, Fig. 28, the foci of the two meridians are both in front of the retina, but the focus of the vertical meridian is anterior to that of the horizontal. In other words,

FIG. 28.

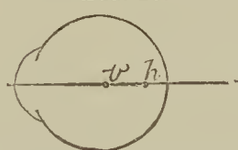


FIG. 29.

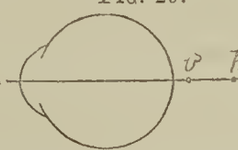
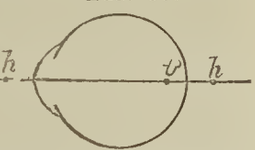


FIG. 30.



the eye is myopic for parallel rays refracted in both meridians, but in a greater degree for rays refracted in a vertical plane than for those refracted in a horizontal plane. This is called compound myopic astigmatism.

In the fourth form, Fig. 29, the foci of the two meridians are both behind the retina, the focus of the vertical meridian being anterior to that of the horizontal. In other words, the eye is hypermetropic for parallel rays refracted in both meridians, but in a greater degree for rays refracted in a horizontal plane than for rays refracted in a vertical plane. This is called compound hypermetropic astigmatism.

In the fifth form, Fig. 30, the retina is situated in the focal interval, so that the focus of the vertical meridian is in front of the retina, and the focus of the horizontal meridian is behind it. In other words, the eye is myopic for parallel rays which are refracted in a vertical plane, and hypermetropic for parallel rays which are refracted in a horizontal plane. This is called mixed astigmatism.

Besides these, there are no other forms of astigmatism, excepting only that the meridians of least and of greatest curvature may be in any other directions, so long as they are always at right angles to each other.

The degree of astigmatism is the measure of the distance between the foci of the two chief meridians; or, that is, the measure of the difference between the refraction of these meridians, expressed in dioptrics in the usual way. Thus, in a case of simple myopic astigmatism, where the eye is emmetropic for rays refracted in a horizontal plane, with a myopia of two dioptrics for rays refracted in a vertical plane, we say that the astigmatism is equal to two dioptrics. In a case of compound myopic astigmatism, with myopia of two dioptrics for rays in the horizontal plane, and of three dioptrics for rays in the vertical plane, we say that the astigmatism is the difference between the two planes, or one dioptric. The degrees of hypermetropic astigmatism are expressed in a precisely similar way; and those of mixed astigmatism by the sum of the two forms of ametropia. Thus, if the eye shown in Fig. 30 had one dioptric of myopia for rays refracted in a vertical plane, and one dioptric of hypermetropia for rays refracted in a horizontal plane, the resulting astigmatism would be equal to two dioptrics.

The correction of astigmatism, that is to say, the equalisation of the refraction in the two chief meridians, is effected by means of cylindrical lenses. In these, as their name implies, the refracting surface, instead of being a portion of a sphere, as in ordinary lenses, is a portion of a cylinder. In Fig. 31, A A represents a plano-convex cylindrical lens; and the dotted lines show the cylinder of which it forms part. A plano-concave cylindrical lens is of analogous form, only its refracting surface is concave instead of convex.

Fig. 31.

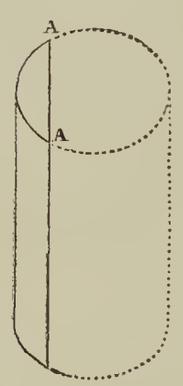
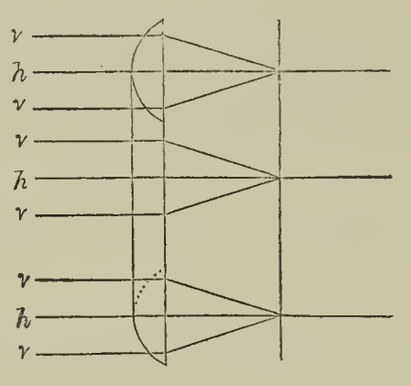


Fig. 32.



The action of a plano-convex cylindrical lens upon light is shown in Fig. 32. In this figure, the parallel rays of light, *hhh*, which fall upon the convex surface of the lens in a vertical plane, or in a plane coincident with the axis of the cylinder of which it forms part, are not refracted at all. They only encounter and pass through a piece of glass with parallel sides, and this does not change their direction. They enter the lens parallel, and they emerge parallel on the other side. But the rays *vv*, *vv*, *vv*, which fall upon the glass in successive horizontal planes, that is, in planes perpendicular to the axis of the cylinder, encounter a strongly curved refracting surface, and are brought to foci accordingly. We therefore start from the position that a plano-convex cylindrical lens, with its axis in a vertical direction, exerts no influence at all upon the rays of light which fall upon it in a vertical plane, while it strongly refracts the rays which fall upon it in a horizontal plane. In Fig. 27, which illustrates simple hypermetropic astigmatism, we have an eye which exerts a contrary action, bringing rays which fall upon it in a vertical plane to an earlier focus than rays which fall upon it in a horizontal plane. It is manifest that there must be a plano-convex cylindrical lens which will just correct this error of refraction of the eye; and which, if placed in front of it with axis vertical, will increase the total refraction of the rays in the horizontal meridian until their focus coincides with that of the rays which were previously more strongly refracted in the vertical meridian. In other words, there must be a lens which will bring the focus *h*, Fig. 27, back to the retina, and render it coincident with focus *v*, the position of which will be left unchanged. In like manner, there must be a plano-concave cylindrical lens which will postpone the refraction in the vertical plane of the eye shown in Fig. 26, and will therefore put back the focus *v* to the retina, leaving the position of focus *h* unchanged. A plano-convex cylindrical lens of the proper strength both corrects and measures simple hypermetropic astigmatism, and a plano-concave cylindrical lens of the proper strength both corrects and measures simple myopic astigmatism.

If we look again at Figs. 26 to 30, we shall see plainly that the correction of either of the two forms of simple astigmatism leaves the eye emmetropic as far as its two chief meridians are concerned; and although the emmetropia is not absolute, on account of the impossibility of exactly correcting the refraction of the intermediate meridians, it is yet sufficient for all the practical requirements of life. In the compound forms, however, the correction of the astigmatism still leaves the eye ametropic; and the correction of the mixed form may be accomplished in such a manner as to produce the same effect. Thus, in Fig. 28, the astigmatism may be corrected in two ways, either by a plano-convex cylinder which would bring forward the focus *h* to *v*, and leave the eye highly myopic, or by a plano-concave cylinder which would put back the focus *v* to *h*, and leave the eye myopic, but in a less degree. Hence, however the astigmatism is corrected, there must still be a myopic eye; and the myopia will require a concave lens of the ordinary spherical kind. In like manner, the astigmatism of Fig. 29 could be corrected by a plano-convex cylinder, to bring the focus *h* up to *v*; or by a plano-concave cylinder, to put back the focus *v* to *h*. Either course would leave the eye hypermetropic, the former in a much less degree than the latter: and in either case the hypermetropia would require a spherical convex lens for its correction. Both the above-described conditions are of frequent occurrence, and they are met by the so-called spherico-cylindrical lenses, which are ground to be portions of a spherical surface on one side and to be portions of a cylindrical surface on the other. Such lenses are made, of course, of any desired curvature on either side.

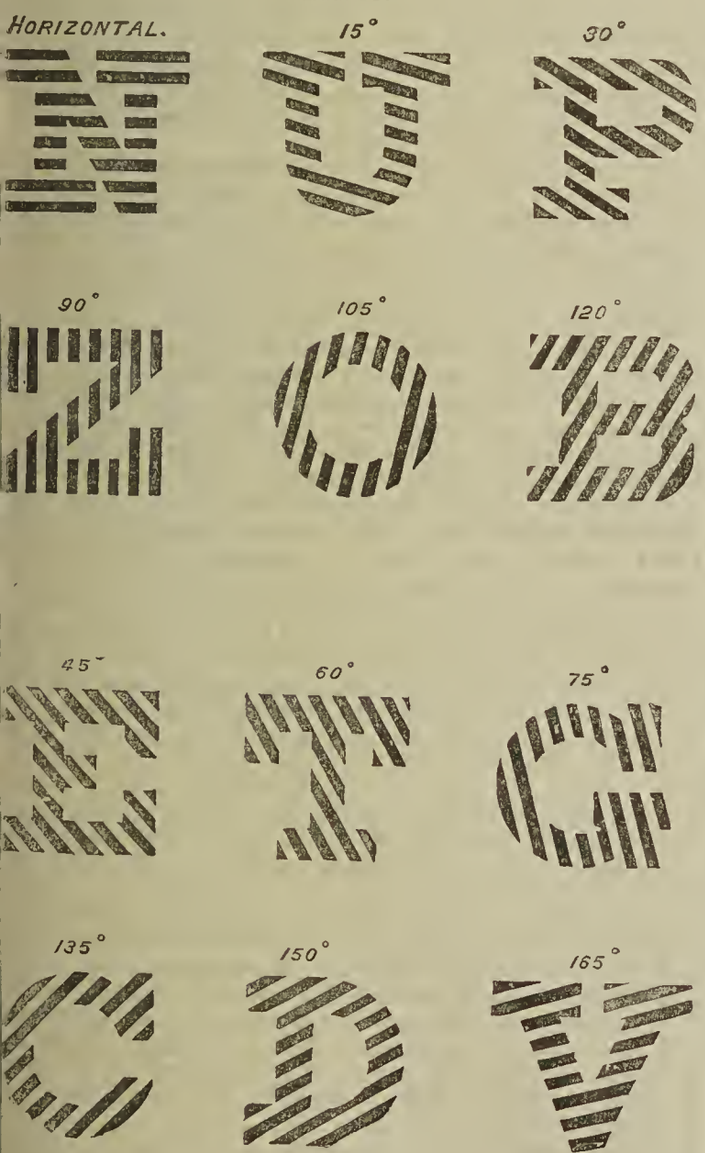
Mixed astigmatism, as shown in Fig. 30, might be corrected either by a plano-concave cylinder, to put back focus *v* to *h*, combined with a spherical convex to correct the resulting hypermetropia, or by a plano-convex cylinder, to bring up focus *h* to *v*, combined with a concave spherical to correct the resulting myopia. Usually, however, the better way is to employ a bi-cylindrical lens; that is, one which has a convex cylindrical surface on one side, and a concave cylindrical surface on the other, the axes of the two being precisely at right angles. In this arrangement, the concave cylinder should be of the power to put back focus *v* to the retina, and the convex side should be of the power to bring up focus *h* to the retina. The two foci will then coincide, and the eye will be left emmetropic or nearly so. There is, however, a difficulty in this mode of correction, arising from the fact that it will not be accurate unless the axes of the two cylindrical surfaces are precisely at right angles. This requirement may be defeated by the smallest rotation of the lens during the process of grinding; and its fulfilment can only be secured by the employment of an optician of adequate skill and carefulness. It may be laid down as a general rule, in the correction of astigmatism, that we should always endeavour to obtain the desired result by the simplest combination, and by means of glasses of the smallest refracting power, which will fulfil the indications in each case; but it is always proper to think over the various ways in which the correction may be accomplished, and it is sometimes desirable to try the possible combinations experimentally, before finally deciding upon any of them. We sometimes find that, with no apparent reason, one combination will give better vision than another which seems to be its optical equivalent.

The influence of astigmatism upon the sight is very considerable, and is exerted in various ways. Its first and most obvious effect is to produce differences in the apparent distinctness of equal lines, which are drawn in different directions; and in this way it produces indistinctness of some of the linear boundaries of figures, leaving others clearly defined. Thus, an astigmatic person, in reading a printed page, may be able to see clearly the vertical lines which enter into the formation of many letters, and so, for example, to distinguish an m from an n. But he would have to place the page at a different distance, or to alter the accommodation of his eyes, in order to distinguish the horizontal lines with equal clearness, and to tell readily an n from a u. The indistinctness of many boundary lines produces a corresponding diminution in the acuity of vision; and the necessity constantly to alter the accommodation in looking at the same object produces great fatigue of the ciliary muscle. Hence, defective sight, coupled with weariness and aching of the eyes, are the symptoms of which astigmatic persons most commonly complain.

The defective vision of astigmatism is primarily for lines

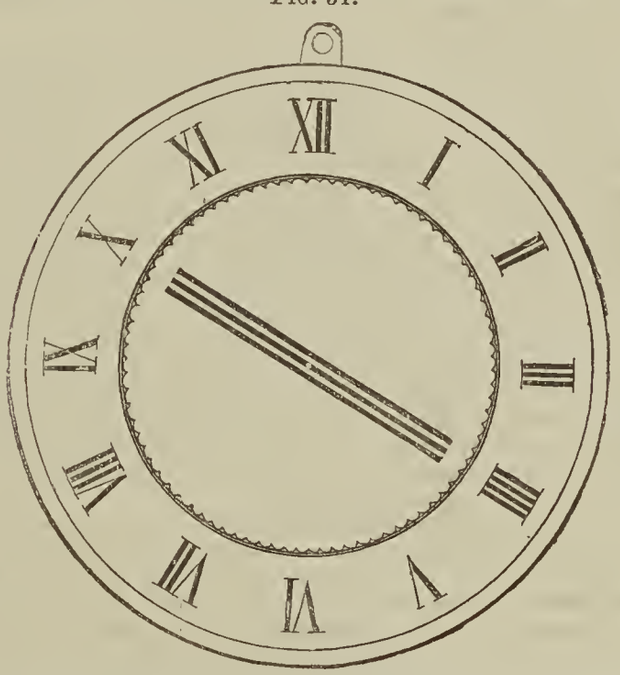
which are at right angles to the meridian of the preponderating ametropia. In the case shown in Fig. 26, for example, there is myopic curvature in the vertical meridian; and in Fig. 27, there is hypermetropic curvature in the horizontal meridian. The effect of the myopia, that is, of the myopic curvature, in the vertical meridian, is to render the eye short-sighted for horizontal lines; and the effect of the hypermetropic curvature in the horizontal meridian is to render the eye dim-sighted for vertical lines. The reason is, that a line is formed, optically speaking, of a succession of points, from each of which light is reflected. In the case of a vertical line, any diffusion circles which may be formed from the rays which diverge from successive points of the line in a vertical plane will overlap one another in that plane, and will not impair the distinctness of the retinal image; but any diffusion circles from the rays which diverge in a horizontal plane will serve to widen out the retinal image in a horizontal direction, and will cause the line to appear diffused or spread. Hence, the eye which has hypermetropic formation in the horizontal meridian has hypermetropic vision for vertical lines; and the eye which has myopic formation in the vertical meridian has myopic vision for horizontal lines. In writing upon this subject, it is necessary to adopt some uniform system of nomenclature in order to avoid confusion; and my own practice is to neglect the formation and to describe the vision. By vertical myopia, therefore, I mean myopic vision for vertical lines; and I disregard the fact that the vertical myopia is a result of faulty curvature in a horizontal direction. This method of description has a farther advantage in the direction of simplicity; because the axis of the correcting cylinder must always be placed in the same direction as the visual defect.

Fig. 33.



Since astigmatism always diminishes the acuity of vision, astigmatism of any appreciable degree is excluded whenever that acuity is normal; and, as astigmatism is often combined with general ametropia, so the acuity of astigmatic vision is often increased by common spherical lenses. But when, in any case of apparent ametropia, common lenses fail to bring the acuity of vision nearly to the normal standard; and especially when the patient does not express any decided preference between two or more lenses of about the same power, astigmatism should be suspected and searched for. The test object for this purpose is furnished by any figure which presents equal lines inclined in different directions; and among the many which have been devised for the purpose I know of none so good, and so generally useful, as the striped letters designed by Dr. Orestes Pray, which are shown in Fig. 33, and which may be obtained, in a size convenient for the consulting-room, from the Autotype Fine Art Company in Rathbone-place. An astigmatic eye, when its ametropia has been as completely as possible corrected by spherical glasses, will see the stripes in Dr. Pray's letters in different degrees of distinctness; and in high degrees of astigmatism the difference will be very marked indeed. The direction of the stripes which are most clearly seen indicates the direction of one of the chief meridians; and the other chief meridian will be at right angles to the former. Thus, if the patient says, "I see the stripes most plainly in the letter N," we know that the chief meridians are vertical and horizontal; and, if he sees them most plainly in E or C, we know that the chief meridians are diagonal. The same applies to any other direction. When once the fact of astigmatism, and the directions of the chief meridians, have been determined, Pray's letters are no longer useful; since their various lines are distracting to the attention when we are about to determine the state of the refraction in each meridian singly. For this purpose, the best object is such a disc

Fig. 34.



as is shown in Fig. 34, which consists of an outer circle, nine inches in diameter, inscribed with the figures of an ordinary clock face, and an inner circle, six inches in diameter, inscribed with three parallel lines, and turning on a central pivot which is concealed from view. The apparatus is of tin, painted white, and was made for me, by Messrs. Carpenter and Westley, of 24, Regent-street. The first disc of the kind which I employed was of home manufacture in cardboard, and was put together thirteen or fourteen years ago; but Dr. Green, of St. Louis, U.S., claims to have been the originator of the contrivance, and it is possible that I may have derived it from him in some indirect fashion. At all events, I am more than willing to concede to him the merit of the invention.

(To be continued.)

Erratum.—In Lecture IV., page 163, column one, eleven lines from bottom, for "nine" read "four."

Contributions amounting to $100 have already been received from American friends of the late Lady Augusta Stanley, to the fund which is being raised for the purpose of perpetuating her memory with the Westminster Training School and Home for Nurses.

FORTY-FIFTH MEETING
OF THE
BRITISH MEDICAL ASSOCIATION,
HELD IN MANCHESTER, AUGUST 7, 8, 9, AND 10, 1877.

THE SECTION OF SURGERY.

OPENING ADDRESS.

By EDWARD LUND, F.R.C.S.,
Surgeon to the Manchester Royal Infirmary; Professor of Surgery in the Owens College, and President of the Section.

THE AFTER-HISTORY OF SURGICAL CASES.

GENTLEMEN,—My first duty in taking the chair as President of the Surgical Section, at this the forty-fifth annual meeting of the British Medical Association, is a very pleasing one; it is to thank, with all sincerity, the Committee of Council for the honour they have done me in selecting me for this office, and to ask your help in carrying out successfully the responsible duties which it involves. I am quite aware that in making this selection the names of many surgeons have been passed over, who are not only my seniors but my superiors in this branch of our profession. I allow myself, nevertheless, to hope and believe that the honour thus conferred upon me is an expression of your conviction of the deep interest I take in the prosperity of our Association, and more particularly in this special department of it, as well as of my readiness at all times to bear my share in all that will tend to increase its general usefulness.

The first of these annual meetings which I had the pleasure to attend was held at Canterbury in the year 1861, and from that time to the present I have rarely missed the yearly gatherings, contributing sometimes to the list of papers, and joining in the discussions arising upon them. I am thoroughly convinced that it is only by such means as these that we can hope to sustain amongst our body a true sentiment of brotherhood, and create a bond whereby the hopes and fears of the few shall be enlarged and dispelled by the many; that knowledge, likewise, shall be diffused amongst us, and the results of experience matured and perfected, so that in our mutual intercommunications we may verify the remark, "Next to the pleasure we derive in the acquisition of knowledge, is the delight which is afforded us by communicating it to others." And I trust, gentlemen, that our discussions during the next few days will show that truth is to be alone reached through freedom of thought and freedom of discussion, in minds unbiassed by unyielding prejudices.

It is my intention to detain you but for a very short time to-day with introductory remarks on the business which we have before us. The list of papers for reading in this section is creditable to their authors, as regards both the number and the nature of the communications. It was part of the scheme suggested by the excellent secretaries of this section, that we should select certain definite subjects for consideration and discussion; and I believe among these, excision of the knee, antiseptic surgery, and urethrotomy were specially named. I do not know how far it will be found practicable to work out this plan; and I will not anticipate what may possibly be done, but will pass on to the few remarks I have to make upon a subject which, I think, you will agree with me is in perfect harmony with the practical character of our meeting, and which in its nature is almost indefinitely expansible. I refer to the one great question from the thoughtful study of which much benefit may accrue, namely, the *after-history of surgical cases*. We know that surgeons engaged in general practice, who are linked, so to speak, to their patients by various ties of personal regard and social intercourse, and who have constant, indeed, I may say, daily opportunities of noting their habits of life, their hereditary and acquired peculiarities, are in many respects better able to form a correct prognosis as to the reparative powers and tenacity of life in individual cases than, all other things being equal, a stranger can be; and if this be true in what I may call the incipient stage of disease, before the climax is obtained, that which justifies direct surgical or operative interference, it is also true that the general practitioner, or the constant surgical attendant in any given case or series of cases, if he will observe for himself and reason out his observations, will be able to testify to the permanent good effect of certain operations or modes of treatment which may have been inaugurated or suggested by a consultant, or practised in a hospital as a brilliant operation startling in its originality, but possibly, as the after-history may show, questionable in its results. I fear that we, who revel in opportunities for operative interference, are too apt to forget the old adage that "the operation is but the beginning of the treatment." Our patient leaves the hospital with a healed stump or a closed cicatrix, but who will tell us what shall be the fashion and utility of the former six or twelve months hence, or whether the tumour removed to-day is but the advance-guard of an enemy of far more deadly import? In excisions of joints, in all their varied forms, with or without permanent mobility,—in the best form of stumps after amputation,—not as they appear when they leave the operating table, nor even when the patient's name is struck off the hospital roll, nor yet at a slightly more advanced stage than this, when consolidation of the new tissue has been fully established, but months and years afterwards, is the proper time at which to say whether due regard was given, and sufficient thought bestowed, on the possible after-effects of muscular retraction and atrophy of tissue; for it is by such changes as these that many a comely stump, on which the operator justly prided himself, has shrunk up and become distorted, until, as far as being suitable for bearing the weight of an artificial limb is concerned, it shall be next to, or even worse than, useless. Now here, the after-history, if honestly scanned, will read its own lesson, and will be far more frequently watched by those in general practice than by surgeons of large hospitals. It is, in fact, in hospital practice a great drawback that we are unable, as a rule, to follow up our cases after they have left our care; for, with superior opportunities for so doing, we could, indeed, learn the best of all lessons, the experience taught by failure rather than by success. The same remarks will apply to the after-history of such surgical subjects as lithotrity *versus* lithotomy, tenotomy in orthopædic surgery, excision *versus* amputation in disease of the knee, and urethrotomy, as the expression of the more modern method of combating the advance of stricture.

In some degree to illustrate and confirm these remarks, I am able to bring before you to-day—at least, before such of my audience as like to examine for themselves, in an adjoining room where they can be seen, half a dozen very interesting surgical cases, all of which have been operated on at distant periods, and in which the permanent benefits or permanent defects are at once apparent. They are these. A case of excision of the knee was performed in the year 1870 on a man then aged about twenty-two years, now, therefore, twenty-nine years old. This case was described by me in the *Manchester Medical and Surgical Reports*, after the publication of which the paper was reprinted. Here you will have an opportunity of noting the condition of the limb and of hearing from the man himself what he can do, and then it will be for you to consider how far his present state and capacity for walking and working may be said to compensate the long illness and treatment, which I am bound to say were very tedious, and which I do not believe could have terminated as successfully as they have done had the patient not been watched with scrupulous care by my old pupil and friend, Mr. John Parks, of Bury. My second case is one which I mention with some diffidence, and to which I am glad to refer to now in the presence of so high an authority in his own speciality as my dear friend, our Vice-President, Mr. William Adams. It is the case of a little boy from whom, in the year 1872, I removed both astragali in order to correct severe double talipes, in the previous treatment of which much patience had been expended, and, as it seemed to me at the time, to a hopeless degree. I am pleased to show this case to-day, if for no other reason than that I may thank my friend for behaving so generously as he did when I read the particulars of the case at our meeting in Birmingham, in not at once condemning the course I had pursued as unjustifiable, but merely hinting, in the most considerate manner, that possibly, in such a case, a less heroic method of treatment might have secured equally good results. The third case is an instance of double section of the neck of the thigh-bone, done in the months of March and May, 1876—Adams's operation, the credit of which is his own, in the special form in which he designed it, *nullo contradicente*. You will now see, reviewing the past and recent history of this case, at a fair interval of time, how far this operation was justifiable, and how far it has been successful.

Next, I would invite your attention to a case of amputation of the hip-joint, performed in 1872, in which an excellent recovery was made. The chief interest in this case consists in the contemplation of the wonderful way in which the patient can walk and get about after so severe a mutilation as that of not less than one-sixth part of his entire body, and of some interesting physiological problems which might be worked out upon it as to the action of the steadying muscles of the hip and loins, whereby the balance of the body is still preserved.

I have also ready for your inspection two cases of partial removal of the ulna, in each of which an excellently useful hand is preserved, with power of rotation by pronation and supination, to a remarkable degree. In one case, which was operated upon about eleven months since, the lower third of the ulna was removed, and all healed well. In the other, only just the extreme end was excised. It is an operation upon which I cannot refrain from dwelling, because it shows that not only in infancy, but even in our student days, early impressions are imprinted indelibly on our memory. I had the good fortune to be one of the first set of dressers for Mr. Hilton when he was appointed one of the surgeons to Guy's Hospital, about the year 1845. No one at that time was more ready or more able to apply correct anatomical knowledge to surgical practice than he. It was his delight, as his *chef d'œuvre* on *Rest and Pain* will fully testify. At this time he had under treatment a young woman with necrosis of the lower part of the ulna, without, as was then thought, any present disease in the carpal joints. Mr. Hilton said, "How would it do to take away the diseased bone, and not destroy the integrity of the carpus, by carefully leaving intact the triangular fibro-cartilage which intervenes between the end of the ulna and the cuneiform bone? This was done, and a perfect recovery resulted. The fact thus presented to my mind was never forgotten. I referred to it from time to time in my anatomical demonstrations, as a possible operation. It was not until quite recently, however, that I had a precisely similar case to treat, one in which, as you will observe, I have removed the lower inch of the ulna without disturbing any of the carpal joints. Recovery has followed, and now, after nearly fifteen months, you may see for yourselves what an useful hand the patient has. But yet there is danger to be averted, as possibly only the after-history of such a surgical case could foreshadow. The two ulnar muscles, the flexor and the extensor, unrestrained by the resistance of the shortened ulna, are now beginning to show a tendency to draw the hand towards the internal side of the fore-arm, and in spite of all I can do, I fear I must admit that, without the use of some mechanical apparatus, the hand will become less serviceable, by permanent fixed adduction.

The lessons to be learnt from the after-history of these cases will, I hope, be as interesting as I believe they might be made instructive; and I trust that the present condition of these patients will convince you that, in many instances of surgical disease and surgical treatment, careful study of the after-history of each individual case will prove an endless source of accumulated experience.

SECTION OF OBSTETRIC MEDICINE.

OPENING ADDRESS.

By W. O. PRIESTLEY, M.D., F.R.C.P.,
President of the Section.

THE HISTORY OF OBSTETRIC MEDICINE IN MANCHESTER.

Gentlemen,—When I was honoured with an invitation to accept the Presidency of the Obstetrical Section at the present meeting of the British Medical Association, it struck me that it would be interesting to look back on the part which Manchester has from time to time taken in the advancement of obstetric science, and to recall some of the great names who have contributed to its literature.

Manchester, indeed, has had its school of obstetric medicine as well as its school of politics. It has made its mark both in the present and preceding century, and it seems to me a happy coincidence that the Address in Obstetric Medicine, which is given once only in three years, should be delivered in Manchester, a town so much identified with the progress of the science and art of midwifery; and the Association may be congratulated that the address is to be delivered by so competent an authority as Dr. Barnes.

So long ago as 1773, Mr. Charles White, a pupil of William Hunter and Surgeon to the Manchester Infirmary, wrote a treatise on the "Management of Pregnant and Lying-in Women," which went through three editions; and, in 1784, he issued a work on the "Nature and Cause of Swelling of the Lower Extremities, which Sometimes Happens in Lying-in Women." This work also appeared in three editions, and was remarkable as one of the first scientific attempts to unravel the pathology of the disease called "phlegmasia dolens" by a careful study of the anatomical changes taking place in the limbs. Mr. White gave a very accurate description of the affection, and adopted the view that it depends on "obstruction, detention, and accumulation of lymph in the limb."

In 1800, Dr. Hull published an extended treatise on the same subject; and, from his introductory remarks, it may be gathered that he first bestowed the term "phlegmasia dolens" on the inflammatory swelling of the legs observed in puerperal women, and assigned it its place in the nosology of Cullen. He expresses a fear lest some of his readers should be puzzled by the new name. He regarded the disease as an inflammatory affection, producing suddenly a considerable effusion of serum and lymph into the cellular membrane of the limb. Whatever may be thought of the pathology of these two authors, in view of the more recent researches of Dr. Robert Lee, Dr. Mackenzie, Professor Virchow, and others, there can be no doubt that both Mr. White and Dr. Hull made most important contributions towards elucidating the nature of phlegmasia dolens, and deserve great credit.

Probably no single locality in the United Kingdom has contributed so much as Manchester and its vicinity to the discussion and elucidation of the subject of Cæsarean section. In 1769, Mr. Wood here performed the operation upon a woman whose pelvis became greatly distorted by mollities ossium after she had previously borne children naturally. This case led to a discussion, in which Mr. Simmons, Mr. Ogden, and Mr. Tomlinson of Manchester, with Dr. Sims of London, took part; and out of this controversy came the excellent treatise by Dr. Hull entitled "A Defence of the Cæsarean Operation," etc. In this work, Dr. Hull entered most intelligently into the nature of the cases requiring the operation, the best method and the proper time for performing it, the sources of danger, and the subsequent treatment of the patient. This book besides gave much information on the subject of pelvic distortions. If, with the light of later experience, exception be taken to some of Dr. Hull's positions, his book may be said to have formed the groundwork of information on Cæsarean section for British practitioners, and to this day it is regarded as containing sound opinions and good practice.

The promulgation of Dr. Hull's views was unfortunately mixed up with a most rancorous controversy between him and Mr. W. Simmons, in which Mr. Simmons charged Dr. Hull with being "little acquainted with the decencies common among authors, and ignorant of the language and manners of a gentleman." The contention in bitter personality inevitably recalled the celebrated combat between Susannah and Dr. Slop, graphically described by Sterne in "Tristram Shandy," and its occurrence is much to be regretted.

In 1801, Dr. Hull translated and published M. Baudelocque's two memoirs on the Cæsarean operation, thus giving English practitioners further information on the subject; and the history of the operation is still further identified with Manchester through the much-respected name of Dr. Radford, who delivered the first Obstetric Address before the Provincial (now named British) Medical Association at Manchester in 1854. Dr. Radford then selected Cæsarean section for the subject of his Address, and subsequently published a more extended memoir with an appendix of cases. From this memoir, it appears that, up to a certain period, the greatest number of cases, relatively speaking, in which Cæsarean section had been performed in Great Britain and Ireland had occurred in this city and neighbouring districts. Of fifty-five cases in England and Wales collected by Dr. Radford up to 1865, no fewer than twenty-five had occurred in Lancashire. The occurrence of this large proportion of Cæsarean operations in Lancashire was, no doubt, in a great measure, due to the pernicious influences surrounding the occupation of young girls and women in factories. Cogent evidence of this is to be found in the fact, which I have on good authority, that, since the introduction of the Factory Act, which prohibits girls being employed in factories before a certain age, and limits the hours of work

both for women and children, such deformities of the pelvis as necessitate the Cæsarean section have become much rarer, and Lancashire is losing its unhappy pre-eminence in this respect. This, one of the indirect ways in which the Factory Act has ameliorated the condition, and lessened danger and suffering for poor working-women in parturition, deserves to be recorded, and must furnish a source of gratification to Lord Shaftesbury and others who were concerned in passing this beneficent measure.

Looking still onward, we learn that to Mr. Kinder Wood, of Manchester, is probably due the first suggestion that the placenta should be detached from the os and cervix uteri in certain embarrassing cases of placenta prævia, where the severity of the hæmorrhage places the patient in peril, and immediate delivery is difficult or impossible. Sir J. Y. Simpson developed this question more fully later, and impressed upon it, as he did on all subjects he handled, the imprint of his genius. Sir James evidently was not aware, when he made his first communication on this subject, that Mr. Kinder Wood had before him adopted this plan of treatment, or had recognised the fact that complete separation of the placenta would arrest hæmorrhage in cases of placental presentation. Becoming informed later, he made a full acknowledgment, and expressed himself as having "great and sincere pleasure in rendering posthumous justice to the memory of a man of distinguished professional attainments."

And here I may remark that some misapprehension still exists concerning Sir James Simpson's teachings as to the treatment of placenta prævia. It is common enough to hear Sir James accredited with recommending separation of the placenta as a general plan of treatment for cases of unavoidable hæmorrhage. Those who have carefully studied his writings are not likely to fall into such an error; but it may be well once more to point out that Sir James Simpson only proposed the separation of the after-birth before delivery in cases where the hæmorrhage had been so great that the patient could not bear the shock of immediate delivery, or where perilous flooding was associated with such an undilated or undilatable state of the passages as to render speedy delivery impracticable.

These doctrines, it is well known, have been still further modified more recently by the obstetric orator at the present meeting—Dr. Barnes.

Tracing further the history of obstetric medicine in Manchester, I approach delicate ground, inasmuch as many of the men identified with its progress are still living, and their names are familiar to all of us. Of the venerable Dr. Radford, whose name I have already mentioned, and whose first medical diplomas date as far back as 1817, everybody must speak with admiration and esteem. A long life, combined with ardent love of his profession, have enabled him to make many substantial contributions to the literature of obstetrics, and to form a very fine collection of instruments. This collection now belongs to the Radford Museum in Manchester, and, by kind favour, was lent for a brief period to the Obstetrical Society of London for exhibition at its *conversazione* last year. Among Dr. Radford's more important writings, I may mention his "Essays on Various Subjects connected with Midwifery"; his "Essays on Cæsarean Section and Deformities of the Pelvis"; "Cases of Torsion, Doubling, and Expulsion of the Fœtus in Shoulder Presentations"; "Cases of Laceration of the Uterus," etc.

Dr. John Roberton, whose first diploma dates as far back as Dr. Radford's, has also, during his lifetime, rendered signal service to his profession. His writings bear the stamp of a genius which has been recognised by many eminent authorities, and his practical suggestions have greatly helped to further a more scientific and precise use of midwifery instruments.

Dr. Charles Clay, besides entering the domains of archæology and general science, has brought renown to the Manchester School by the diversity and extent of his contributions to obstetrics. Without going into the question of priority, I may state that Dr. Clay's name is indisputably associated with the earliest successful cases of ovariotomy in this country, and that he materially aided, by his own work and writings, to establish the propriety of an operation which has led to such wonderful results in the hands of Mr. Spencer Wells, Dr. Thomas Keith, and others. Further, Dr. James Whitehead, both by his writings and practice, has attained more than a local celebrity as an accomplished gynæcologist; and Dr. Renaud, who, I understand, does not engage in obstetric practice, yet has added important material to its literature. I have often heard my late friend Dr. Montgomery, of Dublin, speak of the value of his researches on the corpus luteum, and, in his admirable work on "The Signs and Symptoms of Pregnancy," Dr. Montgomery says of Dr. Renaud's account of the corpus luteum that, "as far as it goes, it is decidedly one of the best and most accurate."

I may add that, within the last day or two, Dr. Lloyd Roberts has informed me that a Mr. Ward, a surgeon in Manchester, was the first to point out that infantile leucorrhœa was an idiopathic affection, and not necessarily produced as the result of carnal intercourse. The importance of this discovery in a medico-legal sense was illustrated by a case occurring at the time. In 1791, Mr. Ward was asked to examine a little girl four years old who was supposed to have been violated. He gave evidence to the effect that there were proofs of such violation, and a man was committed for the capital offence. Immediately afterwards, Mr. Ward saw other cases of infantile leucorrhœa in hospital, which a careful examination convinced him were due to natural causes. He was courageous enough to report this to the authorities, with an avowal that he might have been mistaken as to the evidence he had given in the criminal case. This was explained to the judge of assize at Lancaster, and the man was acquitted.

This brief recital does not at all profess to complete the history of obstetric medicine in Manchester; it merely gives a *résumé* of some of its more salient points up to a given period. In any fuller exposition, one could scarcely omit to mention the names of the present honorary secretaries of this Section. They are the worthy representatives in gynæcology in Manchester at this moment, both as teachers in the medical schools and as pioneers in practice.

Since the last meeting of the British Medical Association in Manchester, considerable strides have been made in perfecting the science and art of midwifery, and in investigating and treating the diseases of women. New light has been thrown on the treatment of difficult and anomalous labours; fresh expedients have been suggested to meet special emergencies. The subjects of uterine hæmorrhage, the use of midwifery instruments, the diversities in the method of turning, and the pathology of puerperal ailments, have each received fresh illustration in this country by such men as Simpson, Matthews, Duncan, Barnes, Braxton Hicks, and others, and by a host of fellow-workers abroad. In the treatment of diseases of women the advance has even been more marked. The wonderful results which have recently attended the operation for ovarian tumours are the marvel of our time, and indicate a courageous and skilful battle with disease and death, crowned with a success which twenty years ago was scarcely hoped for.

The impetus given to the cultivation of uterine pathology not many years since by the writings of Dr. Henry Bennet in London, and by Dr. Simpson in Edinburgh, may be said almost to have created the modern school of gynæcology in this country. The various implements introduced into practice, more especially by Simpson, have made diagnosis much more precise and accurate than before. With these improvements, the danger is lest the physician be merged too much into the mere mechanist, and lest he should look on all derangements of the reproductive organs as having too exclusively a local origin, to be remedied with undue frequency by local expedients.

As we are avowedly met here for mutual discussion and criticism, I trust I may be pardoned if I indicate, in passing, one or two pitfalls into which gynæcologists are prone to stumble in the present phase of our art.

In the first place, out of the mechanical improvements in diagnosis and treatment, there seems to have grown too great a proclivity to trust less to the information afforded by the educated fingers, and more than is desirable to instruments. These mechanical aids are often employed as a mere matter of routine, without regard to the pathological nature of the uterine disturbance, in the vague hope that they may assist to find out something, the nature of which is not well-defined beforehand, and apparently with the idea that full justice is not meted out to the patient if any are dispensed with. These remarks apply both to the speculum and sound, with other instruments, but especially to the uterine sound. The uterine sound is a great addition to our resources, but there are many uterine affections in which it affords no information whatever, and many in which it is positively injurious. My experience convinces me that it is employed with unnecessary frequency both as an instrument of diagnosis and for

restoring the displaced uterus when a finger in the vagina or rectum would equally well answer the purpose. A sound cannot be introduced into an inflamed and tender womb without stirring up more mischief; and it is often forgotten that a preliminary investigation on this point is as needful and desirable before having recourse to the sound as it is to exclude the chances of pregnancy. The result is the infliction of a large amount of avoidable suffering; sometimes it may be an aggravation of the disease for which the patient seeks relief, and an amount of discredit attaching to the practitioner which most men would be glad to escape.

It is of great moment, now that we possess instruments of acknowledged value, to learn the exact limits within which they render actual service, and when they had better be avoided.

Again, as certain remedies have had their fashion for the day, and then have sunk into unmerited oblivion, so, in defiance of sound principles, a single idea in uterine pathology has been raised into a position of undue prominence, and then given place to something else.

At one time, ovarian pathology was in the ascendant; at another time, inflammation of the os and cervix uteri was regarded as the chief ailment from which women suffered; and lately these have given place to the theory that mechanical displacements of the uterus are the root of all evil,—and patients, taking their cue from the doctors, at once jump to the conclusion that all pelvic discomforts come from uterine dislocation. Thus the world is afflicted suddenly with what seems an epidemic of flexions and versions of the womb, and a large amount of time and ingenuity are expended in the invention of pessaries which might be more profitably employed in other directions. Need I point out how important it is that, in all our scientific progress, we should relegate each special subject of study to its proper place in a sound system of pathology, and attach to each morbid condition its true importance? Both in diagnosis and in attempts at cure, while we should have courage enough, when necessary, to face both difficulties and dangers, it comports best with scientific practice to measure as exactly as possible the amount of interference to the needs of the case. All beyond this is not only superfluous; it is apt to be mischievous.

Turning to another subject, I am anxious to draw the attention of members to the subject of transfusion, which has been chosen by our Manchester *confrères* as a topic for discussion in this Section of our meeting. The operation of transfusion has had a chequered career, and, after being forgotten or neglected for long periods, is again attracting much attention.

From a sketch of the history, by the late Mr. Pettigrew and others, we learn that the earliest experiments in transfusion were made in France about 1658 by Hansheau. Lower performed the operation in this country in 1665. M. Denis, satirically described as a physician "plus occupé des jeux de hazards que des jeux de la machine animale," subjected a man to the experiment about the same time. Biva and Manfredi in Italy, and Sinnibaldus in Flanders, repeated the experiment only a few years later. The first four volumes of the *Philosophical Transactions*, which cover the years from 1665 to 1704, contain records of several, but all unsuccessful, cases.

After this time, the practice seems to have fallen into abeyance, although Dr. Harwood of Cambridge published a thesis on the subject in 1785, and endeavoured to rouse attention to its importance. It was not until 1824, when Dr. Blundell of Guy's Hospital re-opened the question, that it gained distinct vitality. Dr. Blundell showed, by a series of experiments, that blood may be transfused with success and safety from one animal to another, provided they are of the same species; but if from one animal to another of different species, the result is fatal. MM. Prévost and Dumas in France, and Bischoff in Germany, believed they had afterwards verified Dr. Blundell's conclusions; but Dr. Brown-Séquard has shown that there were fallacies in these experiments, and that, under certain conditions, the blood of other animals may be injected into the human body without danger, while he holds with Dieffenbach that defibrinated blood answers as well as fibrinated blood.

Dr. Blundell performed the operation of transfusion eleven times with his own hand; in ten of these cases there was pressing danger from loss of blood, and in only four of these did he succeed in restoring the patient.

The sparing results attained by Dr. Blundell did not encourage the adoption of the practice by medical men generally. The operation was regarded as delicate, difficult, and uncertain of success, and it languished, although from time to time new instruments were devised and fresh suggestions were made for perfecting the process. In later days, Dr. Hamilton of Ayr, Dr. Graily Hewitt, and Dr. Aveling have each suggested modifications of apparatus. Dr. Aveling's method of immediate transfusion was at once so simple and practical that its introduction gave a new impetus to the operation in this country.

In limine, it may be said that, as increasing attention is paid to the subject, and apparatus becomes more perfected, greater promise is afforded and favourable results are gradually growing. The late Professor Martin of Berlin recorded fifty-seven cases, in which forty-three were completely successful; Dr. Higginson of Liverpool fifteen cases, in which ten were successful; and Dr. McDonnell of Dublin, de Bellina of Paris, with others, have published interesting cases.

It will be in the recollection of many members that, at the meeting of the British Medical Association in London, there was a discussion on transfusion, and a lively debate took place between the advocates of *mediate* and the supporters of *immediate* injection.

Just now, new life has been imparted to the subject by the appearance of M. Roussel, demonstrating the utility and simplicity of his method for direct transfusion. This subject is obviously a study of deep and increasing interest, as the introduction of the practice in a perfect and simple form may be the means of saving many from the very jaws of death. I commend it to your careful consideration, and, at the appropriate time, to your earnest and dispassionate discussion.

ORIGINAL COMMUNICATIONS.

CHLORATE OF POTASH IN SATURATED SOLUTION A SPECIFIC REMEDY AGAINST DIPHTHERIA.

By Dr. A. SEELIGMÜLLER, of Halle (Prussia).

Dr. Aitken, in his splendid work on Pathology, when treating of the cure of diphtheria, says (page 734):—"We have no specific treatment which can cure the disease (diphtheria) or eliminate the poison."

In the same manner Dr. Isambert, in his "Études Chimiques, Physiologiques, et Cliniques sur l'Emploi thérapeutique du Chlorate de Potasse spécialement dans les Affections Diphthéritiques" (Paris, 1856), summing up what he has experienced from observing the effects of chlorate of potash against diphtheritic affections, propounds (page 102) this question—"Le chlorate de potasse a-t-il une action spécifique sur la cause générale de la diphthérite?" And here is his answer—"L'est ce que les faits ne nous permettent pas d'affirmer. Peut-être des expériences nouvelles pourrait-elles décide la question; celles qui consisteraient à élever les doses pourraient fournir un élément." This prevision has been fulfilled, for large doses, or rather saturated solutions, are indeed a panacea against diphtheritic affections.

Everybody knows that, of all remedies internally made use of against diphtheria, chlorate of potash has figured for a long time as the most useful, and has been constantly recommended anew in compendiums of treatment. But no less it is known to every physician how little, when used in doses and degrees of concentration commonly applied, this remedy can pretend to the name of a successful one against diphtheria, else there would not have been internally and externally tried, recommended, and applied so many other remedies besides chlorate of potash. How did we not—I, as assistant-physician (*Assistentarzt*), and a dozen of students extremely diligent and zealous—during the summer of 1864, in the Newmarket quarter of the University-Policlinic of Halle, torture the poor children and ourselves by scratching off the diphtheritic deposits, and then cauterising! And what did we gain by all this torture? In this quarter, which forms nearly the third part of the policlinical district of Halle (a town at that time of about 40,000 inhabitants), there died of diphtheria in one month twenty-five children,(a) sometimes three in a single family; and those who recovered were

(a) In this number are not comprised the children who died among the better classes under the hands of private physicians.

easily to be numbered, and surely their recovery was not due to our endeavours. It seems hardly necessary to add that, besides the topical treatment, chlorate of potash was ordered in usual doses. And now for the saturated solution—℞. Chlorate of potash grammes 10, aq. dest. grammes 200; every hour or every two hours a spoonful—and nothing else! Gargling, anointing, brushing, and cauterising, all this management, as time-wasting for the physician as tedious for the little patients, *may be omitted*, without the physician accusing himself of neglect. Indeed, one needs not be a homœopathist to feel very comfortable at this quiet *laissez-aller* in cases where one was to be incessantly on the move, and to be worn out with anxiety by the crying and spitting of the children, and all in order to arrive at nothing but the dying of the patients!

During the five years that I have ordered no other remedy against diphtheria besides our saturated solution, this remedy has proved successful in all cases of diphtheria except a few cases that were neglected in the beginning, in which the blood was already profoundly altered and systemic poisoning had occurred when I was consulted.

Method of Administration.—You have to give the above-named saturated solution of chlorate of potash (5 per cent.), as long as there is to be found any relic of diphtheritic deposits, at the commencement every hour; later, if the case progresses favourably, every two or three hours. To children above the age of three years a whole spoonful, and to those under that age a half one; (*mark well!*) *during the beginning, day and night without intermission.* You have not to add to this solution any syrup or any other ingredient to sweeten the savour, because of the risk of diminishing surety of effect. Besides, I have had only a very few children under treatment who would not take it without any forcing. Do not forget that drinks must not be allowed for some minutes after the administration, lest the solution might be washed away too quickly from the fauces. It is not necessary to add that I have ordered sometimes the same solution as a gargle, when the children were capable of using it. I also washed the mouth and fauces with a sponge saturated with the same solution, or I introduced it through the nostrils by means of a nostril-syringe, or by ordering the patient to sniff it in. But all this management is superfluous, and serves only to quiet the parents, lest they may think you have neglected something. Finally, it may be repeated that it is abundantly established by clinical experience *that the internal medication alone is sufficient in all cases.*

Mode of Action.—The symptom you will see disappear first is the fetid breath. I myself have seen the most penetrating odour removed within a few hours. At the same time, the diphtheritic deposits will diminish apparently, the sores that were at first covered with a creamy pus clean quickly, and an ulcer will remain behind which is disposed to rapid cicatrisation. But what is most astonishing is the quick amelioration—not to say recovery—of the general state. Children whom I found in the evening, when I was called in, reduced by exhaustion and fever, the next morning were sitting up in their beds, fresh and without fever, demanding food, and playing. The cases in which I was obliged to employ any other medicament besides the chlorate of potash were extremely rare—namely, when the pulse was becoming extraordinarily weak and intermittent, and the force of the heart was diminishing. In these cases I have ordered a solution of quinine to be taken alternately with the first solution. Then it will not be amiss to administer also some spoonfuls of Hungarian wine, black coffee, tea, or beef-tea. In all other cases I have ordered only the chlorate of potash from the beginning of the diphtheria till its ending, without having to regret any fatal results excepting the above-named neglected cases, and two other cases of which I shall make hereafter a detailed mention.

Theory of Action.—Dr. Isambert, in his observations on the treatment of diphtheria, says (page 65):—"Le chlorate de potasse n'est pas un médicament héroïque, qui guérisse à coup sûr l'angine maligne, son action n'est pas instantanée, bien qu'il apparaisse au bout de quelques minutes dans la salive, il lui faut au moins vingt-quatre heures, et le plus souvent deux ou trois jours, pour agir; aussi faut-il l'administrer de bonne heure. Son action semble être plutôt locale que générale, bien que l'état général s'améliore ordinairement en même temps que l'état local; ce n'est donc pas un remède d'urgence." It is not necessary, after what I have been demonstrating, to say that I cannot adhere to the propositions made by Dr. Isambert. On the contrary, I have experienced in a great number of diphtheritic affections that the action of chlorate of potash is sensible already in the first twelve hours of administration. Particularly it is the last part of his proposition I cannot confirm. My experience, on the contrary, is that the *saturated* solution of chlorate of potash does not only act *in loco effecto*, but has also a general effect on the diphtheritic affections. Its topical action is apparently that of a mild cautery; but perhaps it is acting yet more in separating the diphtheritic pseudo-membrane from its basement-membrane by promoting a very abundant secretion between the two membranes. In favour of this hypothesis you have the experiments of Dr. Laborde, who has found the same quantity of chlorate of potash eliminated on the respiratory surface of the bronchial tubes as by salivation. But as to the mode of general action, and the chemical decomposition, I cannot but propose the following conjectures:—Dr. Bollinger, of Munich, has reduced the chemical action of the anthrax-bacteria within the living animal body principally to this: that these organisms, because of their enormous chemical relation to oxygen, absorb this gas with great avidity and in great quantity by withdrawing it from the red blood-corpuscles. Now, in diphtheria we have similar bacteria, which probably will exert the same withdrawing action. On the other side, Professor Binz, of Bonn, has stated that chlorate of potash is reduced by animal fluids—for instance, by pus. Therefore, if we introduce a saturated solution of chlorate of potash into the blood, we are entitled to expect that it will deliver up there a great quantity of oxygen, supplying that which is withdrawn by bacteria, and having besides a destructive power on those organisms. Therefore, it may happen that the effect of chlorate of potash will not appear if you apply solutions not sufficiently saturated or in too small doses.

Precautions.—Yet some caution is required in administering it, for my clinical observations have given me the conviction that our solution may have a dangerous action—1, on heart; 2, on digestion. As for the first, it is easy to decide in the single cases how much the diphtheria itself was acting on the heart; for many clinical facts have taught us that diphtheria produces very dangerous perturbations of the functions of the heart. Yet in a series of clinical observations I have received the same impression that the concentrated solution has indeed a retarding and debilitating influence on heart-action. In some diphtheritic children I have observed a great weakness of heart-action, with a pulse much retarded and sometimes intermittent, even when the chlorate of potash had been given only during twenty-four hours.

This opinion receives support from the experiments of Dr. Podkopaew and those of Dr. Isambert himself, who has recommenced his investigations. When these physicians injected two grammes of chlorate of potash into the crural vein of a dog, it died in a very short time of heart-paralysis. Probably it is the alkali contained in the chlorate of potash which produces its effects on the heart. Further, our solution may exercise an injurious influence on the organs of digestion. That I have observed particularly in those cases where children affected by diphtheria had acquired in the same time an acute stomachal catarrh. Then the vomiting with which the malady had commenced before the administration of the chlorate increased in such a degree that it was not to be stopped. A complete anorexia supervened, and the patients were in danger of dying from weakness (this last did happen, indeed, in one of my observations); therefore you must cease the administration of our panacea for some hours, as soon as grave gastric symptoms appear, and recommence its administration with cautious doses. Besides, I have observed one case of poisoning by chlorate of potash, which offers a strong confirmation of our proposition that the saturated solution may have a pernicious influence on the organs of digestion. This case was that of a very spoiled boy, aged six, who, seized by a grave diphtheritic affection of the fauces, refused to open his mouth to take medicine. This resistance obliged one of my colleagues, who represented me for that time, to infuse in three doses a whole bottle, so that the boy received, in about twelve hours, fifteen grammes of chlorate of potash. After that forced medication the boy refused at all opening his mouth and taking anything. He became more exhausted every day, vomiting green matter and having diarrhœic evacuations of the same colour. He died of weakness ten days after the forced medication. There is a strong probability in this case that the child did not die of diphtheria, but of poisoning.

Here is the summary of my observations :—

1. The chlorate of potash administered in a saturated solution (5 per cent.) has a specific effect on diphtheria.

2. It must be given in a solution of ten grammes in 200 grains of distilled water without adding any syrup or any other substance to ameliorate the taste.

3. This solution is to be ordered to infants under three years at half a spoonful, to elder ones at a whole spoonful, every two hours (if the malady is very grave, every hour), at first *day and night* without interruption.

4. This internal medication *alone* will suffice in all cases.

5. The saturated solution of chlorate of potash exercises (*a*) a topical action, and (*b*) a general one on the diphtheritic process—(*a*) a topical one, as a mild cautery, and by separating the diphtheritic pseudo-membranes from their basement membranes; (*b*) a general one, supplying the oxygen withdrawn from the blood corpuscles by bacteria and destroying these organisms.

6. Caution is required lest the saturated solution may act dangerously on heart or digestion. When such symptoms occur, the administration must be suspended.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

HEAD INJURIES.

UNIVERSITY COLLEGE HOSPITAL.

Cases under Mr. Marcus Beck.

Case 1.—*Fracture of Parietal and Temporal—Wound of Middle Meningeal Artery—Separation of Dura Mater and Compression of Brain by Blood-clot—Trephining—Removal of Clots—Non-expansion of Brain—Death.*

[Notes by Mr. Neville S. Whitney.]

T. H. R., aged twenty-eight. Patient was a healthy brewer's drayman. He was driving his cart on the evening of January 11, 1877, when he fell from the driving-seat into the road. He mounted the box again and drove some distance; then, feeling giddy, he dismounted, and lay down in the van. His mate, who was a little the worse for drink, drove on, and thought no more of him for half an hour. At the end of this time he was found by a policeman to be in a state of complete insensibility, and was immediately brought to the hospital. He was admitted about 9 p.m., and was seen by Mr. Beck at 10 p.m. On admission he was completely unconscious, pupils widely dilated and fixed; stertorous breathing 18 respirations per minute; complete general paralysis, pulse very full and tense, 32 per minute. Slight bleeding from right nostril. Over the back of the left parietal bone was a slight puffy swelling; no wound anywhere. The head was shaved at once, and it was then seen that the whole of the left temporal fossa was distinctly fuller than the right. At ten o'clock there was no change. The history clearly showed that the coma was due to hæmorrhage, and the absence of insensibility immediately after the accident proved that it was not from lacerated brain substance and pia mater. It was therefore diagnosed to be between the dura mater and the bone, and the fulness of the left temporal fossa pointed out which side it was on. A T-shaped incision was therefore made, exposing the lower and anterior angle of the left parietal bone. The superficial and deep temporal arteries were divided and tied. The pin of the trephine was applied about an inch and a half above the zygoma, and the same distance behind the external angular process of the frontal bone. In this situation a fissured fracture was found from which blood was oozing. The trephine was applied so as to include the point where this fissure was supposed to cross the course of the anterior branch of the middle meningeal artery. On removing the circle of bone it was found to be almost exactly bisected in a direction downwards and forwards by the fissure, and almost vertically by the groove for the artery, so that the two crossed each other in the centre. As soon as the bone was removed fluid blood and soft coagula welled up from the wound. The finger passed in, penetrated to a depth of between one and a half and two inches before it reached the dura mater, and it could not reach the limit of the clot laterally in any direction. The clot was now scooped out with a small lithotomy scoop, and was at once followed by a perfect torrent of blood, dark in colour, and without pulsation, except such as was communicated to it by the brain. The colour of the blood was doubtless due to the state of semi-asphyxia in which the patient was. Its quantity seemed almost greater than could be imagined to come from so small an artery as the middle meningeal. No bleeding artery could be seen or felt. Compression of the carotid seemed to have but little effect. It seemed at first as if the hæmorrhage would have proved fatal, but after a time it ceased spontaneously before the pulse showed any signs of serious loss of blood. The brain showed no tendency whatever to expand. The dura mater remained pulsating slightly, and at the same distance from the surface as it was at first. Consequently, the space between the dura mater and the bone became again filled with soft loose clots. After the operation the pulse rose to 60. It was moderately full and of fair force. The coma remained absolutely unrelieved in any way. The wound was lightly dressed, so as not to resist the exit of the clots in case the brain should begin to expand, and the patient was carried back to bed. At 11.30 the pulse was smaller, irregular, and occasionally intermittent —52. No relief to the coma. No recurrence of the hæmorrhage. At 7 a.m., January 12, he vomited, and at 8 a.m. he died comatose.

Post-mortem.—Head: A little blood under the scalp on the left side and in left temporal muscle. A fissure was found running from just above the left parietal eminence across the trephine-hole, and from the further side of that downwards and forwards ending just below the outer end of the lesser wing of the sphenoid. At one place in the very thin squamous bone it was starred. The centre of the trephine wound was found to be two inches behind the external angular process of the frontal bone, and one inch and a half above the zygoma. Head opened; longitudinal sinus healthy. Surface of brain dry; convolutions everywhere much flattened. A slight bruise of the brain was found on the under surface of the anterior part of the temporo-sphenoidal lobe just opposite the point struck. There was another slight bruise on the under surface of the same lobe on the left side, just beneath the point struck. No blood in the cavity of the arachnoid. A considerable quantity of clear fluid in the ventricles. Veins of Galen distended with blood. The left corpus striatum projected considerably further into the ventricle than the right. No hæmorrhage into or laceration of any part of the brain or medulla. Nothing was found to account for the want of expansion in the brain after the removal of the clot. The dura mater was found to be detached from the skull on the left side for a space several inches in diameter, extending forwards to the small wing of the sphenoid, downwards to the petrous portion of the temporal bone, upwards nearly to the middle line and backwards to the middle of the posterior fossa of the base of the skull. It was separated by some distance from the bone, and the space filled up by a soft black clot about the size of the hand. The middle meningeal artery was found to be torn, but not divided at a point opposite the starred fracture just behind and beneath the small wing of the sphenoid bone. A considerable distance below the trephine-wound, at a point in fact at which it would be impossible to reach it in any way, the lateral sinus was uninjured. No other injury of any kind; viscera healthy.

Case 2.—*Fracture of Parietal and Sphenoid—Separation of Dura Mater and Compression of Brain by Blood Clot—No Arterial Wound subsequently Discovered—Trephining—Relief of Compression—Death from Hyper-pyrexia.*

[For the notes of this case we are indebted to Mr. J. T. Gadsby, House Surgeon.]

J. R., aged seven, was admitted into University College Hospital at 2 p.m., on July 13, 1877. An hour before he had fallen from the top of a wall about eight feet high; had since not been thoroughly sensible, and was very much inclined to sleep. He was brought to the hospital to have his arm set, no complaint being made of his head. When first seen the boy told the dresser what was the matter, but so rapidly became unconscious that, when seen by the House Surgeon some five minutes after, no answer could be got out of him, though the patient cried, and was very irritable when disturbed, or when the injured arm was touched. Right pupil closely contracted, and left somewhat dilated and insensible. Pulse 60, rather soft. In left temporal fossa, just above zygoma, there was a distinct puffy swelling, and the left eye was more prominent than the right. No bruises or depressions could be felt anywhere else. There had been bleeding from the nose; none

from the ear. Bones of left arm fractured about one inch from lower end, with angular deformity; reduction not attempted. 2 p.m.: Ice-bags applied to head. Mr. Beck saw the case, but did not think symptoms sufficiently urgent to require interference, as the child struggled and cried when touched. Orders were given to watch it carefully, and, if the symptoms increased and coma supervened, to send at once for the surgeon. 3 p.m.: Patient breathing more rapidly; almost entirely insensible, but moves his limbs. 3.30: Two or three convulsions noticed by nurse of no definite character. 3.40: Patient is now somewhat cyanosed, and breathes at long intervals, respiration seeming obstructed by mucus. Coma complete, both pupils widely dilated and immovable. There was some delay in finding Mr. Beck, who was in another ward of the hospital; and at 3.55, when he saw the case, breathing had become much more infrequent, patient being once taken for dead, and the sheet thrown over the face. However, he gave a gasp after an interval of quite half a minute, and artificial respiration was immediately resorted to, and he came round. He was immediately picked up, and carried as quickly as possible into the theatre, and the operation commenced. The swelling on the left temporal fossa, which by this time had become much larger, was cut into and the bone bared, when blood was seen issuing from a small hole in it (vein), but no fracture. A crown of trephined bone was taken from over the course of middle meningeal, when the anterior edge of a clot was seen. A piece of bone was removed with the bone forceps from the back of the trephine-hole, more surface of clots being exposed. The finger introduced into the opening now made, discovered a large clot separating dura mater from the bone over whole of parietal lobe. This was scooped up with a small lithotomy scoop, when violent hæmorrhage took place, but no distinct bleeding-point could be discovered. During this time artificial respiration had to be resorted to at intervals; but as the brain filled up the place previously occupied by clot, the breathing became regular and pulse rapid. The patient was now propped up in the sitting posture, and ice applied to the side of the face, neck, and head; and, the bleeding seeming to cease in great measure, two or three stitches were put into lips of incision, a carbolised sponge lightly bandaged on, and patient was removed into private ward, with an ice-bag to the head. Just before leaving the theatre several futile attempts were made to vomit, and the limbs were freely moved. The right pupil was again contracted and movable, the left unaltered. 5 p.m.: Patient has taken feeders of two milk, and has smacked his lips as if conscious of the drink. Movement of limbs frequent, and easily excited by pinching. Once it appeared that patient tried to speak. 7 p.m.: Temperature 100·6°; condition unchanged, except that breathing has become somewhat more rapid. 10 p.m.: Breathing 60 per minute; pulse 170. Both pupils immovable.

July 14, 1 a.m.: Temperature 106° in axilla; profuse perspiration; patient cannot swallow; breathing 78, irregular, not stertorous; no voluntary motion of limbs, but reflex of eyelids good; pulse 180, irregular; right pupil one quarter, left three-fifths, both immovable. 1.45 a.m.: Temperature 105·8°; eyelids still sensible. 3 a.m: Death took place quietly, breathing becoming more and more irregular; temperature at 2.30 was 106·4°, and five minutes after death it had risen to 108·4°.

Autopsy.—Twelve hours after death: On removal of skull cap some remains of clot were found on left side behind trephine-aperture, and the dura mater was separated from skull to level of tentorium, and as far back as occipital bone; no arterial branch wounded. Fissured fracture was found passing vertically downwards, rather behind middle of left parietal bone, and about half an inch behind trephine-hole, then passing forwards separating temporal from parietal bone, it entered great wing of sphenoid, and then across body of sphenoid in front of anterior clinoid processes; no depression anywhere; the brain seemed perfectly healthy; no flattening of convolutions or other sign of pressure; and nothing to account for death found on section. Left ulna was found fractured about two inches from lower end, and the lower epiphysis of left radius was separated.

Case 3.—Fracture of Great Wing of Sphenoid—Wound of Middle Meningeal Artery—Separation of Dura Mater and Compression of Brain—Trephining—Relief, but subsequent Recurrence of Compression—Death.

L. C., female, aged twenty-five. The patient fell from the height of about 8 or 9 feet into a stable yard. She was admitted into this hospital August 15, 1877, about a quarter of an hour after the accident. On admission she was conscious, and related how the accident happened. Both pupils equal and contracted. Pulse 64. She was bleeding freely from a wound on the right side of the head, a little below the parietal eminence. While being examined she complained of being unable to sit up and lay back on the couch. After this she rapidly became unconscious, and the pulse gradually fell to 42. About a quarter of an hour later, the *right* pupil became widely dilated and insensible to light. The left was of moderate size and reacted feebly to light. She was seen by Mr. Beck about two hours after the accident. At 2 a.m. the condition was as follows:—Patient was unconscious, but moved her arms and legs feebly when disturbed. No definite signs of paralysis. If left to herself, she lay absolutely motionless. Breathing stertorous and irregular, occasionally ceasing for an interval of 10 or 15 seconds. In this respect she was rapidly getting worse. Right pupil widely dilated—insensible to light. Left, slightly dilated, acted very feebly, if at all, to light. The right eyeball was prominent, and the lids discoloured. No blood was showing beneath the conjunctiva. A little blood had trickled from the nose. No bleeding from the ear. Just below the right parietal eminence was a small irregular T-shaped wound, greatly contused. A very slight depression could be felt in the bone at this point. No fissure was detected. The wound was not bleeding freely. No particular fulness was to be recognised in the right temporal fossa. The wound was enlarged forwards, and the bone examined. A small dent was found in the bone at the point struck, but a fissure was not found. The wound was then enlarged still more forwards so as to expose the bone rather more in the direction of the branches of the middle miningeal artery. As the patient was evidently dying, a large trephine was applied immediately in front of and below the slight dent. At the time the operation was commenced the pulse was 42, slow and laboured. On removing the piece of bone the dura mater was seen at the upper part; but at the lower part of the opening was a dark mass of clot which bulged up into the wound. The finger passed downwards in the clot as far as it could reach. The clots were then removed, as far as possible, by means of a small lithotomy scoop. This was followed by very profuse hæmorrhage, the source of which could not be seen through the wound nor felt with the finger. The patient was immediately raised into the sitting posture, and an ice-bag applied over the side of the head and face. In a short time the bleeding ceased, but the space from which the clots had been removed with the lithotomy-scoop became rapidly filled again with soft coagulated blood. The immediate effect of the operation was to raise the pulse from 42 to 72, and the breathing improved. The left pupil contracted somewhat, and acted more readily to light. The right pupil did not alter at first. After waiting a little time, the symptoms of compression began slowly to return. The pulse fell to below 60, and the left pupil again became slightly dilated. The lithotomy-scoop was therefore again applied with considerable relief to the symptoms. A piece of lint soaked in carbolised oil was then laid lightly over the wound. The grave symptoms of compression did not again return, and at 4 a.m. the pulse was about 70, and the left pupil moderately contracted and acting to light. The breathing was laboured, but not stertorous. About one hour after, a large mass of clot which protruded from the wound was pulled away, but it was not necessary again to use the lithotomy-scoop. At 10 a.m. she was quite unconscious, very restless, so that she had to be watched to prevent her falling out of bed. Pulse 75. Pupils nearly equal; blood had appeared under the right conjunctiva. Respiration very laboured; much mucus about the pharynx and in the bronchi; occasional moaning; temperature not taken. At 2.45 the pupils were equal and of normal size; pulse 120; temperature 103°; respirations 36. At 5 p.m., temperature 103 6°; respiration worse. At 8 p.m. she died. Temperature at death 103°; shortly after it was 102°. There was no paralysis or dilatation of the pupils before death. She seemed to die rather from asphyxia than coma.

Post-mortem Examination.—On examining the skull the trephine was found to have been applied in the anterior and lower part of the parietal bone. Two large branches of the middle meningeal crossed the piece of bone removed. Owing to the trephine having been applied in the wound produced by the accident slightly enlarged forwards, the piece of the bone removed was rather above and behind the position of

the chief branch of the middle meningeal artery. Immediately behind the trephine-hole was found the commencement of an extensive fissured fracture. The main fissure ran through the great wing of the sphenoid between the foramen ovale and the foramen rotundum, and crossed the sella turcica, terminating a short distance from the groove for the left carotid. The sphenoidal sinus beneath was full of blood. From this a fissure ran at right angles through the orbital surface of the great wing of the sphenoid, and opposite this fissure somewhat abundant hæmorrhage had occurred into the fat of the orbit. Thus the bleeding from the nose and subconjunctival ecchymosis which had been supposed to indicate a fissure running through the orbital plate of the frontal bone and of the cribriform plate of the ethmoid, was in reality due to these two fissures, both belonging to the middle fossa of the skull. From the point struck a short fissure passed downwards and backwards into the squamous portion of the temporal bone, and another connected this with the first fissure, so that a large triangular piece of bone was loose. The coronal, sagittal, and lambdoidal suture were firmly united by bone. The clot between the dura mater and bone was found to have filled the whole middle fossa of the right side of the skull from the sphenoidal fissure in front to the petrous portion of the temporal bone behind. Inwards it extended to the three foramina in the great wing of the sphenoid. The amount of clot found was not great. It was nowhere more than about one-third of an inch in thickness. It was firm and adhered to the dura mater. The large anterior branch of middle meningeal was found to be completely torn across. As is so commonly the case, just before reaching the anterior and inferior angle of the parietal bone it lay in a bony canal. It seemed to have been torn across just at its exit from this, almost one inch below the trephine-hole. The dura mater was uninjured. On the left side exactly opposite the part struck were three small superficial lacerations on the temporo-sphenoidal lobe. From these a very small quantity of blood had escaped into the cavity of the arachnoid. In other respects the brain was perfectly healthy. It scarcely showed any perceptible flattening opposite the seat of the clot. Heart large; post-mortem clot on right side. Lungs distended with air, bulged out of the chest when the sternum was removed. Marked hypostatic congestion of the posterior parts. Bronchial tubes choked with frothy mucus. Kidneys greatly engorged with blood. Other organs healthy.

Remarks.—These three cases illustrate very well the diagnosis and treatment of hæmorrhage between the dura mater and bone. In each case consciousness was not lost immediately after the injury; for in the first the patient attempted to drive his van, in the second the child was brought to the hospital for its broken arm, without suspicion of any serious head injury, and in the third the patient described the nature of the accident after admission. In each case consciousness was lost, and the symptoms of compression set in within a very short time of the accident. This, of course, could only arise from hæmorrhage, as no inflammatory exudation could possibly occur in so short a time. Such abundant hæmorrhage could only arise from laceration of brain substance, or from the vessels of the dura mater. As in none of these cases there was any depressed fracture which could have caused direct laceration of the brain, the hæmorrhage, if from laceration, would have been seated exactly opposite the point struck, and the paralysis would have appeared first on the same side as the external injury. In none of these cases could this fact be used as a means of diagnosis. In two, the pupil became dilated first on the same side as the external injury, but there was no hemiplegia. The post-mortem showed that in both these cases dilatation of the pupil was due to direct pressure of the blood-clot upon the nerves as they enter the sphenoidal fissure. In both these also the same pressure acting on the cavernous sinus led to distension of the veins of the orbit and consequent prominence of the eyeball. In one this was increased by slight hæmorrhage into the orbit. The interval of consciousness would also negative any idea of the hæmorrhage being due to laceration, for such an amount of tearing of the brain-substance as would be required to yield such abundant hæmorrhage must of necessity be accompanied by prolonged loss of consciousness. In these three cases, therefore, hæmorrhage between the dura mater and bone was clearly indicated, and in two it was evident that it extended in the middle fossa to such an extent as to press on the cavernous sinus and the third nerve passing into the sphenoidal fissure; for the dilatation of the pupil was accompanied by projection of the eyeball, and occurred first on the injured side. In two of the cases marked fulness of the temporal fossa also served as a valuable aid to diagnosis. The diagnosis having been made, trephining was evidently the only chance of saving the patient's life. All three patients were on the verge of death when operated on, and the urgency of the symptoms was still increasing. The situation chosen for applying the trephine was over the course of the great anterior branch of the middle meningeal artery. In the case of the woman it was applied a little higher to avoid making a fresh wound. It would doubtless have been better to apply it lower down, as the clot would have been more easily removed. As soon as the operation was completed, the same result followed in each case. The clot was scooped out, and was immediately followed by a deluge of blood—so great as to give rise to a fear that the patient had been relieved of his' coma merely to die of hæmorrhage. In each case the source of this blood could be neither seen nor felt, so that none of the ingenious theoretical plans of arresting it which are recommended in text-books could be employed. In the first it ceased spontaneously after the loss of about half a pint of blood. In the two later cases it was very soon arrested by putting the patient in the sitting posture (of course watching carefully for signs of syncope), and applying a large ice-bag over the whole side of the head, face, and neck. Each case, however, showed that it is perfectly impossible to prevent the re-accumulation of clot to a certain extent, but as there is a large hole in the skull to serve as a sort of safety valve, the pressure is so greatly diminished as not to be incompatible with life. In order to ensure this it is necessary to make use of a large trephine, a small trephine hole would be almost useless. The small lithotomy scoop proved in each a most valuable instrument for removing the clot. It may be questioned, however, whether as the clots always re-form to some extent, it is worth while removing them at all, and whether it would not be enough to trust to the safety-valve action of the trephine hole. Probably it is better to remove the original clot, which from its slow formation and the pressure it has been exposed to is somewhat dense, and the expanding power of the brain seems hardly sufficient alone to expel it. On the other hand, the new formed clot after the operation is much more readily expelled. In all three cases death resulted. In the man, for some unexplained reason, the brain showed no tendency to expand, and the coma was as profound after the clot was removed as before. In this case the pressure had been very great, the clot at the time of operation being at least one inch and a half in thickness, and filling the whole middle fossa of the base of the skull. In the child death seemed to occur from hyperpyrexia. The coma had completely disappeared. It could swallow well, and seemed likely to recover. When the temperature suddenly ran up to 108°, the pulse became uncountable, and the respiration excessively rapid, and death quickly followed. In the same way in the woman there was a marked rise in temperature after the first few hours, and at the same time the pulse rose to 120, and the breathing became more embarrassed. This rise of temperature occurred much too early to be septic or inflammatory in its origin; moreover, there were no signs of inflammation or even of congestion of the membranes in either case. It must therefore have been of purely nervous origin, and its exact nature is difficult to explain. The source of the hæmorrhage in two cases was distinctly ascertained to be from the main branch of the middle meningeal artery. In the child the most careful search failed to show any large vessel wounded, and the hæmorrhage must have come from a multitude of small vessels. The hæmorrhage must, in the first place, have occurred along the line of fracture, and the dura mater have been thus stripped from the bone. As it was stripped off other small vessels were torn, which, in their turn, helped to furnish blood. This process is readily conceivable in the vascular dura mater connected with the growing bones of a child's skull.

Although all these cases terminated fatally, they are no discouragement to a repetition of the operation. The life of two of the three patients was certainly prolonged many hours, and in each case the patient was relieved from a condition absolutely incompatible with life, and given a chance of recovery, small though that chance seems to be. It is to be hoped also that statisticians, when estimating the mortality of the operation of trephining, will remember that in such cases as the above the operation has nothing whatever to do with the death of the patient.

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Medical Times and Gazette.

SATURDAY, AUGUST 25, 1877.

ITALIAN HEALTH-RESORTS.

We purpose giving our readers some of the latest information we have been able to obtain about Italian health-resorts, and especially about some of those places on the Riviera, which, while they are well calculated to benefit those who can, and will do well to, go abroad in search of health, are less well known than Mentone and some other places; and we give first a sketch of Bordighera as a health-resort.

No. I.—Bordighera.

The most Western health-station of the Italian Riviera is Bordighera, which lies about three miles and a half from the Italian frontier at Ventimiglia. Its name is familiar to many persons who have never quitted England, for it is there that the novelist Ruffini has laid the scene of part of his admirable romance "Doctor Antonio." During the last seven or eight years Bordighera has been gradually gaining in favour as a winter residence for invalids, and hence a short account of it will not be unacceptable.

The town of Bordighera proper is of the same character, and apparently of much the same age, as most of the other coast towns. It consists of houses closely packed together on an eminence to the east of what may be called the plain of Bordighera. It has the usual narrow streets, rather smelly, and not overclean, here and there arched over, or else buttressed across, so as to weld all the houses more or less into one mass. A church, and a square with a battered marble fountain, comprise its chief objects of interest. If we take our stand just below the old town, where there is a terrace with a quaint wooden cross, with the carriage-road at our feet, we can form a good idea of the general position of the place. To the south and to the left, and within a few minutes' walk, we have the open sea, and as we turn from left to right the eye ranges over palms and olives to the houses of the new town of Bordighera or Borgo Marina (of which more by-and-by) out to sea. Then, as we still turn, there meet us in the distance, if the day is clear, the faint outlines of the coast from Toulon eastward to Cannes, then nearer in the west the bold Tête du Chien, above Monaco; the Mentone hills, the ridge on whose eastern slope Ventimiglia nestles, until at last, in the west-north-west, the eye is lost in the olive slopes which help to shelter New Bordighera from the northern winds. The near coast-line as far as Ventimiglia is clearly visible. The most striking feature of this view, putting the mountains out of consideration, is the enormous expanse of olive woods which lie stretched out between Bordighera and Ventimiglia. The whole plain to the west-north-west is a sea of olives. Nearer Bordighera palms are an occasional feature in the landscape; but the overwhelming mass of vegetation consists of olives. This view is probably almost unique in its way, and to it Bordighera owes much of its charm. It is, unfortunately, far from unlikely that many of these trees will before long be swept away, and their place taken by oranges or vines. The petroleum trade in America has seriously damaged the sale of olive oil; and other causes, such as the failure of the crop on several recent occasions, and the greater profits obtained from vine-culture, are year by year tending to destroy numbers of venerable trees. At Mentone such destruction is in many parts a *fait accompli*; and it is to be feared that the Bordighera district will also suffer.

If we now descend a little to an open space at the southern end of the point on which Old Bordighera stands, and turn with the face to the east, the remainder of the near coast comes into view. From right to left we have the Capo Nero east of San Remo, the Capo Verde to its west, the latter olive-coloured promontory completely protecting the little bay of Ospedaletti, with its village on the shore, from the easterly winds. Then comes a nearer stony ridge, which projects slightly into the sea, and which is thinly studded with stunted pines, and the shore bends round towards the south, the hills retreating, and leaving a broad strip of sandy beach to blend with the promontory on which we stand. Without entering into further detail, we may say that the view on the western side of Bordighera is far more striking than that on the east; and as far as the existence of Bordighera as a health-resort is concerned, it is only the district west of the old town and its cape which has any special interest. Descending among the olives from the old town in a south-south-westerly direction, in less than ten minutes the eastern extremity of the straggling street which forms New Bordighera is reached. It runs from Cape Bordighera (on which stands the old town) at a short distance from the seashore, for about half a mile from south-east to north-west. A sandy beach, the railway (which skirts the shore throughout this part of the coast), and some strips of garden, separate the nearest houses from the sea. There are shops of various kinds, including an English grocer's, to be found in the main street, which it should be noted is also the carriage-road from Bordighera to Ventimiglia; and where the houses get more and more isolated from each other by gardens and open ground, in the direction of Ventimiglia, we have on the sea side of the street the railway-station, and on the land side the two hotels of which at present Bordighera boasts—the south-eastern, opposite the station, the Hôtel de Bordighera; and the south-western, five minutes further on, the Hôtel d'Angleterre. To the north-north-east and east New Bordighera is sheltered by unbroken hills, which rise up about a quarter of a mile from the shore, and which are covered with olives and pines. Their height varies between about 400 and (at most) 1000 feet. At their base runs the remains of the old Roman road or Via Aurelia, which is about to be resuscitated and converted into a boulevard, and dense olive groves fill up the gap between them and New Bordighera. Here and there the red roof of a new villa stands out in strong contrast to the grey-green foliage, but the number of new houses is as yet small. The position of New Bordighera

is not the best that could have been chosen in a health point of view. The land on which the hotels and most of the houses stand is very little raised above the level of the sea, and in fact owes its existence to the gradual retreat of the latter southwards. Hence the ground is flat, and good drainage almost impossible. The present hotels are also too near the sea for persons of a nervous temperament, as the noise of the waves and exciting character of the air prevent their sleeping. The sea breeze, which is at times rather rough, is also much more felt close to the shore than a little way inland; in fact, under the olives it may not be felt at all. For all these reasons it would have been much better to have built close to the foot of the northern hills, or even a little way up their slope; and when the new boulevard is completed, it is probable that most of the future building will be carried out in the above situation. In reality the position of New Bordighera has been dictated rather by convenience than by sanitary considerations, the existence of the carriage-road and of a nucleus of a few old houses near the shore having been the chief inducements to continue to build in the present situation rather than further inland.

Turning now to the climate of Bordighera,(a) we find that it agrees in the main with that of most of the other health-resorts of the Riviera, and that it may be classed among the mildest of these. Old Bordighera is exposed to the east, south, and west; but New Bordighera is to a considerable extent protected from the south-east and easterly winds by its position under the flank of Cape Bordighera. On the north it is completely protected, and the outlines of the Alpes Maritimes to the north-west and west break the force of the winds from those quarters. It may be doubted whether Bordighera does not suffer most from the south-east winds, and Dr. Semeria, the resident Italian doctor of the parish, admits that the south-west winds (which, however, are warm and moist) sometimes blow with considerable violence. The size of the olives and the palms is, however, a sufficient proof that the climate is never severe. The orange and the lemon succeed very well at Bordighera, but at present so much ground is taken up by olives that the former are not cultivated nearly as largely as they might be. The capabilities of the climate will readily be appreciated by anyone who visits the garden of Monsieur Moreno, close to the old town, where a vast number of oriental and tropical plants flourish luxuriantly without any special protection.

The mean temperature of the winter months, according to Dr. Semeria, is nearly as follows:—November, 55° Fahr.; December, 53°; January 52°; February, 52°; March 54°; April, 57·5°. For the year 1876 the following maximum and minimum temperatures were recorded in each month:—

Month.	Maximum.	Minimum.
January	58°	38°
February	59	38
March	61	36
April	68	45
May	74	49
June	79	52
July	83	63
August	85	52
September	85	58
October	81	54
November	68	36
December	65	41

Snow and hail are of extremely rare occurrence, and, as at Mentone, the former melts almost immediately after it falls. The average number of rainy days, according to Dr. Semeria, is forty-five. The drinking-water is excellent, and is partly brought down from the hills by an aqueduct, and partly derived from springs. The soil on which New Bordighera is built is a loose sand; the rocks of which the near hills are formed appear to be chiefly sandstone of various degrees of fineness. Here and there masses of conglomerate are met with. The population of Bordighera with its surrounding hamlets exceeds 2500 inhabitants, and the statistics for the year 1876 give eighty-five as the total number of births, and forty-five as the total number of deaths. The latter figures are very striking, for they indicate an annual death-rate of about one to fifty-six or fifty-seven individuals. As might be expected from this statement, the inhabitants of the Bordighera district are extremely healthy. There are no endemic diseases of any importance, and epidemic diseases are very rare. Small-pox and cholera have never yet reached Bordighera; and a small epidemic of typhoid fever, which occurred some years ago, was clearly traced to pollution of the drinking-water, and ceased on the repair and purification of the aqueduct. According to Dr. Semeria, asthma, gout, and chronic rheumatism are very rare, and he has never met with a case of renal or vesical calculus, although he has the sole medical charge of the poor population. Among the diseases for which the climate of Bordighera is best suited are phthisis in its early stages, chronic bronchitis, laryngeal catarrh, pleurisy with retarded absorption of effusion, and chronic catarrh of the stomach and intestines. According to Dr. Schmitz, of Neuenahr, who practises at Bordighera in the winter, the climate also suits diabetes, chronic gout, and Bright's disease extremely well. It is not adapted to cases of phthisis attended with much fever, or with a tendency to hæmorrhage; in any case such patients must carefully avoid the immediate neighbourhood of the sea. Bordighera suits phthisical patients of a lymphatic temperament the best. Patients of any kind of a nervous or excitable constitution find the air too stimulating.

At present there is only a limited amount of accommodation at Bordighera, and it is calculated that there is only room for about 270 visitors. There are two pensions besides the hotels which have previously been mentioned—the Pension Anglaise, near the old town, and the Pension Victoria in New Bordighera; and about eighteen villas or houses which let apartments. Some of the villas are the property of English people, one of whom, a lady, has not only built, but endowed, a church in her grounds. Of the hotels, the older, Hôtel d'Angleterre, is close to the main street, and not very far from the sea. From all accounts it is well managed, and the proprietor, M. Lozeron, we found extremely obliging. There is a comfortable saloon, and a large dining-room. The only drawback to the hotel is its nearness to the carriage-road, and consequent liability to noise and dust. The Hôtel de Bordighera, which is newer, is exactly opposite the railway-station, and stands much further back from the sea than the Hôtel d'Angleterre, having a good-sized garden between it and the road. It is the larger of the two, and has three storeys, and two side-wings at right angles to the main building, but connected with it by glass passages in which people can walk during bad weather. The "pension" prices at both hotels range between ten and twelve francs per diem for board and room, according to the situation of the latter. There can be very little doubt that before long other hotels will spring up. For those who are unable to walk, carriages are attainable, but driving is only possible *with comfort* along the shore to the west and east of Cape Bordighera.

Nearer Ventimiglia a carriage-road has lately been made for a couple of miles northwards into the valley of Borghetto; but at present a drive along it can only be considered as a species of martyrdom. Still further west a better road, available for strong springs and persons used to bumping, runs up the picturesque valley of Dolce Acqua, and the town of that name is a favourite place for excursions. The pleasantest time for Bordighera is the spring, when the olive-terraces are covered with abundant flowers. At present the flora is a rich

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(a) For the meteorological and other statistics here quoted we are indebted to a little work recently published, entitled "Bordighera in Gennaio, 1877, compilato da Federigo Hamilton."

one; but, as at Mentone, the advancing tide of foreign colonisation will probably, before many years have elapsed, have exterminated the rarest, and wrought havoc even among the commonest species. The walks about Bordighera at present offer great advantages to invalids. Leaving their hotel or villa, they at once find a shady and level retreat under the olives; or, if able to ascend the hills, they can do so without having to encounter any very steep ascents. For those who can walk well, the country behind Bordighera affords abundant scope for their activity, and the old brown villages nestling in the olives are well worthy of a stranger's visit. On the whole, whether as a passing or a permanent winter residence, Bordighera has many claims to attention. For the class of cases mentioned above there can be little doubt that it is well adapted, as well as for anæmic persons, or convalescents to whom sunlight and healthy air are the chief necessity. Remembering with Dr. Semeria, "*Che climi perfetti non se ne danno*"—that is to say, that "A happy valley of Avilion" has not yet been found,—those who do not expect too much of Bordighera, or any other southern health-resort, will get on the best and be the least disappointed.

A REVIEW OF THE SESSION OF PARLIAMENT.

We have little, if anything, to report as the result of progress made with the much-needed measures of Sanitary Reform. In fact, the past session of Parliament has been unusually barren of any comprehensive measure for ameliorating the condition of towns and villages in respect of drainage, water-supply, etc. The attempt of Mr. Sclater-Booth to consolidate and amend existing Public Health Acts for the better management of the metropolis, and a similar attempt of Sir M. Hicks-Beach on behalf of the Irish Public Health Acts, have both failed in consequence of strong opposition to the proposals of the Government towards the end of the Session. We must not omit to mention the only sanitary measure which has escaped the general "massacre"—viz., the "Canal Boats" Bill. This, having been hurried through both Houses of Parliament with unusual celerity, has now received the Royal assent. It proposes to deal with the migratory population living in boats trafficking our canals, to provide efficient inspection of the cabins used as dwelling apartments for the entire family, to regulate the amount of cubic space thus occupied, and to provide for speedy isolation of all cases of illness of an infectious nature, and proper subsequent disinfection. More stringent regulations will be made to prevent overcrowding in the basins and wharves of the canal when loading and unloading, and to avoid unnecessary detention at the more important termini. This act will come into operation on January 1, but it will not be enforced before January, 1879. All canal boats, barges, or flats will have to be registered, marked, and numbered in a prominent place by their owners, stating to which place the boat is registered as belonging, before they can be used as dwellings. Certificates of registration, fixing the number of persons allowed to dwell in a canal boat, barge, or flat, will be obtainable of the officer of registration. The boats will not be allowed to carry about infectious diseases, and provision will have to be made by the owner for proper ventilation and the separation of the sexes, and the boats will have frequently to be thoroughly cleaned, painted, and rendered habitable. Any person duly authorised by the proper authorities will have power to enter these boats and detain them until all the law requires is carried out, and the master of the boats shall, if requested by the officer, produce to him the certificate of his registry. A child living in a canal boat, barge, or flat is to be subject to the compulsory clauses of the Education Act which are in force at the place at which the boat is registered as belonging to. Power is given to canal companies or associations to appropriate any portion of their funds for the establishment or maintenance of schools wherein the children living in canal boats may be lodged, maintained, and educated. The master, and also the owner of a canal boat, barge, or flat will be liable to a fine of 20s. for each time the boat is used as a dwelling contrary to the act; and fines are specified for breaches of the act, which does not extend to Ireland or Scotland.

In giving a general *resumé* of the session, we must not forget to mention that the medical element in the House of Commons is making itself increasingly felt, although there are still but two or three medical men in Parliament. As an illustration, we may mention the frequent debates at the early part of the session upon the prevalence of scurvy in the Arctic Expedition, and the strong comments of Dr. Lyon Playfair and others upon the grave error of Captain Nares in deciding to set his judgment of the prophylactic virtues (or supposed failings, rather) of lime-juice in scurvy against that of the Director-General of the Navy, the naval medical officers of the Expedition, and the universal experience of all Arctic explorers. A somewhat feeble reprimand of his conduct was at last extorted from the Lords of the Admiralty when a Select Committee appointed to inquire into the subject had given in their report decidedly against him.

At a subsequent period of the session Dr. Playfair endeavoured to extort from the Government a promise that the lesson thus dearly learnt should be productive of practical good in the fitting out of all the vessels of the Navy, whether intended for Arctic regions or elsewhere; but Mr. Ward Hunt briefly replied that, as another Arctic expedition was not at present contemplated, there would be no necessity to issue fresh regulations to the commanders of the Navy.

The status, pay, and retiring allowances of medical officers of the Army have been made the subject of a debate, and fresh regulations have been issued by the War Office making this branch of the service somewhat more attractive.

Numerous cases of repeated prosecutions for non-compliance with the Vaccination Acts have been the subject of comment in the House of Commons. It has been thought undesirable to prosecute the same person frequently and at short intervals—(1) because the fines are paid by the Anti-Vaccination Society; and (2) because the prejudiced opponent being made a martyr of, for the time being, the "fine" remedy is found worse than the disease. Two or three children having died of erysipelas after vaccination, Mr. J. Netten Radcliffe was sent down to the Midland Counties, where the disease was prevalent. He found as the result of his inquiry other conditions quite sufficient to account for the fatal issue apart from the much-abused vaccination.

The spread of cattle plague in Yorkshire, and also in the neighbourhood of London, especially in some of the large suburban dairies, necessitated the reintroduction of stringent measures for effectually stamping out the disease. All movements of cattle have been forbidden in the infected districts, and the disease seems now fully under control. A large number of animals have been slaughtered.

Great alarm was caused by the reported unsanitary condition of the War Office and the new Government offices in Whitehall. An unusual proportion of clerks in these offices was reported as absent on account of illness, and the result of a careful examination proved that the drainage, especially of the new buildings, was not properly constructed. The system of drainage in each case is being carefully remodelled, and we trust that these buildings, in which are congregated so many of the rising generation, will be rendered as sanitarily perfect as science can make them.

This meagre summary is all that we have to report of progress made during the past session of Parliament in matters interesting to the medical profession.

THE THEORY AND PRACTICE OF THE PROPAGATION OF DISEASE.

A report by Dr. Thorne has recently been made to the Local Government Board with respect to the health and sanitary condition of a district of Norfolk not far from King's Lynn. The report shows the district to be unsavoury in the extreme, but the example which it affords of the perversity of certain rural bodies conveys a lesson we cannot well pass by. One or two villages have been for a long time infested by scarlatina, and it was to inquire into the causes leading to this persistence that Dr. Thorne was chiefly sent. The chief site of the epidemic was a village named Great Massingham, and another not far off, both situate in the Freebridge Lynn Union. The former village was supplied by water partly from deep chalk wells, partly from surface wells in the superficial gravel. Drainage, we may say, did not exist. Liquid sewage was disposed of anyhow, and some of the privies, which were only supplied in scanty proportions to the houses, were unapproachable for filth. Was it then to be wondered at that scarlet fever should hang about such a place once it had found admission to such a paradise of filth? But where was the officer of health all this time? men will say; and well may they iterate the question. In 1873 the Local Sanitary Authority appointed a medical officer of health and an inspector of nuisances. The salary of the former was £100 a year; that of the latter the same, only he was to devote his whole time to the work. All this was very well, but, unfortunately, these appointments were only made for one year, and the holders of the offices seem to have done their work so well that by the end of the year the local body thought they might now dispense with these expensive officers, and return to the cheap and nasty style. Accordingly, the medical incumbent was invited to retain the name of medical officer of health, but was only to interfere when called upon to do so, and to be paid for each piece of work as it arose. The inspector of nuisances was dismissed, and his work distributed among the relieving officers, who, however, were carefully left in their native ignorance as to the nature of their new duties. Under the circumstances it would surprise nobody that the medical gentleman has only been thrice employed in as many years, and that he has been invariably called in too late to be of real service. Such savings on the part of small sanitary authorities will in course of time force Government to take measures to have all sanitary work done in an efficient manner. To this end there is nothing more important, as it seems to us, than a more general dissemination of the principle of fairly large united areas, which will ensure comparative independence to the medical authority.

THE WEEK.

TOPICS OF THE DAY.

The Act for the supervision of Canal Boats will come into operation on January 1 next, but it will not be enforced before January, 1879. All canal boats, barges, or flats, will have to be registered, marked, and numbered in a prominent place by their owners, stating to which place the boat is registered as belonging, before they can be used as dwellings. Certificates of registration fixing the number of persons allowed to dwell in a canal boat or barge, will be obtainable of the officer of registration, for which a small fee will be charged. The boats will not be allowed to carry about infectious diseases, and provision will have to be made by the owner for proper ventilation, and the separation of the sexes; and the boats will have to be frequently cleansed thoroughly, painted, and rendered habitable. Any duly authorised person will have power to enter these boats, and detain them until all that the law requires is carried out. A child living in these boats is to be subject to the compulsory clauses of the Education Act which are in force at the place at which the boat is registered. Power is also given to canal companies or associations to appropriate any portion of their funds for the establishment and maintenance of schools, wherein the children living in canal boats may be lodged and educated. When fully in working order this very useful piece of legislation will, in fact, tend greatly to increase the sanitary condition of certain portions of the country traversed by canals.

A rather singular case of suicide was the subject of inquiry before Dr. Diplock, last week. A Mr. Joseph Freeman, aged fifty-seven, who was an inmate of Dr. Stillwell's private lunatic asylum, at Hillingdon, near Uxbridge, recently died from injuries he had inflicted on himself, previous to October 7 last, the date of his admission to the asylum. The evidence showed that deceased's mania was of a somewhat peculiar nature. He was impressed with the idea that he could make incisions in his flesh, and otherwise surgically operate upon himself without receiving any injury, and, following this out, he permanently injured himself in such a serious manner that he was always in great suffering. During his residence at Dr. Stillwell's he underwent several operations, but, as was feared from the first, his case was a hopeless one. The verdict of the jury was that deceased died from injuries inflicted by his own hand while he was of unsound mind.

Professor Wanklyn has just been elected to the chair of chemistry at St. George's Hospital, vacated by the death of Dr. Noad, F.R.S., who has filled the post for the past thirty years. Professor Wanklyn will, it is announced, deliver a course of lectures on physics and chemistry during the ensuing session.

At a recent meeting of the Lambeth Vestry complaints were made as to the quality of the water supplied by the Southwark and Vauxhall Company, and special allusion was made to Dr. Frankland's report as to "moving organisms in the water." The Medical Officer was therefore instructed to make a report, and such report was recently submitted to that Vestry. It states that it must not be inferred that the water is teeming with insect life visible to the naked eye; at the same time if a quantity of water be set aside and allowed to deposit its suspended matter, and some of this be placed under the microscope, low forms of organic life are plainly visible, most of them being so minute as to defy the finest filter. Their presence is significant as being indicative of organic impurity, for without this they could neither be developed nor sustained. So long as the water supply is taken from the Thames, we shall ever be open, at certain seasons, to inconveniences which no amount of caution can prevent, viz., by the winter floods rendering it turbid and undrinkable, and by the development of these microscopic organisms in the summer time. On the other hand, the Thames water, when pure, is so suitable for all purposes that if it were possible to rid it of its organic impurity and to insure its perfect filtration, we should have water even preferable in some respects to that coming from the Kent and Colne Valley. But it has to be borne in mind that, with a rapidly increasing population, there will be a proportionately increased demand, so that the possibility of ever getting purer water from the Thames seems problematical. At certain times the demand is so great that there is not sufficient time to admit of subsidence and filtration before delivery. Large additional reservoirs for subsidence are needed to improve the quality of the water. Little advantage would accrue from seeking a water-supply purer than the present if the plan of storing water in cisterns placed in the most exposed and inaccessible situations were still adhered to. What is really needed is a separate supply of water for drinking and culinary purposes. While our drinking water is drawn from the same source which supplies our baths and washhouses, the wonder

is that the water is as pure as it is. It was decided to defer the discussion of the report until the intention of the Metropolitan Board of Works to purchase the interests of the London Water Companies was more fully known.

Last week a Parliamentary volume of nearly 600 folio pages was issued, containing the evidence given before the Committee on the Lunacy Laws. The Committee report as follows:—"The Committee, having regard to the short time which remains for consideration of their Report during the present session, resolve to report the evidence to the House, and to express an opinion that the Committee should be re-appointed next session for the purpose of agreeing upon a report to be presented to the House."

The Hospital Saturday collection in aid of the metropolitan hospitals has been appointed this year to take place upon September 1 next. The street collections, which have always been a feature of this movement, are again to be resorted to upon the present occasion.

A memorial has been presented from the Metropolitan and National Nursing Association for providing trained nurses for the sick poor, to the Lord Chancellor, who has been directed by the Queen to frame rules for the future administration of the Royal Hospital of St. Katherine by the Tower. The memorialists submit that it would be strictly in accordance with the intention of the founders and with the past history of the Hospital if a nurses' home for the benefit of the sick poor were established in connexion with it in the East of London, and if a portion of its funds were applied to the maintenance of such an institution; and that in the event of his lordship thinking fit to establish one or more nursing homes in connexion with the Hospital, the said memorialists are prepared to undertake the management and supervision of such homes under such rules as might be deemed suitable.

Her Royal Highness the Princess of Wales has, by her own desire, been elected a "Dame Chevalière" of the Order of St. John of Jerusalem, a philanthropic society presided over by the Duke of Manchester.

Evidence of the early practice of cremation in this country was recently discovered at Abergynotwyn, where some workmen in digging a foundation came upon a grave about four feet long, sixteen inches long, and eighteen inches deep. The sides were of the ordinary slate of the neighbourhood. In it were found two vessels containing ashes and burnt bones. Believing the urns contained treasure, the workmen broke them to pieces. From the appearance of the lines and marks upon some of the fragments there is reason to suppose the vases to have been of Roman workmanship, but the roughness of the material and the imperfect baking make it probable that they were relics of the ancient Britons. One of the urns was thicker in formation than the other, and also darker in colour, and perhaps ten inches in diameter when entire.

A life was last week sacrificed to the criminal recklessness of dropping matches and fusees about the public footways. From evidence taken before Mr. Donaldson at the London Hospital, it was shown that the wife of a mechanical engineer living at Gough-square, Poplar, was walking along Stainsby-road on the 14th inst., when she was observed by a woman who was passing to become suddenly enveloped in flames, which consumed nearly the whole of her clothing. She was fearfully burnt all over the body, and was conveyed to the London Hospital, where she died the same evening. Although so seriously injured deceased was able to state that whilst walking on the pavement she trod upon something which ignited her dress.

This week the Countess of Leicester laid the foundation-stone of the new buildings connected with the Hunstanton Convalescent Home for the Eastern Counties, which are to be erected as a memorial of thankfulness for the recovery of the Prince of Wales in 1872.

On Monday last, under arrangements made between the Vestry of St. Luke's and the owners of the property, a most important sanitary improvement was carried out in the metropolis. Acting under the provisions of an Act of George III., which empowers vestries and other local bodies to acquire property for the purposes of sanitary improvements, the Vestry of St. Luke's and the Metropolitan Board of Works decided, at a joint cost of £100,000, to widen Golden-lane from Old-street to the City boundary to a space of fifty feet, and at the same time to construct a new street running at right angles to Golden-lane through Bridgwater-gardens to Aldersgate-street. This scheme involved the destruction of a number of low courts in that neighbourhood described by the sanitary inspector of St. Luke's as "the most infamous den in the metropolis, a hotbed of filth and contagion, consisting almost exclusively of houses of ill-fame of the lowest type, and occupied by the most desperate section of the criminal classes, both male and female." The demolition of this block has now been completed, and irrespective of the social aspect of the question, its removal will enhance the sanitary condition of the neighbourhood, and prove a great saving to the pockets of the ratepayers.

THE HEALTH OF HACKNEY.

The report on the sanitary condition of the Hackney district for the year 1876, by Dr. John W. Tripe, the Medical Officer of Health for the district, as might be expected, treats principally on the chief sanitary event in that neighbourhood, namely, the outbreak of the small-pox epidemic of the past year, which visited the east-end of the metropolis with so much severity. In his history of the outbreak Dr. Tripe observes that the first case report to him occurred in Hackney on July 24, in the person of a servant; in this case the disease was contracted outside the district. The second case happened in Banbury-terrace, nearly a quarter of a mile away from the first. The next was at Upper Clapton, also a servant, on September 16; the next in Mare-street on the 18th; another on the 26th in Brooksby's-walk; and on October 6, when the epidemic fairly commenced, cases occurred in Homerton, South Hackney, and Kingsland. From this time the progress of the disease in the various districts is shown by the following facts:—By the end of the year notice had been received of 506 cases, of which 65 had occurred in Hackney, 61 in Clapton, chiefly near Homerton, 65 in Hackney-wick, 80 in South Hackney, 24 in Dalston, 14 in Kingsland, 7 in De Beauvoir Town, 4 in Stoke Newington, 1 in West Hackney, and 1 in Stamford-hill. In the first week in December the highest number of Hackney patients in the small-pox hospitals was attained, viz., 160, and from this the number gradually decreased to 93. Dr. Tripe advances the proposition that the comparative mortality from zymotic diseases is not a better proof, under existing legislation and practice, of the sanitary condition of a locality than are the deaths from all causes; and he points out the fallacy of terming zymotic diseases "preventable," as though medical officers of health had the power of preventing deaths from these causes. He admits that small-pox is preventable to a great extent by vaccination, and that scarlet-fever, measles, etc., may be reduced by proper sanitary measures, but he objects to the word preventable being applied, as though *every* death from these diseases could be prevented.

LUNACY IN SCOTLAND.

It appears, from the report of the Commissioners of Lunacy in Scotland for the past year, that the increase in the admissions both of private and pauper patients into establishments during 1875 and 1876 has been very large. For 1876 the

admissions show an increase of 31 per cent. on those of 1858, while the increase of population has been slightly more than 16 per cent. Except the last two years, the admissions of private patients have indicated no increase. The Commissioners suggest that, possibly, the large increase in the number of pauper patients admitted in 1875 and 1876 may, to some extent, be accounted for in respect to the grant from Government towards the support of pauper lunatics. No doubt the relief of local taxation in such cases has induced local authorities to include among lunatics persons who should not have been so disposed of. The hypothesis, however, that the large increase of pauper lunatics during the last two years is due to the grant may, or may not, hold good. Evidently, further experience is necessary before any satisfactory conclusion can be arrived at on the matter; nevertheless, the Commissioners have seen fit in a large number of cases to institute inquiries as to the placing persons on the lunatic roll whose insanity was apparently slight, and whose previous treatment was that of an ordinary pauper.

NEW ACT ON WATER SUPPLY.

An important Act on water supply has just been printed, 40 and 41 Vict. c. 31, to give further facilities to landowners of limited interests in England, Wales, and Ireland, to charge their estates with the expenses of constructing reservoirs for the storage of water. It recites that in many places it would greatly conduce to the establishment of a plentiful supply of pure water to the inhabitants of villages and towns, and to the industrial requirements of the locality, if facilities were given to landowners of limited interest to charge their estates, subject to the approval of the Inclosure Commissioners, with sums expended by them in constructing reservoirs and other work for the supply of water. In a number of sections the way the Act is to be adopted is explained, and if carried out a plentiful supply of water may be expected both for villages and towns.

The New Hôtel-Dieu.—This grand edifice is now opened for patients, and even a little too soon after such long delays, as the walls are said to be damp. Built on the most gigantic scale by Baron Hausmann, as an ornament to Paris, the remonstrances of the profession succeeded after it was finished in getting a portion of it removed, and the accommodation reduced to 400 or 450 beds. The building, as it now stands, has cost the municipality nearly 40,000,000 frs., or about 100,000 frs. (£2500) per bed.

Death of M. Conneau.—"We announce with regret the death of Dr. Henry Conneau, who has just succumbed to a prolonged illness in Corsica. Dr. Conneau was born at Milan, of French parents, in 1803, and we may say that the life of our worthy confrère has been a life of affection and devotion for one family—first for Louis, King of Holland, whose secretary he was, then for Queen Hortense, upon whom he lavished the most assiduous care until her death; and lastly for Louis Napoleon, whose bad and good fortune he participated in until the end. His conduct at the prison at Ham, and the part he took in the escape of Louis Napoleon, constitute a historic trait which will always do honour to the medical profession. On the establishment of the second empire, he was appointed Chief Physician to the Emperor. He was elected twice a member of the Corps Legislatif, and afterwards nominated Senator and Grand Croix of the Legion of Honour. During the second empire also, he fulfilled the office of dispenser of the charitable donations from the civil list, and 1,200,000 francs devoted to this object, passed through his honest and pure hands. Dr. Conneau was a modest man, of simple tastes, avoiding all noise and ostentation; good hearted, willing to be of service, and very anxious to be useful to his confrères. He entirely rejected the proposition made by his too zealous and ardent friends to revive an ordinance of the Academy of Medicine, constituting the first physician of the king the honorary president of this learned body. He only accepted the post of free associate, and even that he never filled."—*Union Méd*, August 21.

ADDRESS OF THE PRESIDENT

OF THE

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Delivered at Plymouth, Wednesday, August 15.

By ALLEN THOMSON, M.D., F.R.S., LL.D., etc.

The distinguished President at the beginning of his address alluded to the enormous changes which have come over men's minds since last the Association had visited Plymouth. This was especially notable with regard to the prevalent theories as to the origin of living beings and the fixity of type which was supposed to characterise them as compared with the notions now entertained as to their constant variation—in short, with all the ideas comprehended in the words evolution or development. Closely connected with this were the doctrines commonly entertained as to the origin of life. On this point the speaker's views were adverse to those entertained by Bastian and his followers, maintaining, as he did, that in no instance had it been conclusively proved that an organism originated *de novo* when due care had been taken to exclude all source of error. This view of the origin of living beings has its practical outcome in the germ theory, as seen in the so-called antiseptic system of surgery, to which the speaker alluded. Turning thence to the life history of higher organisms, the President spoke of the development of plants from seed and spore. This led him on to the discussion of the structure and properties of the ovum as seen in the higher animals, which constituted the substance of his address.

The germinal element, from which, when fertilised, the new animal is derived, is contained within the animal ovum or egg—a compact and definite mass of organic matter, in which, notwithstanding great apparent variations, there is maintained throughout all the members of the animal kingdom, excepting the protozoa, which are destitute of true ova, a greater uniformity in some respects than belongs to the germinal product of plants.

Usually more or less spherical in form, the animal ovum presents the essential characters of a "complete cell," in the signification given by Schwann to that term. The germinal substance is enclosed by an external vesicular membrane or *cell-wall*. Within this covering the *cell-substance*, generally named yolk or vitellus, from the analogy of the fowl's egg, consists, to a greater or less extent, of a mass of protoplasm, and imbedded in this mass, in a determinate situation, there is found a smaller internal vesicular body, the *germinal-vesicle* or nucleus, with its more or less constant or variable *macula* or nucleolus.

Now the first thing which strikes us as remarkable connected with the ovum is the very great variation in size as compared with the entire animal, while in all of them the same simple or elementary structure is maintained. The ovum of mammals is, for example, a comparatively small body, of which the average diameter is about the $\frac{1}{150}$th of an inch, and which consequently scarcely weighs more than a very minute fraction of a grain, which may be calculated perhaps only at the $\frac{1}{12000}$th part. And further, in two animals differing so widely in size as the elephant and the mouse, the weights of which may be held to stand towards each other in the proportion of 150,000 to 1, there is scarcely any difference in the size of the mature ovum.

On the other hand, if we compare this small ovum of the mammal with the yolk of the egg in the common fowl, the part to which it most nearly corresponds, it may be estimated that the latter body would contain above three millions of the smaller ova of a mammal.

The attribute of size, however, in natural objects ceases to excite feelings of wonder or surprise as our knowledge of them increases, whether that be by familiar observation or by more scientific research. We need not, at all events, on account of the apparent minuteness of the ovum of the mammifer, or of any other animal, have any doubts as to the presence of a sufficient amount of germinal substance for explaining in the most materialistic fashion the transmission of the organic and other properties and resemblances between the parent and offspring. For we are led to believe by those

who have recently given their attention to the size of molecules composing both living and dead matter that, in such a body as this minute ovum of the mammal, there may be as many as five thousand billions of molecules, and even if we restrict ourselves to the smaller germinal vesicle, and, indeed, to the smallest germinal particle which might be made visible by the highest microscopic enlargement, there are still sufficient molecules for all the requirements of the most exacting material biologist.(a)

This great disparity of size is, however, connected with an important difference in the disposition of the yolk-substance, according to which ova may be distinguished as of two kinds, the large- and the small-yolked ova, between which there are also many intermediate gradations. The larger yolked ova belong to the whole tribe of birds, scaly reptiles, osseous and cartilaginous fishes, and the cephalopods among the invertebrates; and are distinguished by the strictly germinal part or protoplasm being collected into a small disc, known familiarly as the cicatricula of the fowl's egg, and to be seen as a whitish spot on that side of the yolk which naturally floats uppermost; while the rest of the yolk, of a deeper yellow colour, contains a large quantity of vitelline granules or globules of a different chemical nature from the protoplasm.

The phenomena of embryonic development are, in the first instance at least, confined to the germinal disc, and the rest of the yolk serves in a secondary or more remote manner to furnish materials for nourishment of the embryo and its accessory parts. Thus we distinguish the germinal from the nutritive or food-yolk, or, as the younger Van Beneden has named them, the *protoplasm* and the *dutoplasm*.

In the smaller ovum of the mammal, on the other hand, it seems as if the whole, or nearly the whole, of the yolk were protoplasmic or germinal. There may be some admixture of yolk-granules, but there is not the marked separation or limitation of the protoplasmic substance which is so distinct in birds, and the earliest changes of development extend to the whole component substance of the yolk—or, in other words, the yolk is entirely germinal. Hence, some have given the names of *meroblastic* and *holoblastic*, meaning partially and entirely germinal, to these two contrasting forms of ova. There are many of the invertebrate animals of which the ova present the same entirely germinal arrangement as in those of mammals, and the *amphioxus* may be included in the same group.

The amphibia stand, in some measure, between the two extremes; the purely protoplasmic or germinal part occupying one side, and the nutritive or vitelline the other. But among the invertebrates the gradations are often such as to make it difficult to determine under which group the ova should be placed.

The genesis or formation of the ovum itself, if it be considered with reference to its first origin, carries us back to a very early period of the formation of the parent in which it is produced; and it is one of the most interesting problems to determine what is the source of the cells in the parent from which the ova originally spring. All that I can venture to say at present in regard to this point is, that the primordial ova or germs appear in the parental body while still embryonic, at a very early period of its development, and clearly derive their origin from a deeply-seated part of the formative cells which are undergoing transformation into the primitive organs; but the exact seat of the origin of the reproductive cells is still a matter of doubt.

When the ovum attains its full maturity in the ovary, the seat of its formation within the parent, it is separated from that organ, and when perfected proceeds to undergo embryonic development; a marked difference in this respect existing between the germinal product of the higher plants and animals.

The period of maturation of the ovum is marked in the greater number of animals by a series of phenomena which have generally been interpreted as the extrusion or absorption of the germinal vesicle; and various observers have actually traced the steps of the process by which that vesicle appears to leave the yolk and is lost to sight, or has passed into the space between the yolk and its membrane in the shape of the peculiar hyaline bodies named the *polar* or *directing* globules. But recent researches, afterwards to be referred to, tend to show that some part at least of the substance of the germinal vesicle remains to form, when combined with the fertilising element, the newly endowed basis of future development.

Among the earliest changes to which the perfect animal ovum is subject, I have first to refer to the segmentation of the germ, a series of phenomena the observation of which has been productive of most important results in leading to a comprehension of the intimate nature of the formative process, and which is of the deepest interest both in a morphological and histological point of view. This process, which was first distinctly observed by Prevost and Dumas more than fifty years ago, and is now known to occur in all animal ova, consists essentially in the cleavage or splitting up of the protoplasmic substance of the yolk, by which it becomes rapidly subdivided into smaller and more numerous elements, so as at last to give rise to the production of an organised stratum of cells out of which by subsequent changes the embryo is formed.

The process of yolk segmentation may at once be distinguished as of two kinds, according as it affects in the small-yolked ova the whole mass of the yolk simultaneously, or in the large-yolked ova is limited to only one part of it. The cleavage process, in fact, affects the germinal and not the food-yolk; so that to take the two most contrasting instances of the bird and mammal to which I have before referred, it appears that while the mammal's ovum undergoes entire segmentation, this process is confined to the substance of the cicatricula or germinal disc of the bird's egg. This process is essentially one of cell-division, but it is also in some measure one of cell-formation. The best idea of its nature will be obtained from a short description of the total segmentation occurring in the mammal's ovum.

When, as before mentioned, the germinal vesicle has been in part extruded or lost to sight, the whole yolk-substance of the ovum forms a nearly uniform mass of finely granular protoplasm, inclosed within the external cell-membrane. Within a few hours later a clear nucleus has arisen in this mass. To this more definite form of organisation, assumed by the germinal substance of the future animal which is about to be the subject of the segmenting process, the name of the first segment-sphere may be given.

By the process of cleavage, which now begins, the first segment-sphere and its nucleus undergo division into two nucleated spheres of smaller size, the whole substance of the yolk, in a holoblastic ovum, such as that of the mammal, being involved in the segmenting process.

The second stage of division follows after the lapse of a few hours, and results in the formation of four nucleated segment-spheres; and the process of division being repeated in a certain definite order, there result in the succeeding stages, that is, the third, fourth, fifth, and up to the tenth, the numbers of 8, 12, 16, 24, 32, 48, 64, and 96 nucleated yolk-spheres, germ-spheres, or formative cells.

In the rabbit's ovum the tenth stage is reached in less than three days; and as during that time the size of the whole ovum has undergone very little increase, it follows that the spheres of each succeeding set, as they become more numerous, have diminished greatly in size. The segment-spheres are all destitute of external membrane, but are distinctly nucleated; and their protoplasmic substance is more or less granular, presenting the usual histological characters of growing cells.

By the time that segmentation has reached the seventh or eighth stage, when thirty-two or forty-eight spheres have been formed, the ovum has assumed the appearance of a mulberry, in which the outer smaller spheres, closely massed together, project slightly and uniformly over the whole surface; while the interior of the ball is filled with cells of a somewhat larger size and a more opaque granular aspect, also resulting from the process of segmentation.

Already, however, the mutual compression of the spheres or cells on the surface, by their crowding together, has led to the flattening of their adjacent sides; and by the time the tenth stage is reached, when the whole number of the cells is about ninety-six, the more advanced superficial cells having ranged themselves closely together, form a nucleated cellular layer or covering of the yolk, inclosing within them the larger and more opaque cells, derived like the first from segmenting process. In a more advanced stage, the deeper cells now referred to having also taken the form of a layer, there results at last the bilaminar blastoderm or embryonic germinal membrane.

(a) According to a calculation made by Mr. Sorby, the number of molecules in the germinal vesicle of the mammalian ovum is such that if one molecule were to be lost in every second of time the whole would not be exhausted in seventeen years. See Address to the Microscopic Society in *Journal of Microscopical Science*, vol. xv., page 225, and *Nature*, vol. xiii.' page 332. See also Darwin on "Pangenesis," in his work on "Variations," etc. (1868), vol. ii., page 374, and the Review by Ray Lankester of Haeckel's work, "Perigenesis der Blastidule," etc., in *Nature* for 1876, page 235, and Ray Lankester's Essay on "Comparative Longevity," 1870.

The process of partial segmentation, such as occurs in the bird's egg, though perhaps fundamentally the same as that of the mammal previously described, stands in a different relation to the parts of the whole yolk or egg, and consequently differs in its general phenomena. The segmentation is mainly restricted in the meroblastic ova of birds to the germinal disc or cicatricula, and does not immediately involve any part of the larger remainder of the yolk. This takes place during the time of the descent of the yolk through the oviduct, when the yolk is receiving the covering of the white or albumen, the membrane and the shell, previous to being laid—a process which, in the common domestic fowl, usually occupies less than twenty-four hours. Corresponding essentially to the more complete segmentation of the mammal's ovum, the process leads to the same result in the production of two layers of nucleated formative cells in the original seat of a protoplasmic disc; a bilaminar blastoderm resulting as in the mammal's ovum, though in a somewhat different relation to the yolk.

I will not fatigue you with a description of the details of these phenomena, interesting as they may be, but only mention generally that they consist in the formation of deep fissures running from the surface into the substance of the germ-disc. The first of these fissures crosses the disc in a determinate direction, dividing it into two nearly equal semicircular parts. In the next stage another fissure, crossing the first nearly at right angles, produces four angular segments. Then come four intervening radial fissures, which subdivide the four segments into eight; and next afterwards the central angles of these eight radial segments are cut off from their peripheral portions by a different fissure, which may be compared to one of the parallels of lattitude on the globe near the pole where the radial or *longitude* fissures converge. And so thereafter, by the succession and alternation of radial and circular clefts, which, however, as they extend outwards, come soon to lose their regularity, the whole germinal disc is divided into the two layers of nucleated cells, constituting the blastoderma or germinal membrane of Pander and all subsequent embryologists. (b) If a laid egg be subjected to the heat of incubation for eight or ten hours, the cicatricula, now converted into this segmented blastoderm, is found to be considerably expanded by a rapid multiplication of its constituent cells, and in as many more hours, by further changes in its substance, the first lineaments of the chick begin to make their appearance. Similar changes affect the blastoderm of the mammal, and thus it appears that the result of segmentation, in the bird as well as in the mammal and other animals, is the production of an organised laminar substratum, which is the seat of the subsequent embryonic development.

I must still request your attention to some details connected with the process of segmentation, which bear upon the question of the origin of the new cells, and on which recent research has thrown a new and unexpected light.

With respect to the nature of the first segment-sphere of the ovum and the source of its nucleus, as well as of the other segment-spheres or cells which follow each other in the successive steps of germ-subdivison, it appears probable from the researches of several independent observers, and more especially of Edward Van Beneden and Oscar Hertwig, that in the course of the extrusion of the germinal vesicle a small portion of it remains behind in the form of a minute mass of hyaline substance, to which Van Beneden has given the name of *pronucleus*, and that, as the result of the fertilising process, there is formed a second similar hyaline globule or pronucleus, situated near the surface, which gradually travels towards the centre and unites with the first pronucleus, and that these two pronuclei, being fused together, form the true nucleus of the first segment sphere. According to this view, the original germinal vesicle, when it disappears, or is lost to sight, as described by so many embryologists, is not dissipated, but only undergoes changes leading to the formation of the new and more highly endowed nucleus of the first embryonic or segmental sphere. It further appears that the subdivision of each segmenting mass is preceded by a change and division of the nucleus, and that this division of the nucleus is accompanied by the peculiar phenomenon of a double conical or spindle-shaped radial lineation of the protoplasm, which, if we were inclined to speculate as to its nature, seems almost as if it marked out the lines of molecular force acting in the organising process. These lines, however, it will be understood, if visible with the microscope, even of the highest magnifying power yet attained, belong to much larger particles than those of the supposed molecules of the physicist; but considered in connexion with what we know of the movements which frequently precede the act of division of the yolk-spheres, we seem in this phenomenon to have made some near approach to the observation of the direction in which the molecular forces operating in organisation may be supposed to act.(c)

With respect to the nature of the blastoderm, the organised cellular stratum resulting from segmentation, and its relation to the previous condition of the ovum on the one hand, and the future embryo on the other, there is presented to us, by modern research, the interesting view that the blastoderm consists, after completion of the segmenting process, of two layers of cells, an outer or upper, usually composed of smaller, clearer, and more compact nucleated cells, named *ectoderm*, or *epiblast*, and an inner or lower, consisting of cells which are somewhat larger, more opaque, and granular, but also nucleated, and named *endoderm*, or *hypoblast*.

In the meroblastic ova, such as those of birds, the bilaminar blastoderm is discoid and circumscribed, as it lies on the yolk surface, and only comes to envelope the whole of the food-yolk in the progress of later development; while in the holoblastic ova, and more especially in mammals, the blastoderm from the first extends over the whole surface of the yolk, and thus forms an entire covering of the yolk known as the "vesicular blastoderm;" the space within being occupied by fluid.

Huxley long ago presented the interesting view that these two layers are essentially the same in their morphological relations and histological structure with the double wall of the body in the simplest forms of animals above the protozoa; and Haeckel has more recently followed out this view, and supported it by his researches in the "Calcareous Sponges," and has founded upon it his well-known *Gastræa* theory. According to this view all animals take their origin from a form of *Gastrula*. In the simpler tribes, as in the instance of the common fresh-water polype or hydra, they proceed no further than the gastrula stage, unless by mere enlargement and slight differentiation of the two primitive layers of cell, representing the persistent ectoderm and endoderm.(d)

If, pursuing this idea, we take a survey of the whole animal kingdom in its long gradation of increasing complexity of form and structure from the simplest animal up to man himself, we find that all the various modifications of organic structure which present themselves are found, in the history of the

(b) The more exact nature of the process of segmentation was first made known by the interesting researches of Bagge in 1841, and more especially of Kölliker in 1843. The phenomena of complete segmentation were first fully described in the mammal's ovum in Bischoff's "Description of the Development of the Rabbit," 1842, and followed out in his succeeding "Memoirs on the Dog, Guinea-pig and Roe-deer." The phenomena of partial segmentation were first made known, in their more exact form, by Kölliker's "Researches on the Development of the Cephalopoda," published in 1844. In birds the process was first described by Bergmann in 1846, and more fully by Coste in 1848.

(c) The observations referred to above as to the division of the nucleus are so novel and of such deep interest that I am tempted to add here a short abstract of their more important results from a very clear account given of them by Dr. John Priestley, of Owens College, Manchester, in the *Journal of Microscopical Science* for April, 1876.

The researches now referred to are those of Auerbach, Butschli, Strasburger, Hertwig, and Edw. Van Beneden, and the following may be stated as the points in which they mainly agree:—

The nucleus when about to divide elongates into a spindle-shaped body, becomes irregular and indistinct, acquires a granular disc or zone in the plane of its equator; this divides into two, and each half moves towards the pole of the spindle on its own side, there being radiated lines of protoplasm between the poles and the equatorial disc.

The disc segments are the new nuclei, and the subsequent division of the cell takes place in the intermediate space.

Although these observers still differ in opinion upon some of the details of this process, and especially as to the fate of the germinal vesicle, all of them seem to agree that there are two pronuclei or distinct hyaline parts of the yolk protoplasm, a superficial and a deep one, engaged in the formation of the new nucleus, and both Hertwig and Van Beneden are of opinion that the two proceed from different productive elements.

The radiated structure of the nuclei had been previously recognised by Fol and Flemming, and further observed by Oellacher.

1. Butschli's researches are published in the *Nov. Act. Nat. Cur.*, 1873, and in the *Zeitschr. für wissensch. Zool.*, vol. xxv.

2. Auerbach's observations in his *Organolog. Studien*, 1874.

3. Strasburger's observations in his memoir "Ueber Zell-bildung und Zeiltheilung," Jena, 1875.

4. Edward Van Beneden's researches, partly in his memoir "On the Composition and Significance of the Egg," etc., presented to the Belgian Academy in 1868, and more particularly in the extremely interesting preliminary account of "Researches on the Development of Mammalia, etc., 1875; and in a separate paper in the *Journ. of Microscopical Science* for April, 1876.

5. Oscar Hertwig's Memoirs are contained in the *Morpholog. Jahrbuch*, 1875, and his most interesting and novel observations in the same work, 1877.

(d) At this place I will only refer to one of the most recent of Haeckel's works, in which the views alluded to above are fully expose in a series of most interesting memoirs—viz., "Studien zur Gastræ-Theorie," Jena, 1877.

individual or ontological development of the different members of the series, to spring originally from two cellular laminæ, ectoderm and endoderm, the component elements of which may again be traced back to the first segment-sphere and primitive protoplasmic elements of the ovum.

Time does not admit of my conducting you through the chain of observation and reasoning by which Haeckel seeks to convince us of the universal applicability of his theory, but I cannot avoid calling your attention to the extremely interesting relation which has been shown to exist between the primary phases of development of the ovum and the foundation of the blastoderm in very different groups of animals, more especially by the researches of Haeckel himself, of Kowalevsky, Edward van Beneden, and others, and which has received most efficient support from the investigations and writings of E. Ray Lankester in our own country; so that now we may indulge the well-grounded expectation that, notwithstanding the many and great difficulties which doubtless still present themselves in reconciling various forms with the general principle of the theory, we are at least in the track which may lead to a consistent view of the relations subsisting between the ontogenetic, or individual, and the phylogenetic, or race, history of the formation of animals and of man.(e).

In all animals, then, above the protozoa, the ovum presents, in some form or other, the bilaminar structure of ectoderm and endoderm at a certain stage of its development, this structure resulting from a process of segmentation or cell cleavage; and there are three principal modes in which the double condition of the layers is brought about. In one of these it is by inward folding or invagination of a part of the single layer of cells immediately resulting from the process of segmentation that the doubling of the layers is produced; in the second, perhaps resolvable into the first, it may be described rather as a process of inclosure of one set of cells within another; while in the third the segmented cells arranged as a single layer round a central cavity of the ovum, divide themselves later into two layers. But the distinction of ectodermic and endodermic layers of cells is maintained, whether it be primitive and manifested from a very early period, or acquired later by a secondary process of differentiation. Thus, in many invertebrates, and also in *Amphioxus* among the vertebrates, a distinct invagination occurs, while in mammals, as recently shown by Van Beneden's most interesting observations in the rabbit's ovum, and probably also in some invertebrates, the cells of the ectoderm gradually spread over those of the endoderm during the progress of segmentation, and thus the endodermic comes to be enclosed by the ectodermic layer of cells.

From the very novel and unexpected observations of Van Beneden, it further appears that from the earliest period in the process of segmentation in the mammal's ovum it is possible to perceive a distinction of two kinds of segment spheres or cells, and that when this process is traced back to its first stage it is found that the whole of the cells belonging to the ectoderm are the progeny of, or result from the division of the upper of the two first formed segments, and that the whole of the endodermic cells are the descendants of the lower of the two first segmented cells. This, however, is not an isolated fact belonging only to mammalian development, but one which very nearly repeats a process ascertained to occur in a considerable number of the lower animals, and it seems to promise the means of greatly advancing the comprehension of the whole process of blastodermic formation. Thus, ectoderm and endoderm, or the primordial rudiments of the future animal and vegetative systems of the embryo, are traced back as distinct from each other to the first stage of segmentation of the germ.

Accepting these facts as ascertained, they may be regarded as of the deepest significance in the phylogenetic history of animals; for they appear to open up the prospect of our being able to trace transitions between the earliest embryonic forms occurring in the most different kinds of ova, as between the discoid or meroblastic, and the vesicular or holoblastic, through the intermediate series, which may be termed amphiblastic ova.

In the lowest animals, the two layers already mentioned—viz., ectoderm and endoderm—are the only ones known to constitute the basis of developmental organisation; but as we rise in the scale of animals, we find a new feature appearing in their structure which is repeated also in the history of the formation of the blastoderm in the higher animals up to man. This consists in the formation of an intermediate layer or layers constituting the *mesoderm*, with which, in by far the greater number, is connected the formation of some of the most important bodily structures, such as the osseous, muscular, and vascular systems.

I will not stop to discuss the very difficult question of the first origin of the mesoderm, upon which embryologists are not yet entirely agreed, but will only remark that a view originally taken of this subject by the acute von Bäer appears more and more to gain ground; and it is this—that the mesoderm, arising as a secondary structure, that is, later than the two primary layers of ectoderm and endoderm (corresponding to the serous and mucous layers of Pander), is probably connected with or derived from both of these primitive layers, a view which it will afterwards appear is equally important ontogenetically and phylogenetically.

But whatever may be the first origin of the mesoblast, we know that in the vertebrata this layer, separating from between the other two, and acquiring rapidly by its cell multiplication larger proportions and much greater complexity than belongs to either ectoderm or endoderm, speedily undergoes further subdivision and differentiation in connection with the appearance of the embryonic organs which arise from it, and in this respect contrasts greatly with the simplicity of structure which remains in the developed parts of the ectodermic and endodermic layers. Thus, while the ectoderm supplies the formative materials for the external covering or epidermis, together with the rudiments of the central nervous organs and principal sense-organs, and the endoderm by itself only gives rise to the epithelial lining of the alimentary canal and the cellular part of the glands connected with it, the mesoblast is the source of far more numerous and complex parts, viz., the whole of the true skin or corium, the vertebral column and osseous system, the external voluntary muscles and connective tissue, the muscular walls of the alimentary canal, the heart and blood-vessels, the kidneys, and the reproductive organs thus forming much the greatest bulk of the body in the higher animals.(f)

There is, however, a peculiarity in the mode of the earliest development of the mesoblast which is of great importance in connexion with the general history of the disposition of parts in the animal body to which I must now refer. This consists in the division of the mesoblast in all but its central part into two laminæ, an outer or upper and an inner or lower, and the separation of these by an interval or cavity which corresponds to the space existing between the outer wall of our bodies and the deeper viscera; and which from the point of view of the vertebrate animals is called the pleuro-peritoneal cavity, but viewed in the more extended series of animals down to the annuloida, may receive the more general appellation of pleuro-splanchnic or parieta-visceral cavity, or, shortly, the *cœlom*. Thus, from an early period in the vertebrate embryo, and in a considerable number of the invertebrate, a division of the mesoderm takes place into the somato-pleuro or outer lamina, and the splanchno-pleural or inner lamina; the outer being the seat of formation of the dermal, muscular, and osseous systems—the volunto-motory of Remak; and the inner of the muscular wall of the alimentary canal, as well as of the contractile substance of the heart and the vascular system generally.

It is interesting to find that there is a correspondence between the later division of the mesoderm of the higher animals derived from the two primitive blastodermic laminæ, and the original absence of mesodermic structure in the lowest animals, followed by the gradual appearance, first of one layer (the external muscular in the higher cœlonterata), and, soon afterwards, by the two divisions or laminæ with the intermediate cœlom.

(e) I ought here to refer to the elaborate memoirs of Prof. Semper on the morphological relations of the vertebrate and invertebrate animals contained in the "Arbeiten aus dem zoolog. zootom. Institut in Würzburg," 1875 and 1876, in which the conclusions arrived at do not coincide with the views above stated.

(f) If we reserve the words "ectoderm" and "endoderm" to designate the two layers of the primary bilamimar blastoderm, we may apply the terms "epiblast" and "hypoblast" to their derivatives after the formation of the mesoderm, and indicate the relations of the whole to the secondary or quadrilaminar blastoderm, by the accompanying table:—

Primary Blastoderm	Ectoderm ...	.....	Epiblast.....	Secondary Blastoderm.
	Mesoderm...		Sematopleure ... Splanchnopleure	
	Endoderm ..		Hypoblast	

In this account of what may be termed the organised foundation of the new being, I have entered into some detail, because I felt that our conception of any relation subsisting between the ontogenetic history of animals and their phylogenetic evolution can only be formed from the careful study of the earliest phenomena of embryonic organisation. But, notwithstanding the many difficulties which unquestionably still block the way, I am inclined to think that there is great probability in the view of a common bilaminar origin for the embryo of all animals above the protozoa, and that the vertebrate, equally with the invertebrate, animals may be shown to possess in the first stages of their blastodermic or embryonic formation the two primitive layers of ectoderm and entoderm.

To attempt, however, to pursue the history of the development of animals in detail would be equivalent to inflicting upon you a complete system of human and comparative anatomy. But I cannot leave the subject abruptly without an endeavour to point out in the briefest possible manner the bearing of one or two of the leading facts in embryology upon the general relation of ontogeny and phylogeny.

We are here brought into the contemplation of those remarkable changes, all capable of being observed and demonstrated, by which the complex organisation of the body is gradually built up out of the elementary materials furnished by the blastodermic layers—a process which has been looked upon by all those who have engaged in its study with the greatest interest and admiration. And if, by comparing these phenomena as observed in individuals belonging to different classes and orders of animals, it is found not only that they are not different, but, on the contrary, that they present features of the most remarkable resemblance and conformity —we shall be led to conclude that there is a general plan of development proved to extend to the members of considerable groups, and possibly capable of being traced from one group to another. But this is clearly nothing else than another way of stating that there is a similar type of structure pervading the animals of each group, and a probability of a common type being ascertained to belong to them all. The main question, therefore, to be answered is whether there is or is not a general correspondence between the phenomena of development and the gradation of type in animal structure upon which anatomists and zoologists are agreed; and my object will now be to bring rapidly before you one or two of the most marked illustrations of the correspondence, drawn from the early history of development in the higher animals.

As one of the examples of the earlier phenomena of development, I may refer to the change which is perceptible as early as the eighteenth or twentieth hour of incubation in the chick, and which is reproduced in the course of development of every member of the vertebrate sub-kingdom. It consists in the formation of cross clefts on each side of the primitive neural cavity which divide off from each other a number of segments of this wall in the length of the axis of the embryo. At first there are only one or two such clefts, but they rapidly increase in a backward direction in the body of the embryo, and as development proceeds they extend into the tail itself. These are the *protovertebræ* of embryologists, not corresponding, as might at first be supposed, with the true or actual vertebræ which are formed later, but representing in an interesting manner transverse *vertebral segments* of the body, and containing within each the elements of a great part of the structure belonging to the body-wall afterwards to be developed, including the true cartilaginous or osseous vertebral arches and the muscular plates.

This change, however, belongs to the mesodermic lamina, and occurs in an elongated thick portion of it, which makes its appearance on each side of the primitive neural canal between the epiblast and the hypoblast. The transverse cleavage is ascertained to commence near what afterwards forms the first cervical vertebra, but does not extend into the base of the cranium. And it is most interesting to note in this cleavage the formation at so early a period of the succession of *metameres* or series of similar parts, which forms a main characteristic of vertebral organisation.

As intimately connected with the formation of the vertebral column, the appearance of the chorda dorsalis, or *notochord*, presents many points of peculiar interest in embryological inquiries.

The notochord is a continuous median column or thread of cellular structure, running nearly the whole length of the rudimentary body of the embryo, and lying immediately below the cerebro-spinal canal. It occupies in fact the centre of the future bodies of the vertebræ. It exists as a primordial structure in the embryo of all vertebrates, including man himself, and extending down to the amphioxus, and, according to the remarkable discovery of Kowalevsky in 1866, it is to be found among the invertebrates in the larva of the ascidia.(g)

In amphioxus and the cyclostomatous fishes the notochord, growing with the rest of the body into a highly developed form, acts as a substitute for the pillar of the bodies of the vertebræ, no vertebral bodies being developed; but in cartilaginous and osseous fishes various gradations of cartilaginous and osseous structures come to surround the notochord and give rise to the simpler forms of vertebral bodies, which undergo more and more distinct development in the higher vertebrates. In all instances the substance forming the vertebral bodies is deposited on the surface of or outside the notochord and its sheath, so that this body remains for a time as a vestigial structure within the vertebral bodies of the higher animals.

The observations of Kowalevsky with respect to the existence of a notochord in the ascidia, which have been confirmed by Kupfer and others, have produced a change little short of revolutionary in embryological and zoological views, leading as they do to the support of the hypothesis that the ascidia is an earlier stage in the phylogenetic history of the mammal and other vertebrates. The analogy between the amphioxus and ascidian larva is certainly most curious and striking as regards the relation of the notochord to other parts; and it is not difficult to conceive such a change in the form and position of the organs in their passage from the embryonic to the adult state, as is not inconsistent with the supposition that the vertebrates and the ascidia may have had a common ancestral form. Kowalevsky's discovery opens up at least an entirely new path of inquiry; and we must be prepared to modify our views as to the entire separation of the vertebrates from the other groups of animals, if we do not at once adopt the hypothesis that through the ascidian and other forms the origin of the vertebrates may be traced downwards in the series to the lower grades of animal organisation.

The notochord extends a short way forward into the cranial basis, and an interesting question here presents itself, beginning with the speculations of Goethe and Oken, and still forming a subject of discussion, whether the series of cranial or cephalic bones is comparable to that of the vertebræ. On the whole, it appears to me that it is consistent with the most recent views of the development and anatomy of the head to hold the opinion that it is composed of parts which are to some extent homologous with vertebral metameres.(h)

The history of the formation of the vertebral column presents an interesting example of the correspondence in the development of the individual and the race, in that all the stages which have been referred to, as occurring in the gradual evolution of the vertebral column in the series of vertebrates, are repeated in the successive stages of the embryonic development of the higher members of the series.

There is perhaps no part of the history of development in the vertebrates which illustrates in a more striking manner the similarity of plan which runs through the whole of them than that connected with what I may loosely call the region of the face and neck, including the apparatus of the jaws and gills. The embryonic parts I now refer to consist of a series of symmetrical pairs of plates, which are developed at an early period below the cranium, and may therefore, in stricter embryological terms, be styled the *sub-cranial plates*.

Without attempting to follow out the remarkable changes which occur in the development of the nose and mouth in connexion with the anterior set of these plates, which, from being placed before the mouth, are sometimes named *preoral*, I may here refer shortly to the history of the plates situated behind the mouth, which were discovered by Rathke in 1826, and formed the subject of an elaborate investigation by Reichert in 1837.

These plates consist of a series of symmetrical bars, four in number in mammals and birds, placed immediately behind the mouth, separated by clefts passing through the wall of the throat, and each traversed by a division of the great artery

(g) *Mém. de l'Acad. de S'. Pétersbourg*, vol. x.

(h) See the interesting and valuable memoirs of W. K. Parker, "On the Anatomy and Development of the Vertebrate Skull," in *Transactions of the Royal Society*, the researches of Gegenbaur, Mihalkovics, and more particularly the Memoir by F. M. Balfour, "On the Development of the Elasmobranchs," in the *Journal of Anatomy and Physiology*, vols. x. and xi.

from the heart; thus constituting the type of a branchial apparatus, which in fishes and amphibia becomes converted into the well-known gills of these animals, whilst in reptiles, birds and mammals they undergo various changes leading to the formation of very different parts, which could not be recognised as having any relation to gill structure but for the observations of their earlier embryonic condition. The history of this part of development also possesses great interest on account of the extraordinary degree of general resemblance which it gives to the embryos of the most different animals at a certain stage of advancement—so great, indeed, that it requires a practised eye to distinguish between the embryos of very different orders of mammals, and even between some of them and the embryos of birds or reptiles, as well as in connexion with the transformations of the first pair of branchial apertures, which lead to the formation of the passage from the throat to the ear in the higher vertebrata. There is equal interest attached to the history of the development of the first pair of arches, which include the basis of formation of the lower jaw with the so-called *cartilage of Meckel*, and which, while furnishing the bone which suspends the lower jaw in reptiles and birds, is converted in mammals into the hammer-bone of the ear.

The other arches undergo transformations which are hardly less marvellous, and the whole series of changes is such as never fails to impress the embryological inquirer with a forcible idea of the persistence of type and the inexhaustible variety of changes to which simple and fundamental parts may be ubject in the process of their development.

It is also of deep significance in connection with the foregoing phenomena, to observe the increase in the number of the gillbars and apertures as we descend in the scale to the cartilaginous fishes and lampreys, and the still further multiplication of these metameres or repeated parts in the amphioxus; and it is, perhaps, also interesting to note that in the ascidia the arrangement of the gills is exactly similar to that of the amphioxus.

The study of the comparative anatomy of the heart and its mode of formation in the embryo furnishes also most striking illustrations of the relation between ontogenetic and phylogenetic development in the vertebrates, and is not without its applications to some of the invertebrate groups of animals.

I need only recall to your recollection the completely double state of this organ in warm-blooded animals, by which a regular alteration of the systemic and pulmonary circulations is secured, and the series of gradations through the class of reptiles by which we arrive at the undivided ventricle of the amphibian, and the further transition in the latter animals by which we come at last to the single heart of fishes; and to state that in the embryo of the higher animals the changes by which the double heart is ultimately developed out of an extremely simple tabular form into which it is at first moulded from the primitive-formative cells are, in the inverse order, entirely analogous to those which I have just now indicated as traceable in the descending series of vertebrate animals; so that at first the embryonic heart of man and other warm-blooded animals is nothing more than a rhythmically contractile vascular tube. By the inflection of this tube, the constriction of its wall at certain parts, and the dilatation at others, the three chambers are formed which represent the single auricle, the single ventricle, and the aortic bulb of the fish. By later changes a septum is formed to divide the auricles, becoming completed in all the air-breathing animals, but remaining incomplete in the higher animals so long as the conditions of fœtal life prevent the return of arterialised blood to the left auricle. The growth of another septum within the ventricular portion gradually divides that cavity into two ventricles, repeating somewhat in its progress the variations observed in different reptiles, and attaining its complete state in the crocodile and warm-blooded animals.

I must not attempt to pursue this interesting subject further, but I cannot avoid making reference to the instructive view presented by the embryological study of the nature of the malformations to which the heart is subject, which, as in many other instances, are due to the persistence of transitory conditions which belong to different stages of progress in the development of the embryo. Nor can I do more than allude to the interesting series of changes by which the aortic-bulb, remaining single in fishes, and serving as the channel through which the whole stream of blood leaving the heart is passed into the gills, becomes divided in the higher animals into the roots of the two great vessels, the aorta and the pulmonary artery, and the remarkable transformations of the vascular arches which proceed from the aortic-bulb along the several branchial arches, and which, in the gills of fishes and aquatic amphibia undergo that minute subdivision which belongs to the vascular distribution of gills, but which in the higher non-branchiated animals are the subject of very different and various changes in the partial obliteration of some, and the enlargement of others, by which the permanent vessels are produced.

These changes and transformations have for many years been a subject of much interest to comparative anatomists, and will continue to be so, not only from their presenting to us one of the most remarkable examples of conformity in the plan of development and the type of permanent or completed organisation in the whole series of vertebrated animals, but also because of the manifest dependence of the phenomena of their development upon external influences and atmospheric conditions which affect the respiration, nutrition, and modes of life of the animal.

Nor is the correspondence to which I now refer entirely limited to the vertebrata. For here, again, through the amphioxus and the ascidia, we come to see how an affinity may be traced between organs of circulation and respiration which at first appear to belong to very different types. The heart of vertebrates is, as is well known, an essentially concentrated form of vascular development in the ventral aspect of the body; while the heart of the invertebrate, whether in the more concentrated form existing in the articulata and muscula, or in a more subdivided shape prevalent in the annelida, is most frequently dorsal; yet the main aorta of the vertebrates is also dorsal; and it is not impossible through the intermediate form of amphioxus, to understand how the relation between the vertebrate and the invertebrate type of the blood-vascular system may be maintained.

But I am warned by the lapse of time that I must not attempt to pursue these illustrations further. In the statement which I have made of some of the more remarkable phenomena of organic production—too long, I fear, for your endurance, but much too brief to do justice to the subject—it has been my object mainly to show that they are all more or less closely related together by a chain of similarity of a very marked and unmistakable character; that in their simplest forms they are indeed, in so far as our powers of observation enable us to know them, identical; that in the lower grades of animal and vegetable life they are so similar as to pass by insensible gradations into each other; and that in the higher forms, while they diverge most widely in some of their aspects in the bodies belonging to the two great kingdoms of organic nature, and in the larger groups distinguishable within each of them, yet it is still possible, from the fundamental similarity of the phenomena, to trace in the transitional forms of all their varieties one great general plan of organisation.

In its simplest and earliest form that plan comprises a minute mass of the common nitrogenous hydrocarbon compound to which the name of "protoplasm" has been given, exhibiting the vital properties of assimilation, reproduction, and irritability; the second stage in this plan is the nucleated and inclosed condition of the protoplasmic mass in the organised cell. We next recognise the differentiation of two productive elements, and their combination for the formation of a more highly endowed organising element in the embryonic germ-sphere or cell; and the fourth stage of advance in the complexity of the organising phenomena is in the multiplication of the fertilised embryo-cell, and its conversion into continuous organised strata, by further histological changes in which the morphological foundations of the future embryo or new being are laid.

I need not now recur to the further series of complications in the formative process by which the bilaminar blastoderm is developed, and becomes trilaminar or quadrilaminar, but only recall to your recollection that while these several states of the primordial condition of the incipient animal pass insensibly into each other, there is a pervading similarity in the nature of the histological changes by which they are reached, and that in the production of the endless variations of form assumed by the organs and systems of different animals in the course of their development, the process of cell-production, multiplication and differentiation remains identical. The more obvious morphological changes are of so similar a character throughout the whole, and so nearly allied in the different larger groups, that we are led to regard them as placed in some very close and intimate relation to the inherent properties of

the organic substance which is their seat, and the ever-present influence of the vital conditions in which alone these properties manifest themselves.

The formative or organising property, therefore, resides in the living substance of every organised cell and in each of its component molecules, and is a necessary part of the physical and chemical constitution of the organising elements in the conditions of life; and it scarcely needs to be said that these conditions may be as varied as the countless numbers of the molecules which compose the smallest particles of their substance. But, setting aside all speculation of a merely pangenetic kind, it appears to me that no one could have engaged in the study of embryological development for any time without becoming convinced that the phenomena which have been ascertained as to the first origin and formation of textures and organs in any individual animal are of so uniform a character as to indicate forcibly a law of connexion and continuity between them; nor will his study of the phenomena of development in different animals have gone far before he is equally strongly convinced of the similarity of plan in the development of the larger groups, and, to some extent, of the whole. I consider it impossible, therefore, for any one to be a faithful student of embryology, in the present state of science, without at the same time becoming an evolutionist. There may still be many difficulties, some inconsistencies, and much to learn, and there may remain beyond much which we shall never know; but I cannot conceive any doctrine professing to bring the phenomena of embryonic development within a general law which is not, like the theory of Darwin, consistent with their fundamental identity, their endless variability, their subjugation to varying external influences and conditions, and with the possibility of the transmission of the vital conditions and properties, with all their variations, from individual to individual, and, in the long lapse of ages, from race to race.

I regard it, therefore, as no exaggerated representation of the present state of our knowledge to say that the ontogenetic development of the individual in the higher animals repeats in its more general character, and in many of its specific phenomena, the phylogenetic development of the race. If we admit the progressive nature of the changes of development, their similarity in different groups, and their common characters in all animals, nay, even in some respects in both plants and animals, we can scarcely refuse to recognise the possibility of continuous derivation in the history of their origin; and however far we may be, by reason of the imperfection of our knowledge of palæontology, comparative anatomy, and embryology, from realising the precise nature of the chain of connexion by which the actual descent has taken place, still there can be little doubt remaining in the minds of any unprejudiced student of embryology that it is only by the employment of such an hypothesis as that of evolution that further investigation in these several departments will be promoted so as to bring us to a fuller comprehension of the most general law which regulates the adaptation of structure to function in the universe.

The death is announced of Mr. W. Lovett, well known as a Chartist. In 1852 he published some elementary lessons in anatomy and physiology, and was the author of various lectures. His autobiography appeared about twelve months since.

Spina Bifida Treated by the Elastic Ligature.—Dr. Baldassare relates the case of an infant eight months old upon whom he operated for spina bifida situated at the base of the sacrum. The peduncle of the tumour was four centimetres in length. The largest circumference of the tumour measured twenty-two centimetres, its entire length (including the pedicle) being eleven centimetres. Fluctuation and transparency indicated its contents, and these were not influenced by respiration and only slightly so by compression. The tumour became somewhat more tense in the erect posture. Compression was commenced on the pedicle by elastic ligature on November 30, and by the sixteenth day, the tumour being then in a gangrenous condition with the pedicle reduced to a centimetre in circumference, it was removed by the bistoury, leaving a small depressed space almost filled with granulations. On January 7 the child was well and lively. A linear cicatrix occupied the place of the peduncle, and beneath this could be felt a resisting membrane occupying the place where th bone was defective.—*Annali Universali*, May.

ARMY, NAVY, AND INDIAN MEDICAL SERVICES.

The following are the questions which were set at the recent examination of candidates for her Majesty's Army, Navy, and Indian Medical Services:—

Anatomy and Physiology.—1. Write a full description of the superior maxillary bone; its development, connexions, and relations with blood-vessels, nerves, muscles, &c. 2. The arteries on the thigh, from the level of Poupart's ligament in front and behind, to the knee, and including the popliteal space:—State their courses, relations and anastomoses, more particularly around the hip and knee joints. 3. Describe the minute structure of the cerebral substance, and the mode in which you would proceed to demonstrate it, with the reagents you would employ for the purpose. 4. Describe the development of the human embryo, from the entrance of the ovum into the Fallopian tube, to the end of the third month.

Surgery.—1. A patient has obstruction of the bowels. Describe the symptoms which would indicate the probable seat of the obstruction, whether in the small or large intestine; and the conditions which would generally determine the nature of the treatment, medical or operative. 2. What are the causes of incontinence of urine—local, constitutional, or accidental—and the measures to be adopted for its relief? 3. Describe the local and general characteristics of acute inflammation of the knee joint, the result of accident or other cause; the changes which occur in and around the joint when the progress is unfavourable; and the treatment of such a case from the commencement. 4. Describe the symptoms of abscess of bone. What is the more common seat of such an abscess, and the treatment to be adopted in a suspected case? 5. Describe the symptoms of rupture of the intestine—the result of a blow or fall—(without external wound), and state under what conditions such a rupture might possibly not prove fatal. 6. What are the symptoms and causes of ozæna; at what period of life is it most frequently met with, and what local treatment should be adopted, when general measures fail to relieve it?

Medecine.—1. What do you understand by the terms "infectious," "contagious," "epidemic," and "endemic"? Name the diseases which are believed to be contagious, and mention the principal reasons for your belief in the diseases you name being contagious. 2. Describe the morbid anatomy of "sclerosis" as a lesion of the nervous system. Name the diseases in which it is a constant morbid condition, arranging them according to the parts or tracts of the nervous system which are the seat of sclerosis; and state the most characteristic symptoms of such cases during life. 3. What are the symptoms and physical signs of a fatty heart? 4. Describe a case of acute hydrocephalus in a child, and the appropriate treatment. 5. Name the diseases which mostly cause deformities of the female pelvis, and what are the most common varieties of pelvic deformity? How are they diagnosed; what are the standard measurements of the diameters of the true pelvis in the adult female, at the brim, and in the cavity; and what are the external measurements which aid in the diagnosis of deformities of the pelvis? What size would be considered too small for the natural delivery of a full-grown child; and what would you do, in such a case, to meet the existing difficulties; and in the event of the same female becoming again pregnant? 6. What do you understand by an "alterative" medicine? Name the most approved preparations of arsenic, iodine, and mercury used as "alteratives," and the appropriate doses of each preparation you name used as such.

Natural History and Physics.—Zoology: 1. Describe the principal modifications of the respiratory system in the animal kingdom. 2. How does the vertebral column differ in the different classes of mammals? 3. Give the characters of Cephalopods, and state their distribution at the present time and at former periods. 4. Give an account of the chief races of man. 5. What is meant by alternation of generation? In what groups of animals does it occur? 6. Botany: Contrast the characters of Labiatæ, Boragineæ, Scrophulariaceæ, and Solanaceæ. 7. Give the characters of the order Characeæ. 8. What is the area of geographical distribution of Cruciferæ, Dipterocarpeæ, Ericaceæ, Epacrideæ, Proteaceæ, Betulaceæ, Coniferæ, and Orchideæ. 9. Describe the process of germination in exogens and endogens, and in a fern spore. 10.

Describe the structure and junction of a leaf. Physics, etc.: 11. Two travellers start from the same point to make the circuit of the globe, one going easterly, the other westerly. On returning to the point of starting, one will have gained and the other lost a day. Explain the reason of this. 12. Define the terms specific heat, latent heat, radiant heat, and point out the differences in the conduction of heat by different bodies. 13. Give a sketch of the principal geological formations on the earth, in their order of succession. 14. In what forms does carbon occur in nature, free and in combination with other elements? 15. What is meant by specific gravity? How is it ascertained in solids, liquids, and gases?

FROM ABROAD.

Abolition of Coroners.

For a considerable time past a movement has been going on in the chief cities of the United States with a view either of a reform of, or abolition of, the office of Coroner. It seems, in some instances, to have entirely got into the hands of the politicians, who work it for their own purposes, in rewarding their supporters, without any regard for the public good. Unnecessary inquests are held, and these are often conducted in an indecent manner. In some places the coroners have been multiplied to a ridiculous extent, and the sums spent to obtain the office show that other than legitimate sources of emolument must exist somewhere. The Municipal Society of New York has been investigating the subject carefully, and has unanimously adopted the following resolution:—"That the Judiciary Committee take the necessary steps to secure the passage through the Legislature of an amendment of the Constitution, abolishing the office of coroner in cities of upwards of 10,000 inhabitants." In Massachusetts matters have advanced to a much greater extent, as the coronership has actually been abolished; and the *Boston Medical Journal* (June 28) gives an account of the measures which have been substituted. It seems that the Governor of the State has had conferred upon him the power, assisted by his Council, of choosing certain official persons entitled "Medical Examiners," upon whom will fall the duty of examining into all the medical facts connected with suspicious deaths, making autopsies, etc., the juridical part of the proceedings being carried to the ordinary law courts. The competition for these new offices was, it seems, very keen, all sorts of persons, well- and ill-qualified, offering their services. The selection made by the Governor in Council has, however, been highly approved of; and the two Medical Examiners chosen for Suffolk County (which is really Boston), at a salary of $3000 each—or about £600, viz., Drs. F. W. Draper and F. A. Harris, are spoken of as most competent persons. Altogether there are about fifty of these Medical Examiners, and thirty of their number have already formed themselves into the Massachusetts Medico-Legal Association, for the purposes of co-operation and advancing the knowledge of legal medicine.

The experiment is of great importance, the working of which will be watched with great interest, not only in the United States, but in our own country; for although with ourselves the abolition of the office of coroner has been advocated by scarcely anyone, and certainly the coroner's court is not open to the class of objections attaching to it in the United States, yet it stands in need of reforms, which success of the procedure now set on foot in Massachusetts may tend to expedite.

Dr. Fordyce Barker on Uterine Surgery.

At the recent annual meeting of the Gynæcological Society, Dr. Fordyce Barker, its President, made some highly interesting remarks upon the abuses of uterine surgery, which are thus commented upon by the *New York Medical Record* for June 9:—

"Without wishing to ignore the just claims of operative gynæcology, he very properly urged the giving more attention to the medical treatment of uterine disease. There is no doubt that this latter branch of our service has been too much neglected—that many operations have been done more because they were fashionable than for any good conferred by them upon the patient. It is so easy to gain credit by such procedures, that it is no wonder that so many yield to the temptation. Then again the uterus is so non-retaliating that it invites all sorts of inroads upon its textural integrity. The shedding of uterine blood apparently begets an insatiety for gynæcological operations, which, when once established, is sometimes dreadful to contemplate. Cases are on record in which surgeons have timidly begun with incising the os, then with excising the cervix, body, and fundus; and lastly, when ovaries were included in the ablation, have actually mourned that nothing more was left to conquer. The fact that some of these patients got well, may help to prove that, gynæcologically speaking, the uterus and appendages are incumbrances. But the other side of the argument is that women who are not operated upon, whose uteri know not the knife, the scissors, ecraseur, or pessary, also got well. This is certainly a great comfort to the ordinary practitioner, who has a healthy fear of disturbing peritoneal coverings, of poking pessaries into the bladder, of mistaking the uterus for the ovary, and of any of the other trivial accidents which occasionally happen in the higher walks of gynæcology. The fact is that the desire to cut, twist, burn, amputate, electrolyse, and pessarise the uterus has amounted almost to a mania. The aspiring gynæcologist who has been unable to devise a new operation, invent a new speculum or modify an old one, has been compelled to infuse his energies either into a new cautery-iron, a novel back-acting curette, or a manifold self-acting elevator. If perhaps he fails in every other way in encouraging operative procedures, he gives a new and important twist to a pessary, establishes a principle, and makes a reputation. But if the time has come for a change of opinion, if the worst must come to the worst, advocates of the new doctrine can do no more than arrest the study of surgical statistics, and, as a possible consequence, create a corner in uterine pathology. In any event, we are willing to give the uterus one more chance."

"Since 1845," says Dr. Barker in the address referred to, "immortality has been sought by 142 men in the invention of a pessary, when doubtless more would have been accomplished for the relief of suffering and the preservation of the body, had the same energy been displayed in the study of the circulatory, nervous, and digestive apparatuses of the body in their relation to the diseases of the pelvic organs."

New Mode of Radical Cure of Hernia.

At a meeting of the Norfold District Medical Society, Massachusetts, Dr. Davenport described at length (*Boston Med. Journal*, July 5,) the method of treating hernia, which has been for many years employed successfully by Dr. Heaton of Boston. Dr. Heaton considers that Gerdy's, Wützer's, and Wood's operations "now almost discarded" have proved ineffectual, principally on account of the *inflammation* excited by the plug of adjacent integument, or of the invaginated scrotal tissues, or of both, which after a variable interval, in which apparent success has been obtained, is got rid of by nature, and the rupture usually recurs. He therefore lays it down as a principle that all inflammation except of the mildest character must be carefully avoided, and this is best brought about by what he calls the method of *tendinous irritation*, *i.e.*, a mild irritation of those portions of fibrous tissue lying directly in contact with the exterior of the neck of the hernial sac, thickening and consolidating this substance, and effecting a contraction of the openings. This contraction is due not only to the astringent used as an irritant, but also largely to the peculiar normal distribution of the bundles of fibre in the neighbourhood of the abdominal rings. For the performance of the operation, the hernia, together with its sac, must be returned into the abdomen; but when the sac cannot be returned it may be allowed to remain in the canal.

"Next invaginate the right forefinger in the scrotum, and find the external abdominal ring, and with the left forefinger pressed perpendicularly upon the integument directly over the ring, force the skin with the finger directly into the ring, the spermatic cord and the sac, if in the way, being pushed aside, so that nothing may remain between the external pillar of the ring and the finger except the integument and subjacent superficial fasciæ. Keeping the left forefinger thus, the needle of the instrument (which resembles the ordinary subcutaneous syringe) is quickly introduced through the skin and superficial fascia, just passing the external pillar and entering the canal at once. The left forefinger is then removed, and the beak of the instrument insinuated further on, well into

the canal, care being taken to avoid the spermatic cord and the fibrous walls of the canal. To wound any of these parts endangers the success of the operation. The beak of the instrument when thus introduced is in a suitable position for the injection of the liquid irritant, about ten minims of which is introduced drop by drop. The point of the needle should be well swept about while delivering the fluid, which should pass around the exterior of the sac if unreduced, and should wet all the fibrous tissues. After the withdrawal of the needle, which should be done quickly, the previous protrusion should not be allowed to descend, nor the patient be permitted to assume even the sitting posture, until a suitable bandage or other means of support had been properly applied. The irritant consists of Thayer's fluid extract of quercus alba half an ounce, and of solid alcoholic extract of the quercus about fourteen grains. This is to be triturated with the aid of gentle heat for a long time in a mortar until the solution is as perfect as possible. It is as well to add to this mixture sulphate of morphia (about a grain to the ounce), in order to diminish the dull aching that follows the operation. A bandage is preferable to a truss after operating, because it can be more accurately adjusted, and can be worn with comfort while lying down. There is a dull pain in the groin following the operation, but after attaining a moderate degree of acuteness this subsides, and disappears altogether in from six to twelve hours. After this there is no pain, if the patient avoids exercise; no swelling appears, nor any local redness, nor any increase of temperature in the groin. For the first week the patient is not allowed to sit up, as there is more or less tenderness during that time. During the second week moderate exercise may be allowed, and after that time the patients can generally be allowed to return to their avocations. Dr. Heaton usually advises them to wear the bandage until it is worn out, and then to discard all mechanical support."

The numerous details wanting in the above statement will be found in a work on the subject just published by Dr. Heaton, in which he gives a full account of his method as applied to the different varieties of hernia, and derived from the treatment of "many hundreds of cases."

GENERAL CORRESPONDENCE.

ASSOCIATION OF MEN HOLDING IRISH QUALIFICATIONS.

LETTER FROM DR. JAMES THOMPSON.

[To the Editor of the Medical Times and Gazette.]

SIR,—A meeting of Irish qualified men practising in England, was held at Owens College, during the late meeting of the British Medical Association at Manchester, when it was resolved to form an association of those medical men holding Irish qualifications, who were practising in England, and Dr. Balthazar Foster, of Birmingham, was elected President, and Dr. Daniell, 20, Cathcart-road, and myself were elected as Secretaries. As soon as possible a circular will be sent to all those holding qualifications. Any gentleman who wishes to join will oblige by sending his name and address to either of the secretaries. I am, &c.

JAMES THOMPSON, M.D., Hon. Sec.

Avenue-house, Leamington, August 20.

DR. HARDWICKE recently held an inquest at 22, Claremont-square, Clerkenwell, on the body of Mr. James Black, aged seventy-four, a retired baker, who was found dead in the conservatory at the above address. On the left temple was a terrible gash, evidently received immediately before, or or at the point of, death. The evidence was to the effect that the deceased, who seldom ventured out of the house, was perfectly well on the previous Thursday morning, but at dinner refused to partake of any beer. He went upstairs, and remained there some time. He came downstairs, and afterwards went into the conservatory, where he was found lying dead on the stones. Dr. Bolton stated that he was called in, and found the deceased lying as described. He had *not made a post-mortem examination because the nephew objected to it;* and he believed the cause of death was serous apoplexy, the injuries being received while falling, *but he refused to give a certificate of death.* A verdict in accordance with the medical evidence was returned. With respect to the certificate, we think Dr. Bolton acted wisely.

MEDICAL NEWS.

UNIVERSITY OF LONDON.—The following are lists of candidates who have passed the recent examinations:—

FIRST M.B. EXAMINATION FOR HONOURS.

ANATOMY.

First Class.—Richard Gill, St. Bartholomew's Hospital; Tiaeliesin Wilim Owen Pughe, Liverpool Royal Infirmary and Guy's Hospital.

Second Class.—Norman Dalton, King's College; William Banks, University College.

Third Class.—Frank Rushworth, St. Bartholomew's Hospital; Alfred Harvey, Queen's College, Birmingham.

PHYSIOLOGY, HISTOLOGY, AND COMPARATIVE ANATOMY.

Second Class.—Angel Money, University College; Mark Feetham Sayer, University College; Leonard Charles Wooldridge, Guy's Hospital.

Third Class.—Tiaeliesin Wilim Owen Pughe, Liverpool Royal Infirmary and Guy's Hospital; James Isaac Paddle, B.A., B.Sc., University College; Richard Gill, St. Bartholomew's Hospital.

CHEMISTRY.

First Class.—Richard Gill (Exhibition and Gold Medal), St. Bartholomew's Hospital; William Hale White, Guy's Hospital.

Second Class.—Leonard Charles Wooldridge, Guy's Hospital; Alfred Ernest Maylard, Guy's Hospital, and James Isaac Paddle, University College, *equal.*

Third Class.—Arthur Jackson, St. Bartholomew's Hospital.

MATERIA MEDICA AND PHARMACEUTICAL CHEMISTRY.

First Class.—William Banks (Exhibition and Gold Medal), University College; Hutton Castle, St. Thomas's Hospital, John Edward Hine, University College, Bilton Pollard, University College, and Leicester Cuthbertson Ponsford, University College (*equal*), obtained the number of marks qualifying for the Exhibition; Gilbert Harry Barling, St. Bartholomew's Hospital; Mark Feetham Sayer, University College, and Leonard Charles Wooldridge, Guy's Hospital (*equal*), obtained the number of marks qualifying for a Medal.

Second Class.—William Henry Russell Forsbrook, Westminster Hospital, and Greville Matheson MacDonald, King's College, *equal;* James Balls, King's College, and William Outhwaite, St. Bartholomew's Hospital, *equal.*

Third Class.—Thomas Hahnemann Hayle, Owens College, and Arthur Jackson, St. Bartholomew's Hospital, *equal;* James Isaac Paddle, University College; Richard Gill, St. Bartholomew's Hospital.

FIRST B.SC. AND PRELIMINARY M.B. CONJOINTLY.

CHEMISTRY.

First Class.—Charles Frederick Cross (First B.Sc.—Exhibition), King's and Owens Colleges, and William Henry Thomas (First B.Sc.—Disqualified by age for the Exhibition), Royal College of Chemistry, *equal.*

Second Class.—Arthur Hamilton N. Lewers (Prel. Sci.), University College; Alexander Barron (Prel. Sci.), Owens College.

Third Class.—Charles Edward Cassal (Prel. Sci.), University College; Herbert Irving Bell (First B.Sc.), private study; Hyde Marriott (First B.Sc. and Prel. Sci.), Owens College, and Herbert Pearce (First B.Sc.), University College, *equal*; Frederick Wallis Stoddart (First B.Sc. and Prel. Sci.), University College, Bristol.

EXPERIMENTAL PHYSICS.

First Class.—Joseph Larmor (First B.Sc.—Arnott Exhibition and Medal), St. John's College, Cambridge; Moses John Jackson (First B.Sc. —Arnott Medal) University College.

Second Class.—Hugh Erat Harrison (First B.Sc.), University College, and Herbert Pearce (First B.Sc.), University College, *equal.*

Third Class.—Edwin Leonard Adeney (Prel. Sci.), Guy's Hospital; Oswald James Currie (Prel. Sci.), Guy's Hospital.

BOTANY.

First Class.—Pramatha Nath Bose (First B.Sc. and Prel. Sci.), University College.

Second Class.—William Henry Horrocks (Prel. Sci.), Owens College; Henry Edmonds (First B.Sc.), private study; Robert Jones (Prel. Sci.), St. Bartholomew's Hospital; Henry Hoole (Prel. Sci.), Charing-cross Hospital, and George Henry Spencer Pearson (First B.Sc.), private study, *equal.*

Third Class.—Wm. Havelock Hill (First B.Sc. and Prel. Sci.), University College; David John Rygate (Prel. Sci.), London Hospital.

ZOOLOGY.

First Class.—Sydney John Hickson (First B.Sc. and Prel. Sci—Exhibition), University College; Sidney Harris Cox Martin (First B.Sc. and Prel. Sci.), University College.

Second Class.—Donald Douglas Day (Prel. Sci.), St. Bartholomew's Hospital.

Third Class.—Pramatha Nath Bose (First B.Sc. and Prel. Sci.), University College; Henry Edmunds (First B.Sc.), private study; Arthur Guy Salmon (Prel. Sc.), St. Bartholomew's Hospital; George Henry Spencer Pearson (First B.Sc.) private study.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, August 16:—

Battle, William Henry, Potter Hanneth, Lincoln.
Bunting, Robert Obadiah, West Green-road, Tottenham.
Chadwick, John, Milnrow, Rochdale.
Cocksedge, Chas. Ernest, Clapton-park.
Greasley, John, Canterbury.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Ling, Maurice Edward, London Hospital.
Pope, Herbert Francis M., St. Bartholomew's Hospital.
Thomas, Richard Weddale, St. Thomas's Hospital.
Underhill, George, Middlesex Hospital.

At the recent examination for the prizes in Botany, given

by the Society of Apothecaries, the successful candidates were:—

First.—Arthur Henry Shakespere Lucas, London Hospital, a gold medal.

Second.—Sydney Harland Henty, University College, a silver medal and a book.

Third.—Charles Pardy Lukis, St. Bartholomew's Hospital, a bronze medal and a book.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Murdoch, Wm., M.B. and C.M. Edin.—Assistant-Physician, Perth District Asylum.

NAVAL, MILITARY, &c., APPOINTMENTS.

Cumberland Lodge, Windsor-park.—Their Royal Highnesses the Prince and Princess Christian, of Schleswig-Holstein, have been pleased to appoint Thomas Fairbank, M.D., to be Surgeon in Ordinary to their Royal Highnesses' Household.

BIRTHS.

Gallwey.—On August 10, at Ponteland, Northumberland, the wife of J. Hoppner M. Gallwey, M.B., of a son.

Hett.—On August 11, at 1, Ledbury-road, Bayswater, the wife of Geoffrey Hett, M.D., prematurely of a daughter.

Iliffe.—On August 16, at Kendal, the wife of Walter Iliffe, F.R.C.S.E., of a son.

Kesteven.—On August 17, the wife of Wm. Henry Kesteven, M.R.C.S., of 51, Tufnell-park-road, of a daughter.

MacGrath.—On August 20, at 14, Colville-terrace East, Bayswater, the wife of William Michael MacGrath, F.R.C.S.I., &c., of a son.

Miller.—On August 17, at Blackheath, the wife of J. N. Miller, M.D., of a son.

Stokoe.—On August 19, at the Chestnuts, Beddington, the wife of Paul Henry Stokoe, B.A., M.D., of a son.

Tonge.—On August 15, at Harrow-on-the-Hill, the wife of Morris Tonge, M.D., of a son.

MARRIAGES.

Barker—Pennell.—On August 15, at St. Peter's Church, Brighton, R. A. Barker, M.D., Civil Medical Officer, Bengal, to Julia Constance Keith, eldest daughter of the late Rev. George Keith Pennell.

Davidson—Russ.—On August 21, at Holy Trinity Church, Clapham, Charles Davidson, F.R.C.S. Edin., of Hackney, to Gertrude Marian, second daughter of William Russ, C.E., of Cedars-road, Clapham-common.

Heelas—Robinson.—On August 13, at Christ Church, Hampstead, James Heelas, M.B., C.M., of Fellow's-road, Hampstead, son of John Heelas, The Holt, Wokingham, to Lizzie, third daughter of the late S. S. Robinson, of Liverpool.

Jones—Williams.—On August 17, at Moriah Chapel, Carnarvon, Owen Thomas Jones, M.R.C.S. Eng., Port Dinorwic, to Katie Williams, of 5, Uxbridge-square, Carnarvon.

Lewis—Ellison.—On August 14, at St. John's Church, Windsor, Arthur Griffith Power Lewis, of Lincoln's-inn, barrister-at-law, to Annie Wilhelmine, second daughter of James Ellison, M.D., Surgeon to her Majesty's Household in Windsor.

Phillips—Garrett.—On August 16, at Cushendun, co. Antrim, George Arthur Phillips, M.R.C.S. Eng., Walsall, Staffs, to Mary Higginson, younger daughter of the late James R. Garrett.

Pope.—Townsend.—On August 15, at Old Edgbaston Church, Harry Campbell Pope, F.R.C.S., M.B. Lond., of Shepherd's-bush, son of Edward Pope, Surgeon, of Tring, Herts, to Constance Nellie, daughter of the late Charles Townsend, Surgeon, of Birmingham.

Room—Malcolm.—On August 16, at St. John the Evangelist's, Edinburgh, Charles Turner, son of the Rev. Charles Room, of Finchley, London, to Fanny Rolland, youngest daughter of Robert Bowes Malcolm, M.D., F.R.S.E., of George-street, Edinburgh.

DEATHS.

Boot, John Hopkinson, M.D., at Sleaford, Lincs, on August 18, aged 68.

Copland, Maria Annie, eldest daughter of James Charlesworth Copland, M.R.C.S. Eng., at 87, Ladbroke-grove, Notting-hill, on August 18, aged 13.

Grayson, Francis Dorrell, only son of Francis Dorrell Grayson, M.R.C.S., Eng., at Rayleigh, Essex, on August 20, aged 8 months.

Nason, Charles Arthur, M.R.C.S. Eng., at Ashford, Kent, August 13, aged 35.

Shaw, Edward Charles James, M.D., M.R.C.S. Eng., at the Firs, Elstree, Herts, on August 15, aged 69.

Smith, Alexander James, M.R.C.S., eldest son of Alexander Smith, Esq., Deputy Collector, Chetput, Madras, at Ramsgate, on August 15, aged 22.

Willows, Robert George Edward, M.R.C.S., late of Chesterton, Staffs, only son of Major-General J. E. L. Willows, Bengal Staff Corps (Retired), at Oakfield-road, Penge, on August 21, aged 25.

VACANCIES.

Birmingham and Midland Free Hospital for Sick Children.—Resident Medical Officer. Candidates must be unmarried, and registered members of the medical profession. Applications, with certificate of registration, accompanied by references, to be sent to the Medical Committee, Children's Hospital, Shelthouse-lane, Birmingham, not later than September 7.

Charlton Union.—Assistant to the Workhouse Medical Officer. Applicants must be fully qualified and registered. Applications, accompanied by copies of recent testimonials and statement of qualifications, to Wm. N. Edgill, Clerk to the Guardians, not later than September 4, endorsed "Assistant to Medical Officer."

Holbeach Union, Lincolnshire.—Medical Officers for the Lutton and Tydd Districts, and Public Vaccinator for the Lutton District. Applications, stating qualification, accompanied by testimonials and certificate of registration under the Medical Acts, to Richard P. Mossep, Clerk, on or before September 5.

Royal Free Hospital, Gray's Inn-road.—Assistant-Physician and Assistant-Surgeon. The Assistant-Physician must be a Member of the College of Physicians of London, and the Assistant-Surgeon a Fellow of the Royal College of Surgeons of England. Testimonials to James S. Blyth, Secretary, before September 1.

Royal United Hospital, Bath.—House Surgeon. Candidates must be M.R.C.S., and registered. Diplomas and testimonials of professional capacity and moral character to the Secretary, on or before August 30.

Somerset County Lunatic Asylum.—Assistant Medical Officer, unmarried, and duly qualified in both Medicine and Surgery. Only gentlemen who have held the post of either House-Surgeon or House-Physician in some recognised general hospital need apply. Applications, stating age, together with recent testimonials (which must be printed), to be addressed to the Medical Superintendent.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Amersham Union.—Mr. B. Baker has resigned the Missenden District; area 6200; population 2382; salary £50 per annum.

Drayton Union.—The Third District is vacant; area 14,338; population 2650; salary £25 per annum. Mr. E. T. Thompson has resigned the Fifth District; area 11,201; population 2438; salary £21 per annum.

Worksop Union.—Dr. Coutts has resigned the Cuckney District; area 7557; population 1590; salary £20 per annum.

APPOINTMENTS.

Samford Union.—Thos. Pink, M.R.C.S. Eng., L.S.A., to the Stratford District.

Royal College of Surgeons.—The library and museum of this institution will be closed as usual in September for the necessary repairs and cleaning of both departments.

Migraine.—In order to alleviate pain in the course of an attack of migraine, or to cut it short at the commencement, Delioux recommends the juice of a lemon to be squeezed into a cup of coffee without milk or sugar, and drunk off at a draught.—*Union Méd.* Aug. 7.

Morphia Injections in Puerperal Convulsions.—Dr. Dieterich relates two cases with a view of encouraging the more frequent resort to subcutaneous injection of morphia in puerperal convulsions. In these cases recovery rapidly followed the injection of a quarter or one sixth grain of the hydrochlorate, a repetition being required in one of these.—*St. Petersb. Méd. Woch.*, July 28.

Pessaries.—During a discussion at the Gynæcological Society, Dr. Atlee, of Philadelphia, observed that he had had no experience in the introduction of pessaries, but that he had had a large experience in their withdrawal. He had been able to remove the symptoms in most of his patients without the use of pessaries, and when that could be done he was satisfied without their use. With the uterus and pelvic organs in a healthy condition a change in position of the uterus was of no significance whatever, and there was no need of an instrument to keep it in a certain position.—*New York Med. Record*, July 7.

A Transformation following Mumps.—M. Lereboullet presented a soldier, aged twenty-two, before the Société des Hôpitaux who had undergone a very serious transformation as a result of an attack of mumps. When affected by this four months ago, he was in possession of full virile powers, but four days after the origin of the mumps he was seized with double orchitis, the testicles acquiring the size of a fist. Three days later, the orchitis disappeared, the parotidean tumefaction persisting for some time longer, and then also disappearing. In the course of twenty days the testes became so atrophied as not to exceed an almond in size. At the same time the mammary glands underwent considerable development. The man, whose pilous system of the pubis was well developed, also found his beard ceased growing, so that the chin became absolutely smooth. Thus, this young man, who before had presented all signs of virility and no signs of feminism, now found his testicles wasted, his breasts developed, and his venereal desires gone. M. Lereboullet believed these changes were definitive, and that they should (why we cannot imagine) exempt the subject of them from military service.—*Gaz. des Hôp.*, August 14.

OILING THE URETHRA.—M. Desprès has employed, re all other surgeons, various substances for greasing instruents intended to be passed into the bladder, but has often und, in spite of every precaution, that very painful friction produced. Although not a partisan for injecting the bladder ior to lithotrity, experience has taught him that greasing e patient is a far more effectual procedure than greasing the struments. For this purpose he injects, by means of a glass ringe, without any catheter, from seventy to eighty grammes oil, and this renders the passage of the instruments far less ainful, these passing into the bladder, so to say, by their own eight.—*Gaz. des Hôp.*, August 4.

A SENSIBLE ARRANGEMENT.—Dr. Winsor prefa ces is report, June, 1876, of the Middlesex East Medical Society, Massachusetts, with the following statement:—"This society as held a meeting every month on some evening near to full oon, always at the house of some member who volunteers o act as host and furnish a supper for hard-worked physicians, any of whom ride a number of miles to the meeting, and me of whom must come without supper at home, and cannot e held to regular attendance on meetings for medical improvement unless they can be certain to find a pleasant, social eal provided there. The average attendance has been thirteen embers."

AUTOMATIC REDUCTION OF DISLOCATION OF THE EMUR.—At a meeting of the New York Academy of Medine, Dr. Crosby described Dr. Allen's mode of procedure. t consists in flexing both legs at right angles to the thighs, nd both the thighs at right angles to the abdomen. When in his position, the operator, by means of his hands placed eneath the knees, lifts the patient off the bed, and while radually swinging him from side to side the dislocated head lips into the acetabulum. Dr. Allen discovered the method ccidentally, while lifting a patient from one side of the bed to he other. The head slipped into the acetabulum of its own ccord, when he thus held him in order that the bedclothes ight be arranged.—*New York Med. Journ.*, July.

THE BOYLSTON PRIZE QUESTIONS.—The Medical Committee of the Boylston Prize appointed by the President and Fellows of Harvard University proposes the following prize questions:—For 1878 there are two questions, for each of which a prize of $75 is offered—1, "Antiseptic treatment: What are its essential details? How are they best carried out n practical form?" 2. "Diphtheria: Its causes, diagnosis, nd treatment." For 1879, prizes of $200 are offered for successful dissertations on either of the following subjects:—. "The relation of animal contact in the diseases known as ydrophobia." 2. "Evidence showing that so-called 'filth iseases' are not dependent upon 'filth.'" Essays are to be ent in by the first Wednesday in April in the respective ears, addressed to "J. B. S. Jackson, M.D., Boston, Mass." The pages of the essays are to be bound in book form, and preference will be given to those essays which exhibit original work.—*Boston Med. Journ.*, July 5.

EFFECTS OF PILOCARPIN.—Dr. Popow, reporting upon he results derived from the hypodermic injection of pilocarpin n men in health and suffering from fever, and in experiments pon animals made in Prof. Suschtschinsky's laboratory, comes o the following conclusions:—1. Pilocarpin produces the ame effects as an infusion of the leaves of jaborandi; 2. An njection of from 0·01 to 0·02 gramme induces abundant weating, without causing the unpleasant effects (giddiness, omiting, cephalalgia) produced by jaborandi, and is, therefore, etter suited for therapeutical employment; 3. The temperaure diminishes without any prior exaltation, from one hour nd a half to four hours, and reaches its minimum soon after he cessation of the sweating; 4. The increased excretion of aliva is observed alike in the healthy and the sick after doses f from 0·001 to 0·015 gramme. Sweating only occurs in such doses in the healthy—fever patients, *e.g.*, typhus, requiring 0·02 gramme; 5. The quickening of the heart's action produced by the pilocarpin continues a pretty long time after small doses, but when large ones are employed this is soon replaced by retardation; 6. On the direct introduction of pilocarpin into the veins a retardation of the heart's action takes place suddenly without any prior acceleration; 7. Doses not exceeding 0·03 gramme do not exert any particular effect on the alimentary canal; but large doses (0·05 to 0·10 gramme) induce purging or even bloody stools, with intestinal movements and the development of gases.—*St Petersburg Méd. Woch.*, Aug. 4.

PROFESSIONAL SWALLOWING OF FOREIGN BODIES.—The *Australia Medical Journal*, January, gives an account of a mountebank undergoing imprisonment for being unable to restore a gold ring which he had swallowed, belonging to the prosecutor. He is being treated by the visiting surgeon of the gaol with the view of making him disgorge a large steel albert chain and a common brass ring. The chain can be distinctly felt at the bottom of the stomach, and the prisoner states that it is now nine months since he swallowed it, and it is the only one he has had any difficulty about. He says that he has had 2lb. weight of jewellery in his stomach, and has had watches there as long as twenty-four hours. The gaoler has a collection of objects, such as albert chains, penknives and rings, which he has procured by making him vomit by emetics. The prisoner is an intelligent young man of twenty-three.

REMOVING FOREIGN BODIES FROM THE ŒSOPHAGUS.—Dr. Reeves says:—"The plan is exceedingly simple, and it may be said to be the same as that adopted for extracting pieces of cork from bottles, the only difference being that the ends of the wire are bent outwards and upwards instead of inwards, and in place of a wire ring to compress the prongs, a large-sized catheter is passed down to their extremities, which, when the wires are passed beyond the obstruction, is drawn up to allow the prongs to expand. The instrument is made in the following manner:—Three or four pieces of elastic wire, from twenty to twenty-four inches long, are twisted together down to within half an inch of their extremities, the extreme ends of which are curved outwards and upwards, and carefully filed down to prevent their injuring the coats of the canal. A piece of large-sized catheter of the same length is passed down, to prevent the prongs expanding, the extremities fitting well over the ends of the catheter, to admit of the instrument readily passing beyond the obstruction, without driving it deeper into the canal. The instrument, with the prongs closed, is passed down the gullet, well beyond the piece of bone or money, and the tube is then drawn up, the prongs expanding, bringing with it the foreign body. Some difficulty may be experienced with fine long fish-bones, from the extremities of the prongs not being able to obtain sufficient hold upon them to loosen them from their attachment to the mucous membrane; but if a little floss-silk is passed loosely from the extremity of one prong to the other, this will be overcome."—*Melbourne Medical Record*, May 23.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Dr. R. Young.—Received with thanks.

Nestor.—A Parliamentary Committee in 1815 struck the *first* blow against the system of mechanical restraint of the insane; but it was not before the early years of the present reign, that the old system was superseded by the benevolent treatment set on foot by Drs. Gardiner Hill and Conolly.

Silas.—Paley's remark, was in all "instances wherein the mind feels itself in danger of being confounded by variety, it is sure to rest upon a few strong points, or perhaps upon a single instance. Amongst a multitude of proofs it is *one* that does the business." "If we observe in any argument," he continues, "that hardly two minds fix upon the same instance, the diversity of choice shows the strength of the argument, because it shows the number and competition of the examples."

Ignoramus.—No doubt, in ancient times, water was believed to be an element, or simple substance in nature. As is well known, it is now ascertained by experiment that water is not an elementary body, but is a substance composed chiefly of two gases—oxygen and hydrogen—in a state of chemical union.

David G.—The Belgian general census, which terminated on December 31 last, shows that Belgium now numbers 5,336,185 inhabitants.

Scientific.—Dr. Gilbert, an English physician, made the first step towards a generalisation of facts on "Electricity," in the year 1600. He published a valuable treatise on the subject. Boyle, Guericke, Newton, and some other philosophers of that period, also contributed to extend knowledge on it; but the real science of electricity took its rise in a later age. About the middle of the eighteenth century very remarkable facts were ascertained, particularly by Benjamin Franklin; but the extensive relations which connect it with so many other departments of physical science were not discovered till the present century, nor was their importance until then appreciated.

Val.—A curious case of injury to the brain is recently recorded:—A farm labourer was thrown from a horse, and sustained a fracture of the skull, portions of the cranium near the left temple being driven into the substance of the brain. Forty-eight hours elapsed after the accident before the examination was made, and it was found that some spicules of bone, still attached by their bases, were piercing the brain with their free ends. These being removed, it was discovered that there must be a piece of bone still lodged in the man's brain. By a careful search made with the probe and a finger, a piece of bone about an inch and three-eighths long, by three-quarters of an inch broad, was withdrawn. During the operation, performed under chloroform, a considerable quantity of blood and brain-substance escaped. While the brain was exposed to view, it was seen to rise and fall with the pulsations of the arteries, but no movement was perceived synchronous with expiration or inspiration. When the patient vomited, brain-matter bulged out of the open wound, but receded again when vomiting ceased. The man made a rapid recovery. In this instance not only were the membranes severely lacerated, but large quantities of brain-matter escaped. The most noticeable feature in the case is the recovery of the man, for at no period was there any inflammation, nor were the senses or faculties of the patient in any way affected. The recovery was due to the constitution of the patient, who had youth, health, and strength on his side.

COMMUNICATIONS have been received from—

Mr. R. Brudenell Carter, London; Dr. Barlow, London; Dr. Herman, London; Mr. John Chatto, London; Mr. Warrington Haward, London; Dr. F. Churchill, Tunbridge Wells; Dr. Boustead, Ryde; Mr. T. Borchert, Netley; The Registrar of the Apothecaries' Hall, London; Mr. Beecher, Chislehurst; Mr. T. M. Stone, London; Dr. Blackley; Messrs. Toms and Co., London; Messrs. Corbyn, Stacey, and Co., London; Dr. Jas. Thompson, Leamington; Dr. Alex. Yule, Haslemere; Mr. Teevan, London; Mr. C. A. Fox, Stoke Newington; The Registrar of the University of London.

BOOKS AND PAMPHLETS RECEIVED—

Dr. T. P. Lucas, The Laws of Life and Alcohol—Charles J. Cullingworth, Catalogue of the Radford Library, St. Mary's Hospital, Manchester—Henry Mac Cormac, M.D., The Conversation of a Soul with God—Sir J. Fayrer, K.C.S.I., M.D., Venomous Animals—Preventive Medicine in Ordinary Medical Practice, being a Sequel to Dr. Ransom's Address on State Medicine—Francis Bertier, M.D. Paris, The Spas of Aix-les-Bains and Marlioz, Savoy.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Home Chronicler—La Province Médicale—Cincinnati Clinic—Engineer—New York Sanitarian—Builder—Students' Journal and Hospital Gazette—Chicago Medical Journal and Examiner—Medical Enquirer—Dairyman.

APPOINTMENTS FOR THE WEEK.

August 25. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

27. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

28. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

29. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex. 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

30. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

31. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, August 18, 1877.

BIRTHS.

Births of Boys, 1375; Girls, 1236; Total, 2611.
Average of 10 corresponding years 1867-76, 2181·2.

DEATHS.

	Males.	Females.	Total
Deaths during the week	669	640	1309
Average of the ten years 1867-76	769·2	711·9	1481
Average corrected to increased population ...	...	...	1555
Deaths of people aged 80 and upwards ...	...	...	20

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	4	5	3	3	5	...	1	1	29
North	751729	7	9	7	2	2	1	6	...	39
Central ...	334369	...	7	4	1	...	...	1	1	14
East	639111	2	15	7	3	4	...	3	2	53
South	967692	8	13	3	3	7	...	9	3	59
Total	3254260	21	49	24	12	18	1	20	7	194

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·771 in.
Mean temperature	63·7°
Highest point of thermometer	76·3°
Lowest point of thermometer	55·0°
Mean dew-point temperature	55·0°
General direction of wind	Variable
Whole amount of rain in the week	0·01 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, August 18, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Aug. 18.	Deaths Registered during the week ending Aug. 18.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2611	1309	79·6	49·2	63·7	17·61	0·01	0·03
Brighton	102264	43·4	49	35	73·0	50·1	61·5	16·39	0·00	0·00
Portsmouth ...	127144	28·3	83	52	70·8	55·5	61·9	16·61	0·00	0·00
Norwich	84023	11·2	62	45	...	...	...	...	...	...
Plymouth	72911	52·3	44	29	73·0	49·5	61·0	16·11	0·30	0·76
Bristol	202950	45·6	156	78	76·7	45·4	62·4	16·89	0·62	1·57
Wolverhampton ...	73389	21·6	48	28	71·8	46·6	58·8	14·89	0·61	1·55
Birmingham ...	377436	44·9	310	202	...	...	...	...	...	...
Leicester	117461	36·7	94	74	...	...	...	...	...	...
Nottingham ...	95025	47·6	54	53	76·2	51·8	61·4	16·33	0·22	0·56
Liverpool	527083	101·2	433	274	70·9	54·3	60·5	15·84	0·33	0·84
Manchester ...	359213	83·7	272	149	...	...	...	...	...	...
Salford	141184	27·3	118	65	74·0	48·9	60·5	15·84	0·24	0·61
Oldham	89796	19·2	66	40	...	...	...	...	...	...
Bradford	179315	24·8	136	71	74·0	52·2	60·8	16·01	0·35	0·89
Leeds	298189	13·8	205	125	74·0	53·0	61·0	16·11	0·58	1·47
Sheffield	282130	14·4	200	101	73·0	54·0	60·4	15·78	0·73	1·85
Hull	140002	38·5	113	72	73·0	55·0	59·7	15·39	0·62	1·57
Sunderland ...	110382	33·4	97	43	74·0	53·0	59·7	15·39	0·39	0·99
Newcastle-on-Tyne	142231	26·5	121	52	...	...	...	...	...	...
Edinburgh	218729	52·2	121	59	70·4	49·0	56·6	13·67	1·94	4·93
Glasgow	555933	92·1	382	230	71·0	52·7	60·6	15·90	0·74	1·88
Dublin	314666	31·3	177	122	72·9	45·0	61·9	16·61	1·59	4·04
Total of 23 Towns in United Kingdm	8144940	38·3	5952	3313	79·6	45·0	60·7	15·95	0·55	1·40

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·77 in. The highest reading was 29·90 in. on Sunday morning, and the lowest 29·61 in. on Tuesday afternoon.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

THE HUNTERIAN LECTURES FOR 1877.

ON DEFECTS OF VISION WHICH ARE REMEDIABLE BY OPTICAL APPLIANCES.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

By ROBERT BRUDENELL CARTER, F.R.C.S.,
Late Professor of Surgery and Pathology to the College; and Ophthalmic Surgeon to St. George's Hospital.

LECTURE V.—ASTIGMATISM.

(*Concluded from page* 193.)

HAVING approximately determined the chief meridians, and the eye being fully under the influence of atropine, the inner disc should be so turned as to make its three lines coincide in direction with one of the meridians; and then the ametropia for these lines, in that position, should be tested with the greatest possible care by spherical lenses. When the best lens is found, the inner disc should be moved a little in both directions, in order to discover, by the position in which the best vision is obtained, the precise direction of the meridian under examination; and then the lines should be placed in a position at right angles to the former one, and the ametropia tested again. When a definite result is obtained, the astigmatism, and the lenses required for its correction, may be ascertained by a very simple calculation. In order to make this clear, it may be well to take examples from each of the five possible varieties of the condition. For this purpose I will select actual cases from my note-books.

Case 1. *Simple Myopic Astigmatism.*—On looking at Pray's letters, the patient said that the stripes in the top line were clearer than the others, and those in N and U were the clearest. Her attention was then directed to the lines on the disc, which were placed from IX to III, or in a horizontal direction, and she counted them readily. No glass improved her vision for them. Her answers about the letters had left the *precise* direction of the chief meridians uncertain; but on moving the disc a little, she declared that the lines were most distinct when their right hand extremities were depressed about 10° below the horizontal position—that is, to one-third of the distance between III and IV on the clock face. For lines so placed she was emmetropic. On turning them to be at right angles to this position, or with their upper extremities one-third of the distance from XII to I on the dial, they became extremely dim, but were rendered clearly visible by a concave lens of one dioptric and a half. Here, then, was the condition shown in Fig. 26, with the difference that the greatest corneal curvature was nearly horizontal, thus producing myopia for vertical lines. A plano-concave cylinder of a dioptric and a half, with its axis corresponding with the direction of the visual defect, that is, with its upper extremity inclined 10° to the right of a vertical line, restored vision nearly to the normal standard, and relieved all the inconvenience which the patient had previously suffered.

Case 2. *Simple Hypermetropic Astigmatism.*—On looking at Pray's letters, the patient said that the lines in D were quite clear, and, on placing those of the disc in the corresponding position, that is, from II to VIII on the dial, no glass rendered them more distinct. They also became less clear by any change of position. On placing them in the reverse direction, from XI to V, they were obscurely seen, but were rendered distinct by a convex lens of two dioptrics. Hence, there was the condition shown in Fig. 27, with the difference that the chief meridians were inclined 30° from the horizontal and vertical positions. A convex plano-cylinder of two dioptrics, with the upper extremity of its axis 30° to the left of the vertical line, corrected the defect.

Case 3. *Compound Myopic Astigmatism.*—Pray's types showed that the chief meridians were horizontal and vertical. For the right eye, for horizontal lines, there was a myopia of eight dioptrics; and for vertical lines a myopia of five and a half dioptrics. For the left eye there was myopia for horizontal lines of seven and a half dioptrics, and for vertical lines a myopia of four and a half dioptrics. Both eyes, therefore, resembled Fig. 28, the preponderance of myopic curvature being in the vertical meridian, and the preponderance of myopic vision being for horizontal lines. Taking the right eye, a plano-concave cylinder of two and a half dioptrics—the difference between the myopia of the two meridians—equalised this difference, put back focus v to coincide with focus h, corrected the astigmatism, but left five and a half dioptrics of myopia in all meridians. The case required therefore, for complete correction, a spherico-cylindrical lens, one side of which was a concave spherical lens of five and a half dioptrics, the other side a concave cylinder of two and a half dioptrics. The cylindrical side of this lens corrected the astigmatism, the spherical side corrected the residual myopia; and the axis of the cylinder was so placed as to correspond with the direction of the highest degree of myopic vision—that is, it was horizontal. The defect of the left eye was corrected in a similar manner; and the patient has now worn the glasses with comfort for nearly four years.

Case 4. *Compound Hypermetropic Astigmatism.*—In the right eye Pray's types showed that the meridians were vertical and horizontal; in the left they corresponded with the lines in letters P and B. In the right eye there was hypermetropia of half a dioptric for horizontal lines, and hypermetropia of three dioptrics for vertical lines. In the left eye there was half a dioptric of hypermetropia in the direction of the lines in P; and there were two dioptrics in the direction of the lines in B. The right eye precisely resembled Fig. 29: the preponderance of hypermetropic formation being in the horizontal plane, and the preponderance of hypermetropic vision being for vertical lines. The left eye differed from Fig. 29 in that its chief meridians were inclined thirty degrees from the horizontal and vertical positions. Taking the right eye, a convex plano-cylinder of two and a half dioptrics, with its axis vertical, corrected the astigmatism, and left half a dioptric of uncorrected hypermetropia. This small amount of hypermetropia might in many cases be neglected without harm; but the patient in this instance was past forty, her accommodation was very limited, and so I prescribed a spherico-cylindrical glass, by which both the hypermetropia and the astigmatism were corrected. The left eye was treated on the same principle.

Case 5. *Mixed Astigmatism.*—A girl of eighteen, with simple hypermetropic astigmatism of her left eye, had the chief meridians of the right in the directions of the lines in the letters E and C of Pray's types. For the lines in C she had myopia of one dioptric; and for the lines in E she had hypermetropia of half a dioptric, making a dioptric and a half of astigmatism. Her eye differed from Fig. 30, in that its chief meridians were diagonal. Three forms of correction were possible. A concave cylinder of a dioptric and a half would have carried back focus v to h, leaving the eye hypermetropic to half a dioptric; and this plan might have answered very well. A convex cylinder of a dioptric and a half would have brought up focus h to v, leaving the eye with a myopia of one dioptric, which would have required correction, at least for distant vision, by a concave spherical surface on the other side of the lens. A lens having two cylindrical surfaces, at right angles to each other, one a convex of half a dioptric, the other a concave of one dioptric, served by the former surface to bring forward focus h to the retina, and by the other to put back focus v to the same position. The visual result of this combination left nothing to be desired.

In considering the possible methods of correcting any particular case of astigmatism, it is necessary to think about the way in which the eye is to be used, with especial reference to its accommodation. Like all others, astigmatic eyes become presbyopic; and, if we so correct astigmatism as to leave them emmetropic—or, still more, if we leave them hypermetropic—they will need convex spectacles in addition to the correction, for reading and other close occupations, as soon as the presbyopia begins to assert itself. This requirement may sometimes be fulfilled by the original manner of correction, sometimes by an addition to the plane (or to the spherical, as the case may be) side of the correcting lens. Thus, in Case 2, where the correction of a simple hypermetropic astigmatism of two dioptrics left the eye approximately emmetropic, this emmetropic eye will have its near-point receding as life goes on. It will then be easy to correct the presbyopia, without interfering with the astigmatism, by grinding on the other side of the cylindrical lens whatever convex power is required; remembering that the compound lens so made will only be needed for near work, and that the original must still be used for all distant objects. Sometimes the requirements of presbyopia may be met in a different manner. I was

consulted by a gentleman forty years of age, upon whom an iridectomy had been performed in the treatment of iritis. The eye had recovered from the operation, but was the subject of an acquired astigmatism, due to alteration of curvature consequent upon the wound. I found it emmetropic for horizontal lines, and with two dioptrics of myopia for vertical lines. A concave cylinder of two dioptrics, with its axis vertical, gave perfect vision for distance; but the eye thus furnished had but small power of accommodation, and, being rendered emmetropic, required convex spectacles for reading. By giving a convex plano-cylinder of two dioptrics, with its axis horizontal, the eye was rendered as myopic in the horizontal as it was previously in the vertical meridian, the astigmatism being corrected in the direction of rendering the eye as a whole myopic, and not in the direction of rendering it emmetropic. The result was that the patient read perfectly with the plano-cylinder alone; and this, as it subjected the rays of light to simpler conditions of refraction than a spherico-cylindrical lens would have done, afforded the best, because the simplest, means of correcting the defect. In many analogous cases the surgeon will find ample opportunity for the exercise of ingenuity and resource; always bearing in mind that the office of the cylindrical lens is to equalise the refraction of the chief meridians, and so to correct astigmatism, leaving any ametropia which may be residual to the astigmatism to be dealt with, if necessary, by a spherical lens with which the cylindrical one may be combined. The conditions which are to be fulfilled are of the most extreme simplicity, and nothing but the perverted ingenuity of authors has appeared to deprive them of this character.

The method of testing astigmatism which I have described, although it seems to me the best which can be used, has many rivals. Dr. Green, of St. Louis, has invented a most elaborate series of test-objects; and so many others have been devised by various persons that it would exceed my limits even to enumerate them. The optometer of Hirschberg, mentioned in the first lecture, is fitted with metal caps, each pierced by a narrow slit, for the testing of astigmatism, the *rationale* of this arrangement being that looking through a slit produces effects analogous to those of looking at a line. The slit is turned first in the direction of one chief meridian, and then in that of the other, and the ametropia is ascertained for both. From the data thus obtained the astigmatism is deduced in the ordinary way.

The only other method which requires notice is that by means of the direct ophthalmoscopic image—and I have deferred until now what I have to say upon this method as applied not only to astigmatism, but also to ametropia generally. The method is based upon the principle that the rays of light which are returned from the retina of an emmetropic eye leave the cornea parallel; while those which are reflected from the retina of a myopic eye leave the cornea convergent, and those which are reflected from the retina of a hypermetropic eye leave the cornea divergent; the degree of convergence or of divergence, in either case, being the measure of the degree of ametropia. The passive emmetropic eye can only obtain a clear image from parallel rays; and hence an emmetropic observer, looking into an ametropic eye with his own accommodation absolutely at rest, would require to add to his ophthalmoscope a lens sufficient to correct the ametropia, as a condition of seeing the retina clearly. In other words, the passive emmetropic eye, in order to look into the ametropic one, requires the same lens which the ametropic eye itself requires for distant objects. Again, if the observer himself is not emmetropic, but ametropic, his own ametropia will be a known quantity for which allowance can be made. If he be myopic, his myopia must be added to the convex lens required for a hypermetropic eye, and must be deducted from the concave lens required for a myopic eye. Thus, suppose an observer with two dioptrics of myopia. In examining another eye, he requires a concave lens of four dioptrics to give him a clear image. It is manifest that two of the four dioptrics will be the correction of the observer's myopia; and that only the other two dioptrics represent the myopia of the observed. In examining an emmetropic eye, the same observer would require a concave of two dioptrics; and, hence, an eye for which he required no lens would be hypermetropic to two dioptrics; the defects of the observer and of the observed precisely neutralising each other. In the same way, if we suppose the observer to be hypermetropic, his hypermetropia would increase by its own amount the apparent hypermetropia of another eye, and would decrease to the same extent the apparent myopia. In a case of astigmatism, it is said to be easy to determine with the ophthalmoscope, by the different degrees of clearness of the retinal vessels which course in different directions, not only the directions of the chief meridians, but also the degree and kind of ametropia in each. In order to facilitate such observations, ophthalmoscopes are now made with an abundant supply of concave and convex lenses, so placed upon a disc behind the mirror that they may be brought in rapid succession over the sight-hole; and the latest and best of these ophthalmoscopes, that of Dr. Loring, of New York, has its mirror hung in such a manner that it can be inclined to the angle required for illumination independently of the disc, so that the observer may look always through the axis of the auxiliary lens, and may thus avoid distortion of the retinal image from looking obliquely. We are told that it is quite possible to determine ametropia and astigmatism in this way, and to prescribe spectacles for their correction, without putting a single question to the patient. While admitting some of the premises, I must express my dissent from the conclusion.

It is obvious, and therefore undeniable, that an experienced observer, looking into the eye of another with an ophthalmoscope so arranged as to give the erect or virtual image of the fundus, will see at a glance whether the eye so examined is in any marked degree ametropic, and the form of the ametropia. He will also see whether it is astigmatic; in which case vessels running in some one direction will be more clearly defined than any others.

In order to do more than this, to determine with precision the degree of the ametropia, or the degree and nature of the astigmatism, conditions would be required which I believe can never, or scarcely ever, be fulfilled.

In the first place, there is no object in the fundus of the eye which is of such a nature as to show plainly when the best definition of it is obtained. Ametropia depends upon the distance between the yellow spot and the apex of the cornea, and the optic disc will not serve as the required object, because it is situated at a variable distance from the yellow spot, and sometimes, especially in myopic eyes, is distinctly anterior to it. At the yellow spot itself there are no bloodvessels to serve as test objects, and there is nothing to be seen in a normal eye but the somewhat granulated looking surface of the pigmented epithelium, seen through the transparent layers of the retina, and more or less obscured, in this position, by the image of the flame which affords the necessary illumination. The appearance of this surface may vary a little, when a change is made in the power of the lens through which it is seen; but there is nothing to show which variation should be accepted as the best representation. The observer must carry his eye a little way from the yellow spot, to a region where there are small retinal bloodvessels, which, if he knew their diameter, might answer his purpose. But he does not know their diameter in any given case, and they are upon a background of a colour only slightly different from their own. The observer cannot tell whether he is looking at a vessel of the smallest calibre, a little out of focus and so made to appear broader by diffusion, or at a vessel of the next degree of magnitude seen clearly. The examination does, in fact, test the vision of the observer instead of that of the patient; and the first essentials of accurate testing—objects of known aspect, known distance, and known magnitude—are wanting and cannot be supplied. On this ground alone, I believe it is impossible to arrive within a dioptric of trustworthy results.

In the next place, the refraction of both the eyes concerned is liable to be continually, and in an unknown degree, disturbed by variations in their accommodation. The eye of the patient may, indeed, be atropinised; and this is often essential. The ophthalmoscopic mode of testing has been recommended, however, upon the ground, among others, that it renders atropine unnecessary, because the observed eye, having no definite object of vision, will completely relax its accommodation. I am quite sure that this idea is a delusion; and that neither in hypermetropia nor in myopic spasm will the accommodation be completely relaxed by the absence of an object of vision. In these cases, if the test were otherwise fine enough, the observer would get the refraction of the observed eye, *plus* the unknown amount of accommodation which it was at the moment exerting. The application of atropine to the eye of the observer would be impossible in ordinary practice; but some tell us that this is immaterial, for that they have acquired by training the power of knowing how much accommodation they are exerting at any given

time. I have not the smallest doubt that all who thus profess do so in perfectly good faith; but none the less I find it impossible to yield assent to their professions. I know of no parallel instance in which the muscular sense of any other organ has been trained to anything like equal delicacy. Even that of the fingers is clumsy by comparison. We are asked to believe, it must further be remembered, that this extraordinary degree of muscular sense is exercised at a time when the attention is occupied by something else—namely, by the aspect of the retinal image. To me it seems certain that the observer, looking at the retina of the observed eye, would have his attention concentrated upon the object of vision, and that he would exert, quite unconsciously, whatever accommodation within his range might be needed in order to give him a clear view. His conjectural estimate of the amount of this accommodation could only be an afterthought, coming at a time when the effort itself had been discontinued

On these grounds, then, from the uncertain character and position of the only available objects of vision, and from the further uncertainty due to unknown and unknowable variations in the accommodation of the observer, I regard the ophthalmoscope as affording only a rough test of ametropia or astigmatism—trustworthy, perhaps, within a dioptric or two, but having no valid claim to greater accuracy. I have been confirmed in this opinion by some cases in which spectacles, especially for astigmatism, have been prescribed as the result of ophthalmoscopic investigation, and in which they have entirely failed to meet the requirements of the patient. I remember one such instance particularly, in which the patient was himself a medical man. He had mixed astigmatism, and came to me wearing plano-concave cylindrical glasses. The myopia of one meridian had been discovered, but the hypermetropia of the other had been wholly overlooked. The only case in which I can imagine accuracy being attained by the ophthalmoscope is when the observer is myopic in so high a degree as to have little or no use for his accommodation, and to be accustomed to work at a perfectly definite far-point. Given these conditions, he might be able to keep his accommodation passive during the act of looking; but eyes which are highly myopic are so often defective, from choroidal or other changes, that it seems scarcely desirable to rely upon them for the conduct of fine and accurate observations.

As a cylindrical lens corrects astigmatism, so, of course, it renders a normal eye astigmatic; and by wearing cylindrical lenses it is easy to feel and realise the conditions of vision which astigmatism produces. It has been said, and is often supposed, that astigmatism produces distortion of the shape of objects; but, as a matter of fact, it has no such effect. If we place a cylindrical lens in the dioptric apparatus of a magic lantern, we shall obtain distortion of the images cast upon the screen; but this is due to the fact that the rays of light, after their refraction, travel a sufficient distance to allow the distortion to take place. The distance between the cornea and the retina is not sufficient for this purpose; and the only effect of astigmatism is to obscure certain boundary lines, rendering them hazy and ill-defined. If we place cylindrical glasses, with their axes vertical, close to the eyes, and look at any well-known object, such as a postage-stamp, we shall see no alteration in its shape; but its lateral boundaries, and the lateral boundaries of the Queen's head, will look fuzzy and diffused. If we remove the lenses a little way from the eyes, so as to give the distance necessary for distortion, distortion will take place, the object appearing extended in a vertical direction if the lenses are concave, and extended horizontally if they are convex. It is unimportant whether the object looked at is near or distant. As long as the cylindrical lenses are close to the eye, an obscuration of the boundary lines of the object, in a direction transverse to the axes of the cylinders, is the only effect observed; but, as soon as the lenses are held at a distance, alteration of shape becomes apparent. As the seat of ordinary astigmatism is in the cornea, what is true of the lens held close must be true, *à fortiori*, of the astigmatic eye itself; and hence the suggestion that the correctness of figure drawing can be disturbed by astigmatism is one which appears to me to have no sort of foundation in the facts of the case.

Although, in testing for astigmatism, cylindrical glasses are not required, it is nevertheless useful to be provided with them, as means of demonstrating to the patient how much his vision will be improved by their use. Whatever may be the variety of the affection, the examination should always be conducted under atropine, since in no other way can perfect accuracy be attained. Even in the myopic forms, we constantly find that we do not obtain the same answer to a question about the effect of a given lens after a short interval of time; the accommodation undergoing frequent variations, consequent upon efforts to see now this and now that boundary line of some neighbouring object. The use of atropine involves a few days of inconvenience, but this time may be curtailed by the occasional instillation of a drop of a solution of sulphate of eserine after the examination has been concluded; and, even if the atropine action is left to run its course, the eyes will only be better for the rest afforded them. The examination, if complete and accurate, need only be made once in a lifetime; and hence no pains should be spared in order to arrive at full knowledge of the truth. An additional reason for the use of atropine is furnished by the fact, of which my experience leaves me in no doubt, that the astigmatism of an eye in its natural state is sometimes apparent only, and is due to the circumstance that the accommodation-change is greater in some one meridian than in others. This applies chiefly, I think, to hypermetropia; and I have seen many instances in which, with a marked degree of apparent astigmatism before atropine was employed, complete paralysis of accommodation has removed the astigmatism, and has left only hypermetropia to be corrected. The temporary inconvenience which attends upon the use of atropine is a very small matter when the future comfort of vision is at stake. An effect sufficient for all practical purposes may be obtained by three applications of a drop of a four-grain solution of the neutral sulphate. One of these applications should be at bedtime on the night preceding the examination; the others in the morning, at intervals of two hours, and the last of them two hours before the examination is commenced. If this method leaves some shred of accommodation remaining, the amount will not be sufficient to vitiate the conclusions which will be reached. In some instances it will be better to atropinise the eyes singly, allowing one to recover before the other is examined; but this is a matter which in astigmatism, as in other forms of ametropia, may depend solely upon the arrangements and the convenience of the patient.

The efficacy of the glasses, however accurately they may be prescribed, will depend upon the positions of their axes; since a position at right angles to the correct one will double the defect. Hence it is usual to make cylindrical spectacle lenses circular, so that any slight deviation from correct position may be rectified by turning them a little in the rings of the frame. In prescribing, the surgeon should not only specify the position of each axis in writing, but he should also use a diagram of a frame, and should draw a line across this diagram to show the position. When the spectacles are otherwise ready, the patient should himself give the lenses their final adjustment before they are fixed; and in this way the most precise accuracy may be attained.

Inasmuch as almost all eyes are to some extent astigmatic, it is manifest that the defective curvature must reach a certain degree before it calls for optical assistance. It may perhaps be assumed that a small amount of astigmatism is useful in giving to the eyes some amount of that quality which is called penetration in microscopic object-glasses; and that, if the curvatures of the chief meridians were identical, accurate vision would be too closely limited to objects lying in a single plane. According to Donders, astigmatism of less than a dioptric is seldom disturbing to vision; but there are great individual differences in this respect. As a general rule, we may parody the legal maxim, and may say, "*De minimis non curat oculus;*" but we shall nevertheless see, in treating of asthenopia, that under some circumstances even very small defects of refraction will require to be carefully estimated and corrected.

Religious Insanity in the United States.—Dr. Fisher, after relating (*Boston Medical Journal*, July 19) some cases of insanity which he regards as mainly produced by a recent revival at Boston, furnishes the result of an examination which he has made of the reports for 1876 of about sixty of the lunatic asylums of the United States. From these he finds that in the New England States 4·97 per cent. of the total cases are set down to religious excitement; 2·78 per cent. in the Middle States; 7·43 per cent. in the Southern States; and 8·37 per cent. in the Western States. The total number of cases dealt with was 36,983, of which 2144, or 5·79 per cent., were referred to religious excitement.

FORTY-FIFTH MEETING
OF THE
BRITISH MEDICAL ASSOCIATION,

HELD IN MANCHESTER, AUGUST 7, 8, 9, AND 10, 1877.

THE SECTION OF PHYSIOLOGY.

ABSTRACT OF THE OPENING ADDRESS.

By ARTHUR GAMGEE, M.D., F.R.S.,
Brackenbury Professor of Physiology in Owens College; President of the Section.

AN annual address, such as the one I have the honour to deliver to-day, affords a favourable opportunity, if not for casting a retrospect on all the work done during the year in our special department, at least of drawing attention to some of the more evident advances which have been made. I therefore purpose laying before you an account of some of the work which has been done of late, and which, I believe, is destined to leave its impress on science. Whilst the attention of scientific men generally has been devoted more keenly than ever before to those ferment actions which are associated with the life of minute organisms, our knowledge of the remarkable class of unorganised or unformed ferments has undergone, of late, very great development. "Unorganised" or "unformed" is the term applied to such ferments as those which occur in the animal body, to distinguish them from certain elementary organisms which, possessing the power of setting up certain decompositions (fermentations) in bodies with which they are in contact, are termed *organised ferments*. Unorganised ferments are chiefly distinguished from organised —(1) by the fact that they may be dissolved in certain menstrua without any impairment of their ferment action, thus the ferments of the animal body are probably without exception all soluble in glycerine and in water; (2) by the fact that their action is not prevented by many agents, such as chloroform and salicylic acid, which at once arrest the action of organised ferments. The ferments of this class which have been longest known to us as belonging to the animal body are ptyalin and pepsine—the former, the amylolytic ferment of the saliva; the latter, the proteolytic ferment of the gastric juice. With regard to the former, we know that its physiological importance is very secondary to that of the latter, in that it is absent from the saliva of the great majority of animals (its presence being, indeed, a rare exception); that fluid serving primarily mechanical functions, dissolving certain of the constituents of food, moistening the whole mass, and thus co-operating in a most important manner in the acts of gustation, mastication, and deglutition. With regard to the gastric jnice, it has long been known that its function is a purely chemical one, that it depends upon a ferment, pepsine, which, in the presence of dilute acids and at the temperature of the body, possesses the power of dissolving insoluble proteids, and converting them into bodies termed *peptones*, which, whilst not differing sensibly in chemical composition from the bodies whence they are derived, possess the power of diffusing readily through animal membranes—bodies which, being absorbed, are capable, as direct experiments have lately positively shown us, of being reconverted into the various proteids occurring in the tissues and organs of the body.

The researches of Corvisart, of Bernard, and of Kühne, showed that the gastric juice is not the only alimentary secretion possessed of proteolytic action, for the pancreatic gland secretes a fluid which is capable of acting on all the three chief groups of organic constituents of food—upon the proteids, the starches, and the fats—in virtue of three distinct ferments: one proteolytic, capable of converting proteids into peptones; one amylolytic, like ptyalin; and a third capable of decomposing fats into fatty acids and glycerine. The proteolytic action of the pancreas had been positively ascertained by Corvisart, but comparatively little importance was paid to it until the researches of Kühne showed that not only are the conditions of the activity of this ferment different from those of pepsine, but that the results of its activity differ also. Kühne showed that, when proteids are dissolved by the pancreatic juice, not only are peptones formed, but considerable quantities of leucine and tyrosine; these bodies, of which the former is closely related to the fatty acids, and the latter to the group of aromatic bodies, prove by their presence that not only is the action of the pancreatic juice upon certain proteids more powerful than that of the gastric juice, weight for weight, but that the former attacks the proteid molecule in a more profound manner. These facts are already old to science, but they have lately been added to in many particulars. First of all, Heidenhain has shown us that in the pancreas, as also in the salivary glands and stomach, there are structural differences to be observed which correspond with the various states of functional activity of these organs. During rest, the secretory cells of the pancreas enlarge, and there accumulates within them granular matter, which disappears when the gland enters into activity and the gland-cell shrinks. Further, he has pointed out that the secretory cell of the pancreas at the time of secretion does not contain ready-formed ferment, but a body which, under suitable circumstances, yields the ferment, and which he terms *zymogen*, ferment-generator. Heidenhain has shown that the zymogen yields the ferment when it is present in a watery solution, more rapidly still when it is treated with weak acids; he has studied more carefully than had ever been done before the conditions of the activity of the fully formed ferment, and has shown that alkalies are as essential to its activity as are acids to the activity of pepsine, a watery solution of sodium carbonate of 1 per cent. being as favourable to the activity of the proteolytic ferment of the pancreatic juice as is a watery solution of hydrochloric acid containing 0·2 per cent. to that of the proteolytic ferment of the stomach. To these discoveries, partly anatomical and partly chemical, of Heidenhain, Kühne has added others, however, which throw great light, not only on the functions of the pancreas in digestion, but likewise on the mutual relations of gastric juice, bile, and pancreatic juice. To the proteolytic ferment of the pancreas, Kühne applies the distinctive name of *trypsin* (presumedly derived from *θρύπτω ψω*, break up, crush). He has shown that trypsine differs from pepsine in that it appears to be proteid in nature. Its activity is increased by alkalies and alkaline fluids, such as the bile; but it is prevented by acid fluids. Trypsine has no power of digesting pepsine, but pepsine in acid solutions has the power of destroying trypsine. Here we have one important explanation of the function which the bile serves in digestion. The bile, as has long been known, helps to neutralise the acid chyme, and brings peptic digestion proper to a close; initiating, in this way, the conditions which are favourable to pancreatic digestion at the very time when this digestion should commence.

I shall leave the researches of Kühne without referring in detail to his views on the different action of pepsine and trypsine upon the proteid bodies, because these appear to me to be, to a certain extent, hypothetical, and shall now speak of the ferments of the intestinal juice. This fluid appears, by the researches of Thiry and others, to contain a ferment which possesses the power of dissolving certain of the proteids, as boiled fibrine; the ferment which is chiefly characteristic of it is, however, one which possesses in a singularly high degree the power of converting cane-sugar and milk-sugar into grape-sugar. This ferment, which had long been surmised to exist, has lately been re-investigated by Claude Bernard, who finds that it can be dissolved and precipitated by the reagents which dissolve and precipitate the other unorganised ferments of the body; to it he gives the name of the *inverting ferment* (ferment inversifi). Great light has thus lately been thrown upon those functions of the alimentary canal whereby proteids, starches, and sugars are modified. Is our knowledge concerning the digestion and absorption of fats progressing? It has long been known that both the bile and pancreatic juice possess the power of emulsionising fats, and, as I previously stated, it has also been known that the pancreatic juice possesses, to a certain extent, the power of splitting up fats into glycerine and fatty acids. The result of such a decomposition in the alkaline intestinal fluid would be the formation of soaps, which would aid by their presence the emulsionising of the remaining fat. That this decomposition of fat goes on to a large extent is scarcely probable, and it has always been considered one of the unsolved riddles of physiology how fat makes its way from the intestines into the lacteals. In a very thorough research on the anatomy of the intestinal canal, Dr. Herbert Watney appears to offer a solution. He believes that the finely divided, *i.e.*, emulsionised, fat makes its way into the interior of the villus by passing through the intercellular substance of the epithelium covering the villus.

Perhaps one of the most startling discoveries made in physiology of late years is that of the so-called *vision-purple*. It had been pointed out long ago by Heinrich Müller that the rods of the frog's retina are of a red colour, which, he thought, might be due to the imbibition of blood-colouring matter. Leydig afterwards again drew attention to the fact that the retina of the frog presents to the naked eye a lively red satiny gloss; and Max Schultze, in the second of his classical memoirs on the retina, makes the same observation for the retina of the owl and of the rat; stating, in the case of the latter, that it exhibits a strikingly distinct satin-lustre with a red glimmer. On November 23 last, Professor Du Bois Reymond presented to the Berlin Academy a communication from Professor Boll, of Rome, announcing what he then believed to be an absolutely new fact—viz., that the external layer of the retina possesses in all living animals a purple colour. During life, according to Boll, the peculiar colour of the retina is perpetually being destroyed by the light which penetrates the eye. Darkness, however, restores the colour, which vanishes for ever immediately after death. In this paper, Boll pointed out that the red colouration which the fundus of the eye exhibits when examined ophthalmoscopically does not depend upon the illumination of the choroidal vessels, but upon the proper colour of the retina—a conclusion which he afterwards modified, as being too sweeping. The wonderfully suggestive nature of Professor Boll's discovery led Professor Kühne, of Heidelberg, to repeat Boll's observations; and in doing so, whilst he confirmed the fundamental statement of Boll, he ascertained a large number of facts which added great interest to the discovery.

Kühne's observations were made on the retinæ of frogs and rabbits. In the first place, implicitly relying upon the statements of Boll, he examined, as soon as possible after death, the retinæ of animals which had been kept for some time in darkness. He soon found that the beautiful purple colour persists after death if the retina be not exposed to light; that the bleaching takes place so slowly in gas-light, that by its aid the retina can be prepared and the changes in its tint deliberately watched; that, when illuminated with monochromatic sodium light, the purple colour does not disappear in from twenty-four to twenty-eight hours, even though decomposition have set in. These first observations of Kühne on the vision-purple, as he terms it, whilst they showed that the disappearance of the colour is not, as Boll had asserted, a necessary concomitant of death, removed many of the difficulties which stood in the way of a careful investigation. Carrying out his preparations in a dark chamber illuminated by a sodium-flame, Kühne was able to discover the conditions necessary to the destruction of the vision-purple, as well as some facts relating to its restoration or renewal. As long as the purple retina is kept in the dark, or is illuminated only by yellow rays, it may be dried on a glass plate without the tint changing; the colour is not destroyed by strong solution of ammonia, by saturated solution of common salt, or by saturation in glycerine for twenty-four hours. On the other hand, a temperature of 100° Cent. destroys the colour; and alcohol, glacial acetic acid, and strong solution of sodium hydrate produce the same effect. It is not true, as Boll asserted, that the retina of the living eye exposed to ordinary daylight does not exhibit the vision-purple; for, on preparing the eyes of animals which had just been exposed to light as quickly as possible, in the chamber illuminated by sodium-light, Kühne found the retina to be of a beautiful purple. It is only when eyes are exposed for a considerable time to the direct action of the sun's rays, that a fading of the purple colour is perceived.

A most suggestive experiment now threw some light upon the circumstances which retard the decolorisation, and which restore the vision-purple. The two recently extirpated eyes of a frog were taken; from one the retina was removed, whilst an equatorial section was made through the other eye, so as to expose the retina, and still leave it *in situ*. Both preparations were exposed to diffuse daylight until the isolated retina had lost its purple colour. On now taking the other preparation into the yellow chamber, and removing the retina, Kühne found that its colour yet remained; it was *dark red*, but was bleached when exposed in its naked condition to daylight.

The most curious and remarkable of Kühne's discoveries consisted, however, in finding that, as long as the retinal epithelium is alive, it possesses the power of restoring the faded vision-purple. If an equatorial section be made through a recently extirpated eye, and a flap of the retina be lifted up from the underlying choroid to which the retinal epithelium adheres, and exposed to light, the purple colour of the flap will be destroyed, whilst the colour of the rest of the retina persists. If, however, the bleached portion of the flap be carefully replaced, so that it is again in contact with the inner surface of the choroid, complete restoration of the vision-purple occurs. This restoration is a function of the living choroid, or rather of the living retinal epithelium which adheres to it—*i.e.*, of the hexagonal pigment-cells which, until Max Schultze showed their true relations, were looked upon as part of the choroid; and it is independent of the black pigment which the retinal epithelium normally contains. As it is absolutely dependent upon the life of the structures which overlie the layers of rods and cones, it is natural that it should be observed to occur for a longer time after somatic death in the frog than in the rabbit.

The discoveries of Boll and Kühne must, as the latter remarked, have called back to the memory stories which we all have heard of images of things seen at the moment of death being left imprinted on the eye. After his first researches, Kühne endeavoured over and over again to observe on the retina of rabbits bleached spots corresponding to the images of external objects; but his endeavours failed. As Kühne remarks, and as all who have followed my accounts of his experiments will allow, in order to obtain an obvious picture, or, as he terms it, optogram, upon the retina, the effect of light would have to be so prolonged or so intense as to destroy the balance between the destruction of the vision-purple and the power of the retinal epithelium to restore it. If the image of a luminous object were to fall upon the retina at the time of death, and were maintained there until the death of the retinal epithelium, then a picture ought to be visible after death, appearing of a white colour with purple borders.

Kühne took a rabbit and fixed its head and one of its eyeballs at a distance of a metre and a half from an opening thirty metres square in a window-shutter. The head was covered for five minutes with a black cloth, and then exposed for three minutes to a somewhat cloudy midday sky. The animal was then instantly decapitated; the eyeball which had been exposed was rapidly extirpated by the aid of yellow light, then opened, and instantly plunged into a 5 per cent. solution of alum. Two minutes after death, the second eyeball, without removal from the head, was subjected to exactly the same processes as the first—viz., to a similar exposure to the same object, then extirpation, etc. On the following morning the milk-white and now toughened retinæ of both eyes were carefully isolated, separated from the optic nerve, and turned. They then exhibited, on a beautiful rose-red ground, a nearly square sharp image with sharply defined edges. The image on the first eye was somewhat roseate in hue, and less sharply defined than that on the second, which was perfectly white. The size of the images was somewhat greater than one square millimetre.

Since these most striking phenomena were described by Boll and Kühne, both these observers have pursued their inquiries, which have besides been confirmed by a number of independent inquirers. Kühne has studied with great care the chemical characters of the vision-purple, which, though exceedingly sensitive to light, is a body which resists very violent means of attack. From the yet living retina the vision-purple may be extracted by a colourless solution of crystallised bile, which then becomes of a beautiful purple colour, which is destroyed by light. The purple of dead retinæ cannot be extracted by such a solution; it has become insoluble. Indeed, such a retina may be extracted successively with solution of bile, with weak acetic acid; then be subjected to pancreatic digestion; be afterwards dried, treated with alcohol and with benzol; after drying, washed with concentrated solution of ammonia; and yet the vision-purple remains (mixed with neuro-keratin). It preserves its colour throughout all these operations, provided they are carried on in monochromatic yellow light; but exposure to white light bleaches it for ever.

What interpretation are we to give to these remarkable facts of Boll and Kühne, which teach us that the living retina contains a substance which, under the influence of light, undergoes constant changes, which vary in intensity according to the intensity and character of the luminous rays, and which teach us, moreover, that the internal epithelium is to be looked upon (to use Kühne's expression) as a purple generating gland?

They enable us to realise how probably light acts as a stimulus of the end-organs of the optic nerve, by inducing a chemical decomposition of matters connected with these end-

organs. Still, as has been most philosophically shown by Kühne, the vision-purple does not yet explain all the physical changes in the retina which are the precursors of luminous impressions, for the following reasons:—1. The cones of the retina possess no purple colour in the frog. 2. In the monkey Kühne has found that the fovea centralis is destitute of vision-purple: the same is, doubtless, true of man. 3. In some animals, as in snakes, the retina possesses only cones and no rods, and is therefore destitute of vision-purple.

We need no further facts than the one afforded by the absence of vision-purple in the fovea centralis, to prove to us that the vision-purple is not essential to the perception of light. Still, how interesting are the facts which I have brought under your notice, and how pregnant with thoughts and suggestions alike to the physiologist and the psychologist.

The interest which was aroused by the beautiful discoveries to which I have just directed your attention is scarcely greater than that which we have experienced in becoming acquainted with Engelmann's confirmation of the truth of Hermann's views on the "muscular current," and by the splendid investigation in which Hermann supports the position which he took up some years ago.

Let me remind those of my hearers who are not physiologically expert that, when any point in an artificial transverse section of a muscle is connected by means of non-polarisable electrodes to a galvanometer with any point on a natural or artificial longitudinal surface of the muscle, an electrical current passes through the galvanometer from the longitudinal to the transverse surface; in other words, the former is electrically positive in reference to the latter.

This so-called muscular current bears, in the case of voluntary muscles, a direct relation to the irritability of the muscle, and only lasts as long as the muscle remains irritable. Du Bois Reymond, to whom we owe all the methods of observing the electrical phenomena of the tissues, and to whom we owe, moreover, our knowledge of the laws which govern the muscular current, showed that, whenever the muscle passes from the state of rest into that of activity, there is a diminution of the intensity of the muscular current, technically known as its "negative variation."

Du Bois Reymond maintained that the tendinous end of a muscle bears the same electrical relations to its external longitudinal surface as an artificial transverse section, and he therefore called the tendon the natural transverse surface of the muscle. He himself admitted, however, that occasionally there is but a very feeble current to be observed passing between the tendinous and longitudinal surfaces; in some cases, indeed, the tendon being positive in reference to the natural longitudinal surface. To this condition Du Bois Reymond gave the name of the parelectronomic condition, and stated that it was observed most frequently in frogs which had been subjected to cold. I have not time to refer to the *molecular hypothesis* of Du Bois Reymond, by which he sought to explain both the normal muscular current and the parelectronomic condition, as these are well known to all.

Professor Hermann, however, some years ago, asserted that, *in a perfectly uninjured unskinned animal, the muscles which are in a state of rest are entirely free from electrical currents.* According to Hermann, muscles which have been removed from the body without any injury being inflicted upon them are the seat of feeble currents of very varying intensity and direction.

Any injury inflicted upon the muscle—as, for instance, the contact of the external surface of the frog's skin with it, or the tearing of muscular fibres,—at once sets up a muscular current by giving rise to an artificial transverse section.

Hermann's explanation of these phenomena is the following:—Muscle which is passing into a state of rigor (dying), or which is passing into the state of activity, is, in relation to living muscle at rest, with which it is brought into contact, electrically negative. The negativity of the artificial transverse section is to be explained by the section having at once initiated the process of rigor in the injured muscle-fibres.

I need scarcely refer to the animated discussion which has been proceeding for several years, and which has, on the part of the school of Du Bois Reymond, had for its object the demonstration of the truth of what may be termed the pre-existence theory of the muscular current, in opposition to the contact theory of Hermann, which, it appears to me, received its death-blow by the researches of Engelmann. This observer has shown that the absolutely uninjured heart is altogether currentless; moreover, that *not only the heart as a whole, but each individual muscle-cell contained in the heart, whilst in an uninjured state and at rest, is almost or quite free from electrical currents.*

The principal fact in Engelmann's most recent researches which merits attention is his discovery of the very rapid diminution of the electro-motive force of the current observed when a cross section through the base of the ventricle is in connexion with one electrode, and the apex of the heart with the other. Within five minutes, according to Engelmann, the electro-motive force sank to 64 per cent. of its original value; in fifteen minutes, to 32·9 per cent.; in one hour to 4·7 per cent.; in twenty-four hours, to 1·1 per cent. The extraordinary nature of this result will be better appreciated when we contrast the influence of time on the electro-motive force in the case of the sartorius of a frog. In one hour, the electro-motive force had sunk to 86·1 per cent. of the original; in twenty-four hours, to 43·6 per cent.; in forty-eight hours, to 30·8 per cent.; or, to summarise, the electro-motive force of the heart, through which a section dividing the base of the ventricle has been made, diminishes as much in ten minutes as that of the sartorius in twenty-four hours, the heart, after twenty-four hours, being practically currentless.

Now, these facts are to be taken in connexion with the undoubted fact that the heart preserves its irritability, *i.e.*, its vitality, for a singularly long period of time. How, then, are these facts to be explained? Engelmann has done so in the sense of Hermann's theory. If the heart may remain irritable and be currentless, then that relation between the electro-motive properties and the irritability of muscles, which formerly was maintained to exist, cannot hold.

The muscular substance of the heart differs from that of voluntary muscle chiefly in its being composed of cellular contractile elements, which are many hundred times shorter than the muscle-tubes of voluntary muscle. When a section is made through the heart-substance, the process of rigor or death is initiated in the muscular fibre-cells which are injured, and the section becomes negative in respect to any uninjured part of the heart's surface; the process of death does not, however, extend to neighbouring cells, it is confined to the cell first injured; when the latter is dead, we then have it behaving as an indifferent conductor. On the other hand, in the case of the muscle-tube, the process of rigor proceeds from one end to the other, being unarrested, until the whole is rigid and dead. Both physiological and anatomical facts support Englemann's beautiful explanation. For instance, microscopically, it may be shown that the cells adjacent to those which have died remain normal and contractile; again, a new section made parallel to the first one will, in the case of the heart of which the current, once strong, has become very weak, cause it to return to its original intensity—a result which does not occur with voluntary muscle.

And now we come to Hermann's great research, published only a few weeks since. The idea which served as the basis of this research was the following:—To prepare a muscle (the gastrocnemius) so as to injure it as little as possible, to place it in contact with non-polarisable electrodes, and to determine the electro-motive force of the current of the whole muscle; then, having compensated this, to inflict a sudden injury upon the tendinous end, and, after an interval, which could be varied at will, to determine again the electro-motive force of the muscle. Professor Hermann used in this research an instrument which he calls the "fall rheotome." A falling weight is made to inflict an injury upon the tendon of the gastrocnemius by rubbing a piece of fish-skin, and then, after an interval, which can be varied, to close a circuit between non-polarisable electrodes connected with the muscle and the galvanometer.

The long and interesting account must be read in the original in order to appreciate the value of the results, which may, however, shortly be stated as follows. When an injury is inflicted upon a muscle, or upon the tendon of a muscle, which is not the seat of electrical currents, or of which the electrical currents have been compensated, there is, as a result of the injury, developed a powerful muscular current; this does not set in at once, but requires at least one-four-hundredth of a second for its full development.

If those muscles when at rest are not, as was held by Du Bois Reymond, the seat of electrical currents, are there any changes in the electro-motive properties to be observed when muscle passes from the state of rest into that of activity? Certainly, as I previously stated, according to the contact

theory of Hermann, any part of a muscle which is passing into the state of activity is negative in reference to any other point in the same muscle which is at rest; and the uninjured muscle does show this negative deflection. In the case of uninjured gastrocnemius, it has been shown by T. Meyer, and fully confirmed by Hermann, that there is a double variation, portions of which become at first negative, and then positive.

The following numbers express the mean duration of the negative variation, and of the succeeding positive variation, deduced from fifteen experiments:—

Commencement of negative variation ...	0·0049 sec.	after excitation.
Change in direction of current	0·0098 ,,	,,
End of positive variation	0·0147 ,,	,,

We can quite conceive that some, who are inclined to disparage science, would be inclined to quote the changes in our views of the distinct relations of muscle as proving the uncertainty—nay, the unsatisfactory nature—of researches which have been conducted with the greatest care, and in which we have all placed the greatest reliance. But to the scientific man, who weighs the matter carefully, there will appear nothing in any sense disparaging either to the dignity of science on the one hand, or to the merit of the distinguished man who has hitherto done more than anyone else in the department of muscle- and nerve-electricity, if his views as to the pre-existence of the muscular current must now be abandoned. But for the facts which he discovered, but for the methods with which he enriched physiology, we can scarcely doubt that we should be much farther from the truth than at present. His facts, indeed, have nearly all been confirmed, though the interpretation of some appears to require some modification, in order to bring them into unison with more recent discoveries.

We have passed, or rather we are passing, through a period of great anxiety to English physiology. A popular clamour, unfortunately too well known to all of you, has imperilled the studies which we all have so greatly at heart. An Act of Parliament is now in force which, if interpreted in a spirit of hostility to science, might put a stop to these studies. But I trust that the spirit of the time, the spirit of justice too, which, we think, characterises our countrymen, will render such hostility impossible; and, relying upon the justice and enlightenment of the Minister of the Crown to whom the enormous responsibility of carrying out this Act has been entrusted, we venture to predict that the interests of science will not ultimately suffer.

Gentlemen, I cannot close this address without expressing the gratification and pride with which I see amongst us the eminent man who to-day honours us by his presence. In Carl Ludwig we see one of the three or four men who, more than all others, have helped to build up the present edifice of physiology; a man to whom those of our science will refer in ages yet to come as having, perhaps more than anyone else, introduced methods of precision into physiology, and, by numerous conquests in nearly all its departments, proved their utility. We welcome him amongst us, and beg to assure him that the influence of his teaching extends not only to every university of Germany, but even tous. All of us have, more or less directly, learned from him, and all of us are, I trust, inspired by his intense devotion to science, and would, at any rate, emulate, to the extent of their power, the example of the great head of the Leipzig Physiological School, who, in unselfishly contributing to win successes for his pupils, for the furtherance of the science which he loves, has seen the fullest realisation of his proudest hopes.

THE SECTION OF PSYCHOLOGY.

OPENING ADDRESS.

By JOHN CHARLES BUCKNILL, M.D., F.R.S.,
Late Lord Chancellor's Visitor; President of the Section.

CONFESSION: THE PHYSICIAN AND THE PRIEST.

Gentlemen,—This occasion seems opportune for speaking on a subject of great and general importance to us as specialists—namely, whether the customary practice of our specialty does not frequently tend to impair our usefulness, by limiting our field of observation and by narrowing our views of men and of society. Certainly, we are not unfrequently accused of the prejudices born of narrowness and one-sidedness; and quite recently I have heard it asserted by the highest and most revered authority among laymen, whose judgment upon us is as kindly as it is conscientious, that the power of certifying insanity ought not to be exclusively entrusted to those who have deeply studied the subject, because they would be most inclined to find half mankind of unsound mind. "I confess I should be very much alarmed," said Lord Shaftesbury to the Select Committee on the Lunacy Laws (Question 11,347), "if there were persons who kept themselves exclusively to that (giving certificates of lunacy) without knowing all the special circumstances which beset lunacy; all the social and ten thousand other circumstances; and all the eccentricities which are developed by men who are not mad, and who yet, under the discrimination of science, would be put down as being in the way of being mad."

There can be no doubt that all special employment leads to narrowness of mind, and that the learned professions suffer from this tendency most notably. This, indeed, was long ago pointed out by Archbishop Whateley in his work on "Rhetoric"; and there can be no doubt that there is a legist's narrowness, and a priest's narrowness, and a physician's narrowness. It will be very useful to ask ourselves whether, within the latter, there is not also a mental physician's narrowness, tending to explain natural varieties of character and natural courses of conduct upon the assumption of morbid deviations from an unknown standard of sanity. For, like the old king, who, when he heard of crime or misfortune among men, always asked "Who is she?" are we not somewhat disposed, in all human follies and miseries, to ask "What is the insanity?" and are we not often tempted to parody Carlyle's cynical description of this realm, as a fair country, containing thirty millions of men, mostly lunatics? If this criticism be too wide and general, it is surely not wholly without foundation, and may well be taken by us as a warning voice against a danger incident to our very peculiar calling in life; for, if you think of it, the study and care of men with diseased minds is a very peculiar calling, distinguishing us from all the rest of the world, which carries on all the business of life on the assumption that men are reasonable beings. Society rubs along, believing in the rule of reason as it does in the law of gravitation; and although we may enjoy vastly more credit than the levitating spiritualists, we scarcely stand on a less distinct foothold from the common faith which actuates the daily conduct of our fellow-men; and the greatest caution is needful that, as the companions of the insane, we do not become too much associated with them in their modes of thought. The learned author of the "History of Civilisation" maintained that the characters of men are developed from their objective surroundings, so that the men of the mountain, of the plain, of the forest or the desert, differ from each other in consequence of the great features of nature by which their character is fashioned, and which they reflect in mental and bodily peculiarities. This, no doubt, is in great measure true; but it is even a more weighty truth that the individual man reflects his fellow-men, and that man is the creature of his social surroundings, and the due consideration of this most important factor of mind is the great addition which Mr. Herbert Spencer and his followers have contributed to modern philosophy. Mind as subject and nature as object does not explain, as used to be said, the whole field of thought and things to be thought of, of feelings and things to be felt. There is a supplement to this: the minds of other men, the manifestations of which are objects, but which in themselves are not objects, but what Professor Clifford, with his keenest insight and appreciation, proposes to call ejects; and these minds of other men it is which really and effectually mould us to what we are. To be moulded by the best minds is the greatest happiness, to be fashioned by the worst is the greatest misfortune which a human being can endure. To be warped by the dishonesty or to be soiled by the impurity of other minds, is bad enough; but, if it be possible that the sound mind can be made to vibrate the discords of unreason by association with the unsound, that, indeed, would be a misery worse than any which the imagination of Dante dared to invent. And who shall say that it is not possible, and even probable? Nay, who shall say that it is not a dreadful fact, dimly revealed in the traditions of our specialty? It is not, however, from any complete fall, but of those touches of imperfection from that contagium of surroundings, the danger of which is imminent and perhaps unavoidable, against which I most desire to exhort you to employ the antiseptics of frequent recreation of mind and body, combined

with the tonics of sane companionship and sound-minded occupation and study. I wish to insist upon the great need of the mental physician to breathe much of the pure air of rational life, for the sake both of himself and of his patients; and of the greater need the more he is of a true mental physician, understanding incoherence and delusion, and sympathising with morbid feeling. If the oculist were to abide long in his dark room, he would soon be worth little as an oculist; and if there be one man more than another ought to be a man of the world, it is the physician who has the care of the insane; for if he allow himself to become ignorant of the outside world, he will be able to make no comparisons of the sane with the insane; and, therefore, liable to consider opinions and conduct morbid which are only strange, a danger of which I could give you amusing examples. An instance of it was, I think, given by Lord Shaftesbury, in certain physicians who considered a lady insane because she carried a small dagger in her dress; carrying such daggers at that time being a common freak of fashionable dressmaking, unknown to those innocent doctors. Other instances I have myself met with in men, who have been certified and treated as lunatics on account of certain habits which are unnatural and portentous to Englishmen, but which these miserable men had acquired in climes and countries where such habits are common, causing no abomination and little remark. Consequently, these denationalised Englishmen who had contracted them were simply vicious and not insane. Even among different classes of our own community, it is difficult for any man who has only observed the habits, opinions, and sentiments of the poor, the rude, and the uneducated, to appreciate and sympathise with those of the wealthy, the refined, and the cultured. The man who could blow hot and cold was not more strange to the Satyr, than the infinite diversity of human nature is to the man of limited education and narrow experience. Therefore, the man of wide culture and broad training must be best able to understand all kinds and conditions of insane people, and to compare them with all kinds and conditions of the sane; to appreciate vehement feeling and strange conduct which does not transgress the bounds of health; and to influence devious and morbid character of all kinds and wayward spirits of every variety; while the work of the narrow specialist must needs become ever more injurious to himself and ever less helpful to his patients.

But, if the psychologist can derive so much instruction and guidance for his own work from knowledge of the outside world, so also he can reflect light upon some of the most important, and yet the most obscure, problems of human life. If the physiology of mind be the key to its pathology, so also does this pathology illustrate mental physiology; and, if sociology strengthen the hand of the psychologist, the latter repays the debt by the aid which his special training and knowledge enables him to give in the investigation of great social questions.

It was said by Descartes that, "If it be possible to perfect mankind, the means of doing so will be found in the medical sciences." But, whether or not perfection be ever attained for a subject so vast and variable as mankind, human progress may at least be hoped for through the means indicated by this great philosopher; and, of all the medical sciences by which human progress towards perfection may be promoted, it would seem certain that the science which studies the greatest function of the human organism is the one from which aid and guidance in the march forward may most surely be expected. Men are too selfish and passionate to listen to our teachings, otherwise (not only from the cradle to the grave, but in regard to that obscure and awful time, weighted with fate, which precedes infant life) we could give counsel which, if followed, would prevent fools and madmen from being born into the world. The concepts of conception, treated with such pleasant ridicule in "Tristram Shandy," are weighty factors in the history of the race, and the right principles of sound-minded heredity, of healthy fecundity and fœtality (if I may coin a word), can only be acquired by means of the progressing study of neuro-physiology and neuro-pathology. The aid which the psychologist may hope in future times to lend the State in the great civic duty of building the brains of the young citizens has hitherto been scarcely considered except in the instructive and delightful book of my friend Dr. Edward Clark, of Boston, U.S. The psychologist has indeed been imperatively called upon to labour in those repairing docks, the schools for idiots, for deaf-mutes, and the blind; but in laying down the lines of new vessels he has never yet been consulted. Yet there is small doubt that we could give most valuable advice as to the better methods of ordinary education for healthy children so as to avoid the evils of physical and moral insanitation, of excessive or ill-directed brain-work, of ill-directed or neglected moral guidance, of onanism and athletism, of tunding and suicide. The psychological aspect of crime has not been so much neglected as that of education, and, apart from the important *rôle* played by specialists in courts of justice, the psychological study of the criminal mind has been earnestly pursued by Dr. Nicholson and other inquirers in a manner which promises at least to enlighten the law-making classes as to the genesis and real characteristics of the law-breaking classes. But whether our Society will ever have the courage to repress the generation of criminals is more than doubtful. Rather it would seem that society loses courage as it gains knowledge; and perhaps at some future time the curious spectacle may have to be regarded of a nation composed entirely of philanthropists and criminals, unless indeed it be a law of the race that from time to time the world must be reorganised by an energetic barbarism. Meanwhile the legislator, policeman, and judge, as well as the schoolmaster and the psychologist, are all working at the same task of the building or repairing of brains, and, if all these fellow-labourers could but recognise the fact that their common aim is the right direction of cerebral nutrition, the world would be spared much inanity both of counsel and action.

There is indeed another important calling between whose professional work and this work a great gulf is fixed; namely, the immeasurable difference between the supernatural and the natural. And yet the priests of some creeds make the singular mistake of illustrating their duties by comparing them to ours; nay, they go beyond comparison in declaring positively that sin is spiritual disease, and that they are physicians of the soul. It behoves us to look to this; for it cannot be said that the priest and the physician are very much alike, especially the priest. Comparisons are commensurate, and by as much as the priest is like the physician, by so much is the physician like the priest. If sin is disease, disease is sin; and if the priest is a physician, the physician is a priest. I desire punctiliously to guard myself, in the following remarks, from the expression of any theological opinion whatever, and especially from any opinion which may give offence to our most respected fellow-members who belong to the communion of the Roman Catholic Church. I believe they will be among the first to agree with me that the functions of the physician and those of the priest are essentially unlike, and that it is most desirable to avoid any misleading analogies between them. The Roman Catholic honestly expresses his belief that the functions of the priest are divine, and that confession is a sacrament ordained by God. That is a definite position which we can understand, and which in this place it would be improper to dispute. But within the Protestant Church of this country a very different position has been assumed, against which, I think, the medical profession will do well to protest. I well remember that at the meeting of this Association which was held at Torquay, the chancellor of the diocese presented himself as the ambassador of his bishop, with the proposal that priests should be admitted within the ranks of the medical profession, in order that they might practise medicine in conjunction with their clerical duties. I observe that a certain school or sect of divines within the State Church of this country are diligently employed in the dissemination of the doctrine that the priest is a physician; that sin is disease, and that the confession of sin to the priest is as natural and necessary as the communication of the causes, history, and symptoms of disease made by a patient to his medical adviser. If we allow this doctrine to pass unquestioned, there may perhaps be little danger that priests will really seek to practise as physicians; but there is a likelihood that the public estimate of the functions of the physician will be unsettled and confused, and that the avowal of the history and causes of disease will not escape from that suspicion and repugnance which, in this country, is so widely attached to the confession of sins to the priest. I have found the doctrine to which I refer expressed in many works of English divines. Often, no doubt, it is used oratorically as a mere metaphor, as by Bishop Hooker, who said that "priests are spiritual and ghostly physicians in the private particular case of diseased minds"; but of late, in that section of the English Church which mimics the Church of Rome, the doctrine seems to be definitely taught that sin is disease and the priest a physician: and, under cover of this doctrine, so-called patients or penitents

are exhorted to the confession of their symptoms or sins, in order that they may be cured and absolved. To establish this assertion, I shall only quote from one book, which, however, is the accepted manual of confession among this mimic priesthood.

The author of "The Priest in Absolution" speaks of the subject of his manual as "this subject of spiritual pathology." He says: "The qualification of a priest binds him to the acquisition of sound morality as a judge, and of great skill as a physician" (part 1, page 4). He speaks of "the duty which devolves upon a priest, in his character of a physician, to probe the spiritual wounds of his patients" (page 5). "The priest must have the knowledge of a physician, in order to direct the moral knowledge of which it is the strength" (page 10). "For the priest should as a judge punish offences, but as a physician heal the sick so far as he can prevent a relapse" (page 41). "He [the priest] is nevertheless, as a physician, obliged to warn them and rebuke them according to their needs" (page 49). In the second part, he says: "A surgeon may do many things else indecent for the sake of curing disease; a confessor may study cases of conscience" (page 20). In his directions "How to deal with shame-faced penitents," he says: "The priest should kindly remind them that they do not shrink from revealing their bodily diseases to friends and physicians; and that, as the soul is of more consequence than the body, they should not shrink from disclosing the diseases of the soul to its physicians" (page 189). He says that it is sometimes the priest's duty to delay absolution, "advising him [the penitent or patient] to come back on a fixed day within eight or ten days, adding that any relapse within that period should cause no discouragement, but rather urge him all the more to resort to the physician" (page 195). "If absolution be delayed, etc., it is good for the patient who is very ill to see his doctor frequently" (page 235). "A priest is said to have cured one patient by telling him to come to him for confession as soon as he had fallen into sin, and not to wait for a second fall. By absolving him and giving him the same penance, he was cured in a few months" (page 236). "We must distinguish between what is a proper disposition to receive absolution and what is its fruit; else we may act like doctors who content themselves with purges without ordering the supports needful to sustain the effects thereof, and so kill their patient" (page 237). "Like medicines after which the patient seems to be better, though the fever recur afterwards, so with confession, which, though it blots out all sins of which a person accuses himself with sincere grief, does not remove all subsequent evils" (page 240). "Different people require different treatment. The phlegmatic, the melancholy, the choleric, and the sanguine, must not be dealt with in the same manner" (page 268). This work, "The Priest in Absolution," has been severely criticised both in Parliament and the press on account of its obscenities; and it has been defended from the pulpit of this very city by the Rev. Knox Little, from whose sermon I quote a passage from the *Pall-mall Gazette* which directly affects us. "There are," says this priest, "many books of medical science just as bad; but they are not flung into society from the House of Peers, nor are their authors called corrupters of society." I am not aware whether the books of medical science referred to by this reverend gentleman are the poisonous pamphlets of the manly-vigour quacks; but with regard to books of real medical science his comparison invites the obvious retort that the badness or goodness of anything is relative; and that the shrewd saying of Lord Palmerston, that dirt is matter in the wrong place, applies with undiminished force to thoughts and words, so that language which may be wise and good and pure in a medical treatise may be dirt in its worst sense elsewhere. Let us pass, however, this comparison with our books, to follow that drawn with ourselves. Is the priest a physician? Is sin disease? Is sacramental confession the avowal of symptoms, penance treatment, and absolution cure? In the interests of society and our profession, I must emphatically deny not only the identity of these things, but that there is any real analogy between them. I assert that the physician is a naturalist, the priest a super-naturalist; and that no sophistry can bridge the abyss between them. The physician works by natural means upon natural conditions to produce natural effects within and upon the bodily organisation. In the pursuit of his calling, he only differs from other men by the possession of superior knowledge and skill acquired by labour. He is the successor of Hippocrates and Harvey, but only in the same sense that Whitworth and the village blacksmith are successors of Tubal Cain. He pretends to no supernatural power acquired by mystic ceremonial, and he is content to do that which any other human being can do who has taken the trouble to learn his art. That art is the correction of deviations in the organism of men's bodies, which disturb the ease with which it works in health; that is to say, the removal of bodily disease, which in itself has no necessary connexion with disobedience of God's laws, and is no more sin than health is virtue. To the physician's idea of disease, an organisation—that is to say, a complication of parts—is essential, and is diametrically opposed to the theologian's idea of sin as an affection of the immaterial soul, which has no parts.

For the removal of disease, the physician employs the forces of nature aided by abstention from its causes. Beyond such curative abstention, he asks for no repentance and he imposes no penance. Nor does he postpone his beneficent action as we have heard that the priest is instructed to do, telling his patient to come again in eight or ten days; nor when he has alleviated disease, or even removed it, does he perform any incantation or ceremonious declaration of health. There is absolutely nothing in medical practice corresponding to absolution, which is the very essence and acme of the priest's proceedings. With this profound difference between the function of the priest and that of the physician, it would, indeed, be surprising if we found that the questioning of a penitent, which is called confession, bore any real resemblance to the questioning of a patient as to the history and symptoms of disease. The first obvious difference is that the physician does not assume that all men are diseased, needing his recurring aid and imprimatur of recovery; while all men are said or known to be sinners whose peril can only be averted by periodical confession and absolution. The second is that in a vast number of instances the doctor's patient makes no confession whatever, the physician seeing, or hearing, or feeling the symptoms, and proceeding with his remedies; while without confession the penitent receives no priestly benefit and no taste of absolution. A third difference is, that the confessions of patients to their medical men are purely voluntary, and the omission of them in no way penal; whereas absolution from priestly confession is in itself an offence only to be condoned by special repentance and penance. The physician looks upon confession as a painful necessity, and avoids it to the utmost of his power; he recognises the danger which lurks in spoken thought reacting upon bodily function; his experience telling him that the surest method of avoiding many symptoms of disease is not to think of them, and that the best means of escape from the thought of them is to avoid speaking of them. Therefore, the physician will often endeavour to obtain the history of those diseases of the nervous system which most seem to justify confession from a near relative rather than from the patient himself; or if from the patient himself, and the history having once been obtained, he will discourage its repetition, and thus he will avoid incurring the mischief of that hypochondriasis of sentiment to which patients and penitents are alike liable.

> "Whatever hypocrites austerely talk
> Of purity, and peace, and innocence,
> Defaming as impure what God declares
> Pure, and commands to some, leaves free to all,"

the physician believes sexual pleasure within rational and legal bounds to be wholesome and right, but that to think of it unseasonably, and far more to converse about it, leads to excess, debility, and disease; and, therefore, he is most chary of encouraging the confidences of his patients on this protean subject of priestly confession.

Finally, the physician restricts his attention to the present condition of his patient, and whatever inquiries he may make as to the past history of the case are directed solely to such facts as bear upon the present. The attention of the priestly confessor, on the other hand, is directed mainly to past time, when the soul of his penitent was in a sinful state, but which has already changed to a condition of repentance, or he would not be at the confessional. I have little more to add, except that the aim and results of the priest's and physician's activity are as different—nay, as antagonistic—as possible. The guidance of the physician, and especially of the mental physician, is towards reticence and restfulness, and the repression of that self-examination which leads to hyperæsthesia of sentiment. The guidance of the confessor, if we still follow "The Priest in Absolution," is towards what he calls "*supernatural* recollection," and three kinds of union with the Lord, namely—1. Simple union; 2. The union of *espousals*, which is

preceded by *substantial dryness*. 3. The union of *consummation*, called *spiritual marriage*. In these unions there are three degrees, those of *Ecstacy*, *Ravishment*, and *Spiritual Flight*. "In the simple union the soul's powers are suspended, but not the body's." "In Ecstasy, the body is lost; one sees not, hears not, feels not." "In Ravishment, the soul is carried away suddenly and violently." "In Spiritual Flight, the soul seems carried out of the body, and Ecstasy and Ravishment are included" (page 319). I think that now, if not before, mental physicians will be disposed to take a lively interest in the 700 clergymen of our State Church who are the believers and followers of this "Priest in Absolution."

I have only one word further to say, namely, that however the above remarks may apply to general physicians, they apply still more emphatically to us as mental physicians, seeing that the peculiarities of our specialty compel us, far more than our brethren, to inquire into the state of men's minds, and into the hidden circumstances and conditions which lead to them. The symptoms of the diseases with which we deal being far less obvious to the senses than the symptoms of other diseases, we are correspondingly compelled to occupy a position which carries with it a greater danger that we shall be compared with spiritual confessors, and which needs the greater caution that we should walk with prudence and circumspection in the well-trod paths of medical reticence and forbearance.

ORIGINAL COMMUNICATIONS.

REMARKS ON

UNUSUAL SLOWNESS OF THE PULSE,

FOUNDED UPON A CASE ILLUSTRATING THAT FORM OF DISEASE.

By JAMES RUSSELL, M.D., F.R.C.P.

(*Concluded from page* 60.)

WHATEVER be the value attached to the evidence afforded by the large cardiac element in the cases on which I am commenting, it must be added that there were at least six in which nothing occurred in the history of the case to prove that the heart was otherwise than healthy.

Now, with reference to such cases as these, and indeed to some others in which valvular disease was present, the question has arisen as to the probability of some condition of the nervous centres, especially of the cervical cord or medulla oblongata, or of the pneumogastric nerves having constituted the agency through which the frequency of the heart's action had been reduced.

The well-known influence of certain poisons, such as digitalis —and, according to Dr. Brunton, casca (*British Medical Journal*, vol. i. 1877)—to inhibit the action of the heart, lends countenance to the suggestion. A curious case of the kind, involving doubtless some idiosyncrasy in the patient, was mentioned by Mr. Times at a meeting of the Harveian Society (*Medical Times and Gazette*, vol. ii. 1864, page 607), in which vinum colchici in five-minim doses reduced the patient's pulse to 20, the natural frequency returning after the withdrawal of the medicine. Again, the well-known effect of depressed cerebral power, but especially of certain injuries to the cervical cord, affords further support to the hypothesis of direct nervous influence in the cases in question. Sir Benjamin Brodie, in his paper on Injuries to the Brain, in the *Medico-Chirurgical Transactions*, mentions a case of compression of the brain in which the pulse was reduced to 40; and Mr. Hutchinson (*London Hospital Reports*, vol. iii., page 365) notices an instance of reduction of the pulse to 48 after an injury to the cervical spine. But one remark appears to be applicable to the different instances of slowing of the pulse which I have just quoted: that the inhibitory influences, to which analogy leads us to attribute the retardation of the heart's action, is of very temporary duration; hence, whilst they may serve to account for the production of slowness when induced suddenly, and existing but for a short time, the analogy fails in affording a reply to the question when it relates to cases in which the same condition has been permanent or has been maintained for a considerable period, especially in the absence of any evidence of disease in the nervous centres.

Still more does the analogy fail in relation to the instances —of which I have noticed several at the beginning of this paper—in which the pulse has been long preternaturally slow, without the presence of evidence of any disease whatever in the individual who manifested the peculiarity; in such cases it would seem impossible to refer the condition of the pulse to any other circumstance than to some change in the special endowment of the heart itself.

But probably the strongest argument in favour of supposed nervous influence as having been specially concerned in these cases is derived from the peculiar attacks, of very sudden character and brief duration, which appear to occur in the majority of the reported instances of extreme slowness of the pulse of morbid character. They have, indeed, been present in twenty-nine at least out of my thirty-eight cases—probably in a larger proportion had full details been given in all.

In a considerable number it was the occurrence of these fits which first drew attention to the state of the circulation. In many of the cases they have occurred frequently; in two, at least, even thirty or forty times in a day; sometimes they have been suspended for some time, even for many months, again to return. One of the earliest occasions on which this association was made the subject of comment was the often quoted case by Mr. Holberton, in which a change connected with the medulla oblongata had occurred, as reported already. The author's conclusion, connecting the slowness of pulse with the state of the medulla oblongata, was disputed at the time by high authorities; and Dr. Peacock adds the just remark that instances of remarkable compression of the medulla oblongata have occurred without the pulse becoming slow.

M. Charcot, in one of his admirable lectures ("Sur les Maladies du Système Nerveux," 2me série, page 137), when speaking of the consequences of gradual compression of the spinal cord, specially dwells upon permanent retardation of the pulse as constituting one of the most interesting, though least remarked, circumstances in the symptomatology of certain lesions of the cervical spine. He clearly and succinctly reviews the whole subject of slowing of the pulse, noticing the symptoms in connexion with fracture of the cervical vertebræ, especially of the fifth and sixth, adding, however, that, as a rule, the slowness is essentially transitory. But in continuation he quotes a case from Rosenthal of a child injured in the region of the sixth cervical vertebra, in whom, besides dilatation of the pupil, the pulsations of the heart oscillated between fifty-six and forty-eight per minute during four weeks, at the end of which period a complete cure had been effected.

He then makes the inquiry whether it be not very probable that the phenomenon of a permanent slow pulse may not be observed, with all its consequences, in certain circumstances after irritative lesions of the cervical cord, even irrespective of injury having been inflicted. He observes that beyond traumatic lesions of the cord, "le pouls lent," in the opinion of the few authors who have studied this condition, is only observed in connexion with certain diseases of the heart; and he adds that he has three times observed this symptom in its most marked form, lasting through several years, in old men at the Salpétrière, in whom the heart was found perfectly healthy after death, except for certain customary changes belonging to the period of life. A fourth case is also quoted in a note. With reference, however, to the main question, the remark which I have made already, in relation to the large majority of the cases I have quoted, applies to these cases also—viz., that there does not appear to have been any evidence of disease of the nervous centres; and it may be added that the age of the patients, with the presence of senile changes in the heart itself, directs attention to that organ as the more probable seat of the lesion causing the slow pulse, in the absence of any evidence to the contrary. M. Charcot candidly states that anatomical investigations which he had undertaken with reference to this subject had been fruitless in results.

In a note, M. Charcot refers to an observation on slowing of the pulse during diphtheritic paralysis, made by Dr. Greenhow at a meeting of the Clinical Society. Dr. Greenhow says (*Transactions*, 1872, page 192)—"The slowness which set in about the seventh day of the illness, when the throat affection was subsiding, is another symptom which has been observed in many cases; and in several of these I have seen the pulse has become slower and slower from day to day, until at length the patient has died, apparently from failure of the heart's action." The nature of diphtheritic paralysis is at present too little understood to admit of a safe analogy being drawn from its phenomena; it may, however, be observed that in diphtheria we have to do with an altered condition of blood, which may exert its influence directly upon

the cardiac fibre or upon the cardiac ganglia. Moreover, late observations have tended to suggest that the changes in the nerve-tissue commence at the periphery; nor must it be forgotten that, in by far the majority of cases of diphtheria, there is no paralysis, yet that the liability to death from failure of the heart may be equally pronounced.

It is unnecessary to remark that attacks, not only of syncope, but also partaking more or less of what is termed the epileptic character, occur in connexion with cardiac failure alone. In cases of degeneration of the heart we find mention, not only of apoplectic and of comatose attacks, and of attacks of syncope, but also of convulsive movement, of tongue-biting, and even of actual epileptic fits, with lividity.

In one of the foregoing cases of degeneration an aura was present; a lump passed up the right side of the neck into the head, and there exploded, the patient becoming stupefied and occasionally biting his tongue. Looking at the cases I have collected, there is certainly a greater diversity in the character of the attacks in those instances not of degeneration, with or without cardiac symptoms, as compared with those in which degeneration of the heart was present; but although, so far as the limited number admit of a judgment, there is a larger admixture of questionable, or of unquestionable, epileptic seizures, yet, taking the majority, the group has a very close resemblance, so far as the fits are concerned, to that composed of cases of degeneration pure and simple. M. Charcot's description of the attacks is very succinct and accurate:—"Sometimes they present themselves with all the characters of syncope; sometimes they participate in the symptoms of syncope, and of the apoplectic condition; lastly, there are cases in which epileptiform movements are superadded, especially marked in the face, with discoloration of the face, foaming at the mouth, etc."—(Page 140.)

With regard to the special conditions under which these sudden attacks occur, there is nothing in the phenomena they present, nor in the analogy with other forms of disease, to forbid the supposition that they themselves may be sometimes produced by sudden inhibition of the heart's action; whether or not we accept a similar explanation for the condition of the pulse with which they are connected. On the other hand, the hypothesis which connects the slowness of pulse with an altered condition of the irritability of the heart, would also intimate that the heart itself was morbidly subject to any sudden influence exerted upon it through inhibition, whether directly or by means of reflex action propagated from the periphery. This I believe to have happened in the case at present under my own observation. The patient did not regard himself as ill until he became subject to faints four months before I saw him, although his pulse was ascertained by a medical man to be remarkably slow seven or eight years before. During that time he worked as an engineer without any trouble and without believing himself ill. The faints were coincident with the occurrence of epigastric pain (from which he has suffered during the whole time of his attendance, now eighteen months), the nature of which is quite inexplicable. A certain form of this pain, beginning under the edge of the right ribs, and passing towards the apex of the heart, was particularly dreaded by the patient, from its being the certain precursor of a faint, though a large proportion of the faints took place without the occurrence of any symptom sensible to the patient. In this patient, as in some others, suspension of the heart's action coincided with the commencement of the fit. In Mr. Holberton's case, again, the fits were more especially induced by costiveness, by disorder of the stomach, or by gout. A case was briefly described by Dr. Addison, in which it would appear that the slowness of the pulse occurred only in paroxysms together with epileptic symptoms. The patient was subject to a kind of epileptic fit in which the pulse was only 23 or 24; it then "gradually acquired number until it reached 68 or 70, when it would become perfectly still, and in a very short time the convulsive fit came on" (*Lancet*, vol. i., 1840-41, page 892). Here it would be allowable to suspect an inhibitory influence to have produced the entire group of symptoms.

I conclude my notice of the cases I have collected with briefly detailing the particulars of another, which differed from the general type, and, like the one just described, may have been occasioned by exceptional circumstances. It is also one of Mr. Mayo's cases. The patient had been much lowered in consequence of mismanagement during illness, but had recovered, and had remained well for a year; his pulse being 72. He then had suddenly in his chest a sensation of something turning over, and his pulse was found at 30, stimulants having no influence in increasing its frequency. On the third evening, after vomiting, the uneasy sensation passed off, and the pulse regained its normal standard. A similar occurrence took place six months afterwards, on his rising one day from bed, and three or four weeks elapsed before the patient recovered; he then felt all at once that he was well, and his pulse beat at 68. Again, a year afterwards, slowness of pulse recurred one evening after exposure to fatigue, and the pulse remained slow, sometimes falling to 22 at the date of the report. The probable explanation of this singular series of phenomena was that the circumstances at the beginning of his illness had produced a permanent change in the condition of the heart's fibre, which had left it open to be acted upon by accidental influences of a depressing or of an inhibitory nature.

Although the foregoing observations do not afford demonstrative evidence in favour of any theory to explain the slowness of the pulse to which they have related, they yet, I think, afford strong presumption on the side of the hypothesis which assigns to the heart itself the seat of the change, be it what it may, on which the peculiarity of the pulse depends. The prominence in the histories of the cardiac element, as opposed to the deficiency of any evidence in favour of disease of the nervous centres, strongly supports this conclusion, which is further strengthened by the analogy specially derived from the effect upon the pulse of diseases tending to induce degeneration of the heart's fibre, and is not inconsistent with the presence of such nervous symptoms as have been reported. This statement by no means excludes the theory of nervous influence as being operative in certain exceptional cases, in which the change in the pulse is of temporary duration, and is accompanied by symptoms of depressed circulating power; nor does it refuse to accept nervous influence as being concerned in the production of certain attacks which occur in the course of many cases. As to the precise nature of the change in the heart, it does not appear to be indicated by any specific organic disease, although allied with several, and chiefly, if not entirely (so far as anatomical evidence goes), with changes of a degenerative character. It seems capable of being induced under certain conditions by circumstances which have a direct tendency to depress the nutritive power of the heart.

Case.—The principal particulars of the case which has given occasion to these remarks have been already stated. The patient's age was thirty-eight when admitted to the Birmingham General Hospital, April 13, 1876. As already stated, he was aware of slowness of pulse for seven or eight years, but was not conscious of suffering in consequence from any incapacity. It was only at Christmas, 1875, that he applied to Dr. Parkes on account of the faint attacks, which began to occur about that time at the rate of two or three in the day, but increased in frequency until, soon after admission, they were sometimes computed at fifty or sixty in the day. Further observation of the patient's symptoms taught us that these faints were attended with momentary insensibility, followed by immediate return of consciousness. In some of the fits the eyes were staring, the face somewhat flushed; in others the face was unchanged, the patient appearing as if asleep. The attacks took place whether he were recumbent or erect: they were preceded by a kind of numbness. The patient believed that brandy lessened the liability to their occurrence.

About the same time with these fits he began to suffer from pain across the epigastrium, sometimes passing up each side of the sternum, sometimes lying under the edge of the ribs on the right side, and once described as starting from the region of the gall-bladder. The pain occurred generally quite irrespective of food, sometimes relieved by the presence of food in the stomach. There was neither sickness nor pyrosis; sometimes an acid taste concurred with the pain. The saliva was found acid on some occasions, on others neutral. The pain has continued unexplained to the present time. Bismuth and potass, with opium, was the only medicine which afforded any relief, and that for a time only. I have mentioned that this pain when occurring under the right ribs preluded a faint; at other times before a fit he experienced an indescribable feeling at the epigastrium, as though vomiting would relieve him, and sometimes after a fit a sense of something moving in the epigastrium.

The pulse through the eighteen months which have elapsed has varied little from 32; taken for seventy days in succession, with one interval (for thirty-two of these days night and morning), it was twice at 24, once at 19, twice at 26, ten

times at 28, but it more than once was found at 20 after a faint. Nine times only did it exceed 34, once rising to 43.

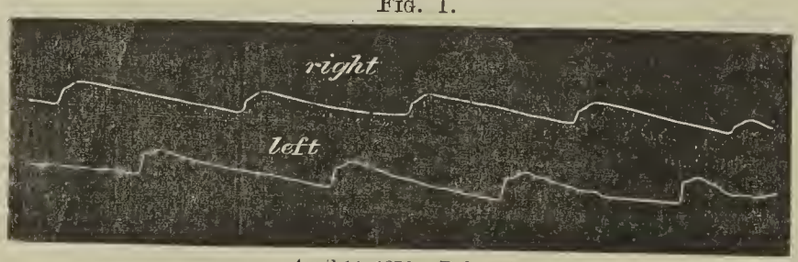
The rate was not affected by exercise, nor was it increased by bending down so as to bring the head near the ground. Respiration, taken night and morning for twenty-one days, was very constant at 20.

The accompanying tracings indicate sufficiently the character of the pulse. I regret I had no means of testing the force required to extinguish it; its resisting power was low. As regards the physical signs, on one occasion only, the pulse being 22 to 26, a second faint beat was heard after each distinct beat. This was never heard again, but still, to the eye, there is a kind of reduplication of the apex impulse, to which no sound corresponds. A loud bruit follows the first sound, heard most loudly in the lower half of the sternum below the level of the fourth cartilage, but also up the course of the aorta and in the carotids; it is distinct at the apex, faint in the lateral and posterior regions. Both cardiac sounds are faint; the impulse is feeble, dulness not extended.

Temperature at admission, taken in the axilla, was 98° to 98·4°. At a later period, taken in the cheeks, on three occasions it was—right cheek, 97·4°, 97·8°, and 98·4° respectively; left cheek, 97·8°, 98°, and 97·5°. Once, during a feverish attack, attended with profuse sweating, the temperature attained 103° in the morning, being 101° the same evening, and on the third morning afterwards reaching 98° again. The fundus oculi was quite normal. The pupils were below the average size, but dilated freely under atropine. When the ciliary muscle was paralysed, Mr. Priestley Smith discovered a high degree of hypermetropia. For the rest, the man's health was fairly good; his nutrition moderate; face fairly coloured; he was markedly indisposed for exertion, and much wanting in physical and mental energy; there was no œdema; his urine was normal. He had no headache; lately he has found himself disposed to keep near a wall, but he has no positive giddiness. He does not suffer from cold.

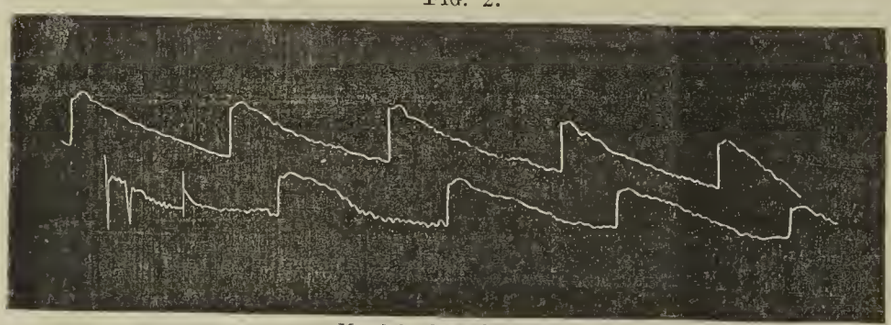
No cause for the illness can be discovered. His family history is healthy; there is absence of all nervous disease. He has been temperate, and active in his habits; has not been exposed to anxiety; nor has he committed sexual excesses, nor suffered from emissions. He has not lost sexual passion.

Fig. 1.



April 14, 1876.—Pulse 34.

Fig. 2.



March 3, 1877.—Pulse 36.

All treatment employed was utterly fruitless. Digitalis not only failed, but produced marked uneasiness. I regret not to have had a tracing made at the time of the failure. Belladonna, given till vision was affected, equally failed in influencing either the pulse, the frequency of the occurrence of the fits, or the epigastric pain. Bromide fared no better. I tried phosphorised capsules fully, rising to the rate of six a day. The continuous current along the region of the cord and between the region of the medulla oblongata and that of the heart's apex gave no result; with sixty cells from the Muirhead battery the pulse-rate was unchanged; this remedy had a very full trial, but without effecting any improvement. He went through the various tonics, steel and strychnine in particular; cod-liver oil could not be taken. The total result is, that having been in the hospital for four months, without improvement, he went to the Convalescent Institution, and, having been there five weeks, was able to walk five or six miles. He has since, however, declined in vigour, and still attends, with little encouragement to himself or his doctor.

Note.—Since the former part of my paper appeared, my friend Mr. Crompton has reminded me that the late Mr. Hodgson, who suffered from cardiac degeneration, had a pulse of 40, and that he referred the diminution in frequency to overwork in connexion with an important public office which he held. Mr. Crompton has also mentioned to me the case of a patient of his own who has had a notably slow pulse for many years, but is, and has long been, an enthusiastic salmon-fisher and sportsman. It is an interesting fact that the pulse of this gentleman's son, on one occasion when accidentally felt, was found remarkably slow. He is now in Australia.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

HEAD INJURIES.

UNIVERSITY COLLEGE HOSPITAL.

Case 1.—*Depressed Fracture of the Skull—Meningitis on the Tenth Day—Recovery in Twenty-five Days.*

(Under the care of Mr. BERKELEY HILL.)

[Reported by Frank Davies, F.R.C.S., House-Surgeon.]

Alfred ——, aged five, was admitted into University College Hospital on February 21, with a history of having fallen off a horse on to some rough pitching-stones.

On Admission to the hospital, half an hour after the accident, he was conscious, but in a drowsy condition; answering questions put to him, but doing so in a peevish, irritable manner, flexing the upper extremities, and drawing up his legs, while he querulously asked to be let alone. His face was pale; his eyelids were half-closed. The surface of the body was cold. There was no motor or sensory paralysis of either limbs, nor any irregularity about the angles of the mouth. The pupils were moderately contracted, but contracted still more on exposure to light. There was no sub-conjunctival hæmorrhage. His pulse was 82 per minute, very small, weak, and markedly irregular, intermitting about every five beats; his respiration was 27, sighing in character. He had not vomited. On examining the head, a soft, fluctuating prominence was felt over the left parietal region, and in the centre of this a most distinct depression of the skull. This appeared to be one-eighth of an inch deep, and extended in a direction horizontally backwards for one inch and a quarter. There was no bleeding from the mouth, ears, or nose, nor any other injury elsewhere. The little patient was put to bed, and ordered milk diet only. During the day his pulse varied between 100 and 108; but by 7.30 p.m. it had fallen to 88. He slept a great deal, and when awaked up to take milk he rapidly dropped off again. His breathing was quiet, not stertorous, while he was asleep.

For the next few days the patient continued much in the same condition, his temperature being normal, and pulse varying from 70 to 90.

On the 26th, patient appeared much better, laughing and noting all that was going on in the ward. The swelling had nearly all gone, and allowed of the fracture being more clearly defined. He was calling for food, which it was not deemed advisable for him to have. His bowels being constipated, he was ordered by Mr. Hill half a drachm of compound jalap powder; and this not acting, it was followed up by one teaspoonful of castor oil, with good effects. His temperature

was normal, and his pulse had now risen to 120. He continued to improve until March 1, but was not allowed to get out of bed.

On the morning of March 1 it was found that the patient had passed a restless night and had been sick twice. He complained of severe pain in his head, and pointed with his hand to the left side to indicate the point where "it hurt." The swelling at this part was not increased, neither was there any local heat or tenderness. There was great intolerance of light, the child keeping the lids forcibly closed, and struggling freely when any attempt was made to open them. His pupils were moderately dilated, the left more so than the right; both reacted to light. He lay on his side curled up in a state of general flexion, and was very irritable when interfered with. Abdominal walls not retracted, nor any twitching of muscles generally. His temperature had risen to 101°, and his skin was dry and hot; pulse 120; respirations 36; bowels constipated. Mr. Hill ordered five grains of calomel with half a drachm of compound jalap powder immediately, and an ice-bag to his head.

For the next few days the child's condition continued much the same, he being drowsy, and complaining of great pain in his head, the intolerance of light also persisting. His temperature varied from 102° to 99°, and his pulse fell to 64. Ice-bag continued, and one drachm of the compound jalap powder given.

On the afternoon of the 6th the child appeared very much depressed, his skin being cold and pulse only 52, weak and irregular. Mr. Hill ordered the ice-bag to be discontinued.

The next few days there was no change of importance, further than that the child's pulse rose to 70 and 100. On the 10th, however, he was very much better, the intolerance of light having disappeared, and the child being quite cheerful, clamouring for food. The pain had gone from his head, his temperature had fallen to normal, and pulse risen to 100, regular in beat and rhythm. From this date up to the time he left the hospital he continued to improve, and on March 18, when he left, he was quite well, though his parents were warned to keep him very quiet for some weeks. Later on he was brought as an out-patient, but was quite well when last seen.

LONDON HOSPITAL.

(Under the care of Mr. RIVINGTON.)

Case 2.—Compound Fracture of the Skull—Depression without Symptoms—Convulsions on the Fifteenth Day—Secondary Removal of Bone—Death.

John C., fifty-two, a strong, powerful-looking man, and a beer-drinker, was admitted about midnight on November 23, 1872, with a lacerated forehead. There was a wound an inch in length about an inch above the outer part of the left eyebrow. On inserting the finger, Mr. Cooke, the House-Surgeon, could feel a broad fissure in the bone, about an inch long and nearly a quarter of an inch broad; it appeared to be a fracture of the external table only. No loose fragments were to be felt, and no depressed bone was detected by Mr. Cooke and others. The patient, who was drunk on admission, subsequently stated that he was struck by a pint pewter pot. He did not become insensible or fall. The wound bled very much.

November 24.—No bad symptom whatever. Temperature 97·9°; pulse 56; respirations 28. He was seen by Mr. Rivington, who considered the question of trephining him in order to ascertain the state of the internal table. The patient, however, was so well, and had been so free from symptoms calling for interference, that it was thought better to leave him alone.

25th.—Slept fairly, although frequently interrupted by startings.

The temperature went up suddenly on the afternoon of the 24th to 103°; on the 25th it reached 103·4°, and then began to fall again. On the 26th it was normal in the morning; in the evening 100·4°. On the 27th, 99·4° and 100·2°; on the 28th, 100·4°; 29th, 99·6°; and on the 30th, 99° and 98·2°.

During the first few days he complained of a shooting pain, located three or four inches higher than the external wound, but it did not become severe till December 8. By that time the wound had filled in with granulations, and had nearly healed.

From December 1 to 8 his temperature was normal; his pulse ranged from 54 to 64; his respirations from 24 to 30. There were no symptoms to occasion any anxiety, and it was thought that he would recover perfectly.

On the 8th, however, at 1 a.m. he became unconscious, and he had a fit of an epileptiform character. Mr. Drew, one of the House-Surgeons, saw him about the termination of this fit, when both his legs and arms were convulsively moving. His jaws were fixed, and he was bleeding from his mouth, having evidently bitten his tongue. (The cause of the fit was considered to be a free imbibition of gin. An empty gin-bottle was found in his bed.) The fit lasted about fifteen or twenty minutes, and he vomited during its continuance. Another fit followed at 10 p.m. He was unconscious, and the arms and muscles of his face were twitching and moving convulsively. During the morning he had been very restless and ill-tempered, finding fault with different things, and rushing about the wards in an irritable condition. He was removed to the attics. A consultation on his case was held with Mr. Hutchinson, but as it was thought that his fits were most probably due to drink, it was decided not to trephine.

December 10.—Slept well. His face was pale; his tongue was steady, but covered with a brownish fur. He had neither headache nor pain. At 8 p.m. he was seized with another fit. He was seen by Mr. Todd, who stated that at the commencement he was lying on his right side. There were convulsive movements of the left side occurring at intervals, and there was hemiplegia of the right side. There was a convergent squint of the left eye, and a divergent squint of the right eye. Mr. Drew saw the patient after Mr. Todd, at about 9 p.m., and stated that he had convulsive movements of the right side occurring at intervals, and none whatever on the left side. Of the latter point he was most positive. There were no less than six convulsive paroxysms in five minutes. His head was turned, and his eyes were directed to the right side during the fit. During the fits the breathing was very difficult and laboured. At 10 p.m. he was seen by Mr. Cooke. He then had hemiplegia of the right side; the breathing was stertorous, and he was perspiring freely; when touched he would moan and weakly raise his left arm. At 11 p.m. he was seen by Mr. Tay and Mr. Reeves. The breathing was easier, without stertor; the hemiplegia continued. By testing with the point of a pin, pulling the whisker, and pinching, it was found that the right half of the face was insensible, but that a similar proceeding on the left side produced moans and an irritable movement of the left arm. There was ptosis on the left side, and the conjunctiva was quite sensitive. The conjunctiva of the right eye had lost its sensibility, and could be touched without causing reflex action of the orbicularis. The surface of the cornea was dull, and covered with a mucoid secretion. At 12 p.m. he was in the same condition, and was seen by Mr. Rivington, who decided on trephining. A T-shaped incision was made, the flaps were dissected up, and two small thin pieces of bone about half an inch long and some spicula of the external plate were removed. These pieces were depressed to the extent of about one-eighth of an inch. The aperture was then enlarged, and two loose pieces of the internal table were extracted. The dura mater was thus exposed; but no pus or blood was found on its outer surface. It was not depressed, or lacerated, or inflamed, although a little rough at one spot. No serous fluid therefore escaped from the arachnoid cavity. The pulsations of the brain underneath the dura mater were perceptible. There was no bulging or fluctuation, nor any indication of pus inside. Nothing further was done, but the wound was closed. The temperature before the operation was 102°.

11th.—Hemiplegia continued, and there was no abatement of the symptoms. At 5.30 p.m. he died.

Autopsy (December 12).—The skull was thin. Although the internal table had been fractured, there were no spicula to cause irritation. There was no inflammation of the dura mater, nor any pus between the dura mater and the bone. The dura mater was entire. On opening the dura mater, about two ounces of a puriform serum escaped. The parietal arachnoid in the neighbourhood of the fracture retained its polish. The visceral arachnoid was a little dull. The pia mater which covered the left hemisphere was more congested than that covering the right hemisphere. There was increase of vascularity of the brain-substance, more marked on the left side. The ventricles did not contain serum.

The case baffled pathological acumen. Death was accounted for by cerebritis. The other viscera were healthy.

Case 3.—Laceration of Scalp—Thirty Hours' Unconsciousness and Cerebral Irritation from a Fall on the Head.

James N., aged fifty-nine, was admitted at 2.30 p.m. on October 23, 1872. He had fallen off a cart, and pitched on his

head and right shoulder. On admission the scalp was found lacerated just over the middle of the posterior border of the right parietal bone. There was no bare bone. The laceration was about two inches long. There were no symptoms of concussion or compression. The patient was very sullen and irritable. He would not speak or answer questions that were put to him. He resisted examination, would not be undressed, and had a great desire to walk out of the ward. He was neither intoxicated nor sleepy. One pupil was contracted and the other dilated. Whilst he was being examined he muttered in a peevish way, "I wish to God you would leave me alone." Four grains of calomel were ordered, and an ice-bag was applied to his head. When seen at 8 p.m. he was groaning and sighing frequently. He lay on his side in a state of general flexion, his body bent forwards, his legs drawn up, and his forearm bent. Then he became very restless, and frequently shifted his position, but never extended himself. He had great difficulty in raising his eyelids, and when raised his pupils were seen to be equally contracted and inactive. The nurse had not been able to give him the pill, as he vomited it the moment it was administered. His pulse was compressible. He had marked arcus senilis, and symptoms of atheroma. His wife stated that he was a sober man, and was quite well before the accident. A hypodermic injection of morphia (a quarter of a grain) was administered by Mr. Cooke because he was restless. He passed an uneasy night, sleeping at intervals. The next day he was in much the same condition. There were frequent bilious vomiting, snatches of sleep at intervals, and then great restlessness. He would not or could not answer questions. Croton oil was given, and acted freely. Late in the evening he answered a simple question sensibly. Temperature 101°.

October 25.—He passed a good night. Was quite sensible in the morning, and answered questions readily. He remembered falling off a cart and striking his head against a wall, but nothing further. He was under the impression that he was admitted on the 24th. He complained of slight pain in the forehead, and also in the shoulder, which was contused. His pulse was stronger. The temperature in the morning was 100·6°, in the evening 99·6°. He continued to improve, and left the hospital cured ten days afterwards.

Case 4.—*Compound Fracture of Orbital Arch and Punctured Wound into Orbit—Impaction of the Blade of a Knife—Recovery.*

J. S., aged twenty-three, a strong, healthy labourer, was admitted into the London Hospital on August 30, 1872, under Mr. Reeves, who had charge of Mr. Rivington's wards. He smelt a little of spirits, but was not actually intoxicated. There was a wound about an inch in length on the left side of the forehead, extending upwards and outwards from the centre of the orbital arch; and at the bottom a comminuted fracture of the arch could be felt. Two considerable fragments were removed by Mr. Cooke, the House-Surgeon, and the wound, which had been slightly enlarged, was stitched with wire. Ice was applied. The fragments comprised portions both of the frontal and orbital surfaces of the frontal bone, and comprised the superior margin of the orbit from the supra-orbital notch to the external angular process. The patient had been struck by another man a violent blow with the blade of a knife. The point of the knife had entered above the eyebrow, and caused the fracture. There was no reason to conclude that the blade had been left in the part. At 10 p.m. he was comfortable, but complained of pain in his eye. Pulse 100.

August 31.—2 a.m.: Sick twice; twitchings every ten minutes. Pulse 80. 7 a.m.: Very restless; quite conscious. Bowels relieved by an enema with benefit.

September 1.—Head felt full and ached. There was a great deal of extravasation round the wound, and swelling of the upper lid, causing complete closure of the left eye. Temperature 99·6°. He continued to progress favourably during the next few days, and the wound healed.

7th.—Patient had a rigor, and erysipelatous inflammation set in around the wound. He was sent to the outer ward. Temperature 103°.

The erysipelas subsided on the 19th, the temperature falling to 99°. From the 7th to the 19th it stood consecutively at 105°, 102·6°, 103·4°, 104°, 103·4°, 104°, 103·4°, 104·2°, 103·2°, 101·4°, 102·6°, and 100·6°.

25th.—Symptoms of irritation about the orbit; swelling and inflammation continued. Thinking there might be some bone to come away, Mr. Cooke cut down, and inserted his finger, but could find nothing loose. A sharp edge about half an inch in extent, with a smooth triangular surface a quarter of an inch in extent, were perceived. Mr. Cooke thought this was bare bone, but on enlarging the wound and dissecting away the tissues he found it was a knife impacted firmly. After some trouble, he extracted with a pair of bone-forceps the broken blade of a clasp-knife two inches and three-eighths in length. The knife had entered the frontal surface of the frontal bone about one-eighth of an inch above the orbital ridge, had taken a direction backwards and inwards, passed through the orbital arch and fractured it, and entered the orbit about one-eighth of an inch from the orbital arch, and finally passed into the frontal sinus.

The patient subsequently did uninterruptedly well. On October 18 he was discharged cured.

Case 5.—*Compound Fracture of the Skull—Depression of a Portion of the Left Frontal and Parietal Bones—Recovery.*

Ebenezer H., aged ten, admitted November 21, 1872. Was crossing the street, and was suddenly knocked down, he did not know how. His mother said that the shaft of a cart struck him. When admitted he had a scalp wound over the junction of the left parietal with the frontal bone, where the lateral joins the superior aspect of the skull. On passing the finger into the wound, a portion of bone about an inch and a half long by an inch wide could be felt depressed to the extent of about an inch. There were slight symptoms of concussion and of irritation. His arms twitched and were convulsed, the muscles of his face twitched, and his teeth were ground together. The convulsive seizure lasted five or ten minutes, subsided, and never recurred. He was drowsy, and did not care about being disturbed, and resented any interference. His pupils, rather contracted, acted on the stimulus of light. Temperature 99°; pulse 100; respirations 28. On the second day his temperature was 101·5°, and on the third day 102·2°. Subsequently it varied irregularly, but had a downward tendency. He vomited on the second and third days, and gradually recovered his faculties. On the twelfth day his temperature was 98·8°; pulse 79; respirations 29. Free suppuration followed at the seat of fracture; the bone became denuded of periosteum, then granulation sprang up and covered it in entirely. He had no bad symptoms for four weeks, when he seemed to catch cold, and had pain with discharge from his ear, lost his appetite, and was a little feverish, and obliged to remain in bed. The attack passed off in a few days.

Case 6.—*Lacerated Scalp—Effusion of Blood over Surface of Brain—Death.*

R. S., aged fifty-nine, was admitted January 15, 1873. He had been drinking heavily, and had fallen downstairs, but it was not known whether he was in a fit or not. He had lacerated his scalp down to the periosteum on the right side over the occipital bone, the wound running nearly vertically for two inches. He was brought in at 11 p.m., supported by two men; he did not walk, but he seemed able to move both his arms and legs—the legs most freely. The pupils were contracted. He did not respond to questions, although he said "Yes" once. He was semi-conscious, and when put into bed so restless that he had to be fastened down with a straight-waistcoat to prevent him from falling out of bed. He soon sank into an apoplectic state, with hemiplegia on the right side. The facial nerve did not appear affected on either side. Reflex action was perfect on the left side of the face, but was abolished on the right side. Both pupils were equally contracted. When an attempt was made to examine the eyes he rolled them upwards under the upper eyelid. When lifted and left go, his right arm and leg dropped helplessly. Tickling the sole of the right foot produced movement, the leg being drawn up. The left arm and leg were in a state of constant motion. The breathing was laboured, but not actually stertorous. There was a puffing of the cheeks, due apparently to paralysis of the buccinators. There was incontinence of urine and fæces. On the following day he remained much in the same condition, except that he partially regained the power of moving his right arm and leg. He seemed at one time a little more conscious, and when asked by the nurse if his name was "William," said "Yes." He swallowed with difficulty. But he soon sank into a state of profound insensibility, and expired at 11.30 a.m. on Saturday, the 18th.

The temperature twenty hours after admission was 100°; 17th, morning 101·4°, evening 102·4°; 18th, 103·2. Pulse 96, intermittent; 17th, morning 120, evening 112; 18th, 130.

Respirations 32; 17th, 30. The thermometer was in the axilla when the patient died, and registered 103·2°.

At the post-mortem no fracture of the skull was found at any part. The skull was very thick, and the diploë converted into dense bone. On the surface of the right hemisphere, underneath the arachnoid, a considerable effusion of blood had taken place, extending over the three lobes equally, except at one spot on the under aspect of the anterior lobe; here there was a collection of clot and broken-down brain-substance occupying a hollow in the brain. There was only sanguineous serum in the ventricles. The question arose whether the effusion of blood was due merely to *contrecoup* or to the prior rupture of a small miliary aneurism.

Case 7.—Compound Fracture of Skull with Depression of a Large Portion of Left Parietal Bone—Trephining—Death.

James C., thirty-five, a porter on the Great Eastern Railway, was knocked down by the engine of an express train on January 9, 1871. When brought to the London Hospital at noon he was insensible, with cold extremities and dilated pupils. He had a convulsive attack. There was a small wound in the scalp above and in front of the left ear, and the finger introduced into the wound and passed upwards could detect the fracture easily. The line of fracture was extensive, sweeping in a semicircle downwards and forwards to the external angle of the left orbit, and backwards to the occipital bone. The upper edge projected from two to three lines, and a large portion of the parietal bone was wedged in under this projecting edge. There was some bleeding from the wound, and a little from the nose, but none from the ear.

For some hours he was very restless, tossing about in bed and talking incoherently. At 4 p.m. he recovered consciousness, recognised his wife, and answered questions intelligibly. He appeared to be very drowsy. He could grasp a hand held out to him with both of his hands, but less powerfully with the right hand than with the left. Sight and hearing were good. Both pupils were dilated, and both acted on being stimulated, the left less than the right. The protruded tongue inclined towards the left side, but he could put it out when told to do so to the right side and to the centre. He was seen by Mr. Hutchinson in consultation with Mr. Rivington, and it was considered advisable to use the trephine for the purpose, if possible, of elevating the depressed portion of bone, and affording a free exit to the blood which had in all probability been poured out between the bone and dura mater from a wounded branch of the meningeal artery. Mr. Rivington enlarged the wound and applied the trephine over the sound bone close to the fracture at the point of greatest depression. Sufficient bone having been removed with the trephine and Hey's saw, the elevator was introduced and the depressed fragment freed as far as possible. Arterial blood welled up when the bone was raised. The wound was sponged out with carbolic acid lotion, and a piece of lint dipped in the same laid over it. A day or two afterwards the wound was attacked with erysipelas, which spread to the patient's face and neck, and was accompanied by fever and delirium. There were no symptoms of compression; no paralysis in any part; arachnitis was suspected. The patient died on the 27th, eight days after the operation.

At the post-mortem a large semicircular portion of bone, including the lower part of the parietal and the upper part of the great wing of the sphenoid and squamous portion of the temporal, was found to be detached, except posteriorly. The dura mater was sound, but a flattened clot lay between it and the bone above the middle fossa. The veins of the scalp and the emissary veins were distended. Lymph was found on the visceral arachnoid and serum in the sub-arachnoid space. There was a fracture across the base of the skull, extending from one petrous bone to the other through the left foramen rotundum and the sella turcica.

Electrolysis in Aneurism of the Arch of the Aorta.—In the *Bulletin de Thérapeutique* for July 15, M. Dujardin-Beaumetz, of the St. Antoine Hospital, relates the first instance in which electro-puncture has been employed for the cure of aneurism of the aorta in France. Bringing his report down to July 10, he says that a certain amount of the blood in the tumour has become coagulated, but the layer of coagulum thus produced is of slight extent. He proposes repeating the applications at intervals of a month, under the somewhat sanguine expectation of producing the eventual complete coagulation of the tumour.

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Medical Times and Gazette.

SATURDAY, SEPTEMBER 1, 1877.

PHYSIOLOGY AND MEDICINE.

It is not very often, perhaps unfortunately, that we have two such Addresses in Physiology to comment upon as that delivered by Dr. Allen Thomson as President of the British Association for the Advancement of Science, and that delivered by Dr. Gamgee as President of the Physiological Section at the British Medical Association. Both were valuable, but in a different way. Dr. Allen Thomson spoke on a subject familiar to him for a lifetime, so carefully thought out that we find ourselves unable to attempt anything like an abstract of it. Dr. Gamgee, on the other hand, presents us (as will be seen elsewhere) with a capital *résumé* of the main acquisitions to the domain of physiology during recent days.

Of Dr. Allen Thomson's address we need say but little. The key-note, as given in his own words, is as follows. His study of embryology has been both deep and wide. As the outcome of it he says—"It appears to me that no one could have engaged in the study of embryological development for any time without becoming convinced that the phenomena which have been ascertained as to the first origin and formation of textures and organs in any individual animal are of so uniform a character as to indicate forcibly a law of connexion and continuity between them; nor will his study of the phenomena of development in different animals have gone far before he is equally strongly convinced of the similarity of plan in the development of the larger groups, and, to some extent, of the whole. I consider it impossible, therefore, for anyone to be a faithful student of embryology, in the present state of science, without at the same time becoming an evolutionist. There may still be many difficulties, some inconsistencies, and much to learn, and there may remain beyond much which we shall never know; but I cannot conceive any doctrine professing to bring the phenomena of embryonic development within a general law which is not, like the theory of Darwin, consistent with their fundamental identity, their endless variability,

their subjugation to varying external influences and conditions, and with the possibility of the transmission of the vital conditions and properties, with all their variations, from individual to individual, and, in the long lapse of ages, from race to race. There can be little doubt remaining in the minds of any unprejudiced student of embryology that it is only by the employment of such an hypothesis as that of evolution that further investigation in these several departments will be promoted so as to bring us to a fuller comprehension of the most general law which regulates the adaptation of structure to function in the universe."

Turning next to the address delivered by Dr. Gamgee, we have to thank him for a very clear exposition of modern doctrines as to intestinal ferments, vision-purple, and muscular electricity; but our main object at the present moment is to draw attention to certain observations made by the speaker in the opening part of his address. This we do not now quote at full length, but the following extracts will suffice to indicate the line of thought pursued by the speaker:—

"At first looked upon chiefly as a helpmate of medicine, physiology now occupies the position of an independent science. Yet medicine should look with jealousy upon all attempts to sever the connexion which has so long existed. There is no abrupt line of separation between health and disease; a knowledge of diseased processes can only be arrived at through a comparison with the healthy standard; and the comparison can only be made by the employment of methods as strictly accurate as those which the physiologist employs. Exactly in proportion as physiology defines with precision the acts and processes of the healthy organism, will medicine be in a position to become an exact study: the more the physician employs the habits of mind and the methods of research of the physiologist, the greater will be the progress of that profession, whose future shall be infinitely more glorious than even its honourable past. Believing, as I do, that physiology is the one great basis of rational medicine, I argue that a very accurate study of it should be considered essential on the part of all those who desire to enter the profession of medicine—a far more accurate study, I mean, than has yet been deemed possible. I would urge this, because of the facts of physiology being absolutely necessary to medicine, even were it not true that the habits of mind acquired by the cultivation of this science, at once experimental and observational, are the very habits of mind which should be cultivated by him whose life is to be spent in the observation of disease and in the performance of the complex experiments, if I may use the expression, which the most careful physician must needs be always performing."

We do not need to insist upon a more thorough knowledge of physiology on the part of our profession—that is, we take it, nowadays superfluous. There are, however, one or two points which are well worthy of attention. Let us put it thus—Why does physiology require so much pushing before students? Why do they not take to it as naturally and as eagerly as they for the most part do to anatomy? It seems to us that the vice hardly rests with the student. Were physiological teachers a little less learned, and something more practical, we fancy physiology would be better studied. Were teachers less fond of cramming men with dry facts, as geese are crammed with food; were the great broad facts and laws of physiology laid before them and enforced by examples, students would listen better than they do now. And this brings us to another point. In the study of physiology there is too much listening and too little seeing. No doubt there has been a great improvement in this direction, but we fear the pendulum has swung too far to the one side. A few years ago, a physiological lecturer would enter his class-room and read lectures, composed one knows not at what time; no explanation of difficult points, no illustration by experiment or otherwise. Nowadays physiological apparatus is somewhat more than preposterous. Students certainly see nowadays, but they see apparatus. Here again we must take care to keep ourselves from being misunderstood. Our belief is that exact investigations can only be carried on exactly—that is, by the help of exact machines. But the mind of the student just grasping the first principles of physiological science cannot always get rid of the machines; to him there is too often a *deus* in it. Therefore we hold that teaching machinery should be as simple as possible. Let the student carry away in his mind the fact, not the machine. Yet another sore point. The physiological teacher has to encounter still greater difficulties. According to our English system the newly entered student has to be instructed in physiology. Before he knows a bone, a muscle, a ligament, or a nerve, the unfortunate physiologist has to teach the student as well as he can what the structure and uses of these are; nay, more, he has too often to teach chemistry and physics besides. All this is absurd; but the crowning absurdity seems to us to be what follows a rejection at the College of Surgeons. If a student is rejected there he is relegated to the dissecting-room for three months, or six months, as the case may be. The candidate may have passed a satisfactory examination on anatomy; he may have been, as we have known over and over again, ignorant of physiology,—yet he, if rejected, is sent back to the dissecting-room. Until the examinations in anatomy and physiology are completely separated we can have little hope for the sound teaching of physiology. To put the two subjects on the same footing would be a great thing.

There are other and allied matters on which we desire to have a word, but meanwhile we fear that our readers may become wearied of what used to be called in Scotch sermons "the application" to Dr. Allen Thomson's and Dr. Gamgee's excellent addresses.

MECHANICAL GYNÆCOLOGY.

The subject of the remarks which follow has been suggested to us by some passages in the address with which Dr. Priestley opened the Section of Obstetric Medicine at the recent Manchester meeting. In the general tenor of Dr. Priestley's remarks we are at one with him. The only fault which we can find is that his denunciation is somewhat vague and general. He indicates an evil, and says it should be avoided; but he does not point out in what direction the better road is to be found.

He says, "There seems to have grown . . . . a proclivity to trust . . . . more than is desirable to instruments. These mechanical aids are often employed as a mere matter of routine . . . . in the vague hope that they may assist to find out something." "These remarks apply . . . . especially to the uterine sound." "There are many uterine affections in which it affords no information whatever, and many in which it is positively injurious." The truth of this is quite plain. All that the sound can do is to measure the length and indicate the direction of the uterine cavity—and this not always. In most cases the size and position of the uterus can be ascertained with greater accuracy by bi-manual examination; and these points known, the sound is not wanted. Its value in correcting flexions we shall refer to by implication further on.

We cannot entirely go with the first sentences, because "that vague hope that they may assist in *finding out* something" is just the one thing that can warrant the routine use of instruments. When any part of the body is diseased, the skilful investigator goes to that part, and uses every means in his power to detect changes in it; and it is only by their *routine* use that safe conclusions can be reached from new methods of observation. In making his diagnosis the obste-

trician may and ought to bring every sense and every resource of art into play (so far as is consistent with the welfare of the patient), so that he may get as accurate a conception as possible of the condition of the organs he is going to treat. But, diagnosis attained, there routine ought to end. Considered as applying to treatment, we thoroughly agree with Dr. Priestley's sentences. But we shall go further than he does, for we shall try and show the reason of the fault.

The speaker further on observes, "At one time ovarian pathology was in the ascendant; at another time, inflammation of the os and cervix uteri was regarded as the chief ailment from which women suffered; and lately these have given place to the theory that mechanical displacements of the uterus are the root of all evil. . . . Thus the world is afflicted suddenly with what seems an epidemic of flexions and versions of the womb, and a large amount of time and ingenuity are expended in the invention of pessaries, which might be more profitably employed in other directions." Here we will cease quoting Dr. Priestley; but we will take leave to supplement his words with some remarks made by Dr. West to the Obstetrical Society some months ago. The one describes the disease, the other the remedy. "Sydenham truly said that it was the duty of those who practised medicine to find out indications for treatment, rather than special remedies for this or that condition. The great point to aim at with regard to flexions of the uterus is to distinguish the different classes of these displacements, and lay down rules when treatment should *not* be adopted, because unnecessary or not beneficial."

Mr. Herbert Spencer somewhere remarks on the tendency of the average mind, in the presence of any emergency, immediately to *do* something, whereas the person of trained judgment suspends action until he sees how to interfere with advantage. Obstetricians at present seem to offer a curious illustration of this. Many of them appear not to have got beyond this natural impulse, not apparently able to see that *knowing* ought to precede *doing*, and that in the treatment of diseases in which we do not yet know how to do good, the next best thing is to know how to keep from doing harm. In the special diseases of women we see a great amount of industry and ingenuity expended in contriving things to cure diseases, of the natural history of which we know next to nothing. Let us take the particular instance Dr. Priestley refers to. We know that many women suffer from displacements of the uterus. It is proved that such conditions may exist without giving rise to any discomfort whatever. It is equally a fact that they often coexist with symptoms. Also that there are many cases in which the wearing of an instrument (which may to a greater or less extent alter the shape or position of the uterus) is followed by relief of symptoms. It is unfortunately just as undeniable, that in many of them the instrument does no whit of good, and often even harm. So much is recognised by all, and the explanation of the phenomena which the mechanical gynæcologist offers is, that the instrument fails to do good because it is not a suitable one; the displacement must be corrected, and if none of the existing instruments will answer, then a new one is wanted.

Let us for the present accept his position. The case may then be stated thus: that there are some cases which a simple and easily adjusted instrument will quickly cure; and others which, with our present means, it is either very difficult or impossible to amend. It seems to us that Dr. West's advice is here most pertinent. Before inventing new (and sometimes dangerous) instruments to combat these latter, the aim should be to distinguish between the two classes of cases; to find criteria which will enable the physician to tell his patient, either that she can be quickly cured, or the opposite. And even more than this, we want to know what will be the result if they are let alone. Seeing that it is certain that a uterus may be flexed and yet cause no symptoms, one would think that such a flexion might occur in a woman already out of health, without aggravating or altering her complaints. In such a case the mischief of putting in a pessary is evident.

This kind of investigation, although apparently, perhaps, more difficult, is really easier than an inquiry into diseases as revealed by the action of pessaries, because the sources of fallacy are fewer.

The pathology of disease is, in fact, the simplest problem that we have to solve. An exhaustive diagnosis is more difficult than pathology, and rational treatment than diagnosis, for each of the latter includes the former, plus its own peculiar difficulties. The treatment of diseases of the uterus, as of those of other organs, only becomes scientific when all the facts of the case are taken into consideration, when we know what will be the result of letting the case alone, and what will be the result of our remedies.

We do not maintain that nothing is to be learnt about disease from the effect of treatment; but it is at best a circuitous path. It is beginning at the wrong end. We must know the natural history of morbid conditions before we can arrive at *rational* treatment. But gynæcology at present (with a few exceptions), seems pursued wholly in this empirical fashion. From the apparent success of treatment, a theory is deduced about the disease, a mode of research which has led to the unsatisfactory state of things described by Dr. Priestley.

To invent a pessary does not need an intellect much higher than that of the artisan who makes it. To put in a pessary whenever the uterus is bent, is hardly more scientific than the practice of a bone-setter. An operation, even, can be dexterously performed by a person without much scientific knowledge. It will be a much greater and better thing to distinguish the conditions which need interference from those which do not, and of those which do, to show the consequences of neglect. Whoever does this, will do a work than which there are few things more needed.

THE WEEK.

TOPICS OF THE DAY.

A SINGULAR case is reported from Glasgow. Mr. James Stevenson (House-Surgeon), Sarah McKay (Matron), Mary Campbell and Sarah Ann Welch (nurses), all connected with the Glasgow Maternity Hospital, were last week apprehended on a charge of being culpably concerned in the death of an illegitimate infant which was born in the institution in April last. The first two prisoners were also charged with unnatural treatment of the mother. It is said that the child, though a healthy one, refused to take the breast, and the officials, though beseeched to do so, declined to supply it with milk. In consequence of starvation it died two days after birth. Several hours afterwards the mother "found the body of the child lying in a room cut up and ready for dissection."(?) Upon finding this the mother created a disturbance, and it is alleged that notwithstanding her weak state she was thrust into the street. All the prisoners have been committed for trial on the serious charge.

Professor Henry Draper, of New York, reports that he has discovered bright lines in the solar spectrum corresponding with the lines in the spectrum of oxygen. That there are no dark lines in the solar spectrum which correspond with those in the spectrum of this element has long been known, and there are none that correspond with those of any of the non-metallic elements, such as sulphur, phosphorus, iodine, chlorine, carbon, etc. The nebular hypothesis would lead to the belief that an element which is calculated to compose eight-ninths of the water and one-third of the crust of the earth could not be absent from the sun. Dr. Draper observes that in photographing the violet end of the solar spectrum he

finds interspaces between dark lines, and bright streaks corresponding with lines in the oxygen spectrum. The fact of the existence of bright lines as well as dark in the solar spectrum has long been recognised, but the coincidence of any of these with the lines of terrestrial spectra has not been hitherto observed. Professor Draper has made the existence of the bright lines in the violet end of the spectrum most conspicuous by taking photographs with suitable exposures. On comparing these photographs with the spectra of tubes containing oxygen, the coincidence of a large group of bright lines was at once recognised. The accuracy of the adjustment of the two spectra to one another is proved by the bright lines of iron in the spectrum corresponding with the dark iron lines in the solar spectrum.

About this time last year we commented on the unsanitary and immoral conditions of the people employed in hop-picking, and it is satisfactory to hear that the efforts of some of the largest hop-growers in Kent and Surrey to provide better accommodation for this class bid fair this year to be rewarded with success. The total want of sanitary arrangements, and the consequent disease and immorality, have assumed such glaring proportions that an Association has been formed, under the auspices of the clergy and principal residents of the two counties, having for its objects the strict supervision of the social and sanitary conditions of the hop-pickers, and the providing them, as far as possible, accommodation in the houses of the resident villagers. For some months past the Association and the large growers have been engaged in preparing accommodation for the hands on their arrival; honorary agents are appointed to meet trains carrying the pickers, prepared with gratuitous information relative to lodgings, places where labour is most urgently needed, etc. In many instances large barns, attached to the homesteads, have been partitioned off for families by means of rick-cloths.

According to returns furnished by the engineers of the Metropolitan Board of Works, the average daily quantity of sewage pumped into the River Thames during the week ended 18th ult. was 268,839 cubic metres at Crossness, and 369,863 cubic metres at Barking, equivalent to about as many tons in weight.

A profound sensation has been caused in the town of Macclesfield in consequence of a statement made by Mr. Allwood, surgeon, at an inquest upon the body of a child whose death occurred through starvation. He asserted that scores and scores of children died annually in Macclesfield through being purposely and habitually neglected. Medical men in the neighbourhood had plenty of moral, but no legal proof of child-murder, and they had to pass cases in which they knew the parents were as guilty as if they had cut their children's throats. The Coroner said his experience showed him that there was much indifference to life and much immorality among women of the lower class in Macclesfield. The Town Council have now taken the matter up, and have appointed a special committee to confer with the Coroner and medical men. The inquest under notice stands adjourned, but evidence has already been given as to the high rate of infanticide mortality in the borough.

The disastrous record of the number of lives annually sacrificed on the railways of the United Kingdom has just been published. From this return we gather that during the year 1876 the total number of persons reported to the Board of Trade as having been killed on all the railways during the year was 1245, and the number of injured 4724. Of these, 139 persons killed and 1883 persons injured were passengers. Of the remainder, 673 killed and 2600 injured were officers or servants of the railway companies or contractors; and 433 killed and 241 injured were trespassers or suicides, or others who had met with accidents at level crossings, or from miscellaneous causes. Of the passengers, according to the returns made to the Board of Trade, 38 were killed and 1297 were injured from causes beyond their own control. The report adds that the time has now come when the railway companies should agree upon a system of continuous brakes to be fitted on all lines, these brakes being admitted as one of the best methods for preventing accidents, and for mitigating their serious consequences.

An interesting experiment is being made by the Stafford Town Council in order to obtain a good water-supply for the town. They intend to bore to a depth of 600 feet by means of the diamond rock-boring process, and they hope to penetrate the water-bearing rocks of the new red sandstone formation, which exists widely in Staffordshire, and in many places lies at an elevated level. A depth of 300 feet has already been obtained, but as the process is necessarily slow, only a few feet being accomplished each day, a considerable length of time must elapse before the water-bearing rocks are entered. The opinion of scientific men fully corroborates the belief that an abundant supply of pure water may be obtained.

A hospital for the reception of English subjects settled in France was inaugurated in Paris at the end of last week by Sir Richard and Lady Wallace, who have largely endowed it. Sir Richard Wallace, in the course of a short speech, remarked that while this foundation was destined for English people alone, it was not to be forgotten that in London there is a vast hospital for the French poor supported principally by English charity.

It will be remembered that in the last annual report on the health of the Royal Navy, Dr. Messer, of H.M.S. *Pearl*, contributed an interesting paper on poisoned arrows, illustrated by the cases of Commodore Goodenough and the men who were wounded with him. A letter on this subject has recently been addressed by Professor Halford to the *Melbourne Argus*, which is as follows:—"A few years ago, the date I cannot recollect, I wrote to you on the subject of poisoned arrows, stating that I could not get any evidence of the poisonous nature of the matter with which the South Sea Islanders smeared their arrows. My experiments were made on dogs and pigeons, with arrows given me by Mr. Butters. Since that date Commodore Goodenough lost his life from wounds inflicted with, we suppose, similar arrows; but Dr. Messer, after experimenting with the supposed poison, came to the same opinion as I had myself been driven to. Dr. Messer had communicated his opinion to the authorities at home, with the result of surprising a great many people. Before leaving the colonies Dr. Messer wrote to me, enclosing some of the poison he had procured subsequently to the death of the lamented Commodore, requesting me to try its effects on the lower animals. I have done so, and am again driven to the same opinion—viz., that the tetanus following these wounds is not due to the matter with which the arrows are smeared, as I have failed to get any bad symptoms after freely wounding two dogs and one rabbit, and inserting two different samples of the poison at intervals of three weeks. It is two months since the animals were first wounded; no tetanus resulted, and they are now quite well. Now, as tetanus is produced both in man and dogs by similar vegetable poisons, it is not likely there can be much error in the opinion arrived at by Dr. Messer and myself—viz., that the stuff with which these arrows are smeared is not in any way poisonous. Should we be believed, it may lessen in some way the terror which has hitherto seized on everyone wounded by the arrows of the South Sea Islanders, and possibly avert, in many cases, fatal results."

Public opinion seems to be adverse to the purchase of the Thirlmere Lake for the purpose of providing a new source of water-supply for the town of Manchester, and it is expected

that the Bill to be presented to Parliament for carrying out this object will be vigorously opposed. The principal point of objection appears to be the erection of a huge wall across the lower end of the lake, which will have the effect of making the area covered with water 700 acres, instead of, as at present, 335, and will do much towards spoiling the picturesqueness of the neighbourhood.

ATROPHY OF TESTES FOLLOWING MUMPS.

M. Lereboullet recently brought forward at the Société Médicale des Hôpitaux a "Contribution to the Study of Atrophy of the Testes and Hypertrophy of the Mammary Gland in consequence of certain kinds of Orchitis." His remarks were founded on a case, of which the following is a *résumé*:—A young man, aged twenty-two, of robust health, well made, and possessed of all the characters, physical as well as physiological, of virility, was attacked with mumps. The disease seemed mild; at the commencement there were no febrile action and no complications. At the end of four days, although the parotid swelling had not disappeared, a double orchitis came on, so that within two days these glands were swollen to triple their normal size. The pain, however, was not great; *the epididymis was normal.* The disease evolved rather rapidly. When admitted into the Val-de-Grâce, the patient still presented peri-parotid swelling, and yet the atrophy of the testicle was well advanced. In about three weeks these glands were no larger than a haricôt bean. At the same time that the testes were undergoing this atrophy, and the sexual power and desire were disappearing, the mammary glands, which up to that time had been absolutely normal as for a young man of this age, began slowly but progressively to develope. But now, although there are no other external signs of femininism, yet one is distinctly struck by the development of the breasts: to the touch they are lobulated and hypertrophied, and do not at all feel like mere fat; they are increasing in size daily; the nipple undergoes erection after any excitation which is prolonged. There is an absence of beard, although the pubic hair continues. The penis has a normal development, but there is an absolute loss of the genetic sense. This case goes to show that an orchitis has supervened before the complete disappearance of the parotid troubles, and that it complicates a disease apparently mild in its type. This is not by any means an exceptional case or an exceptional complication. Many similar cases are recorded, especially in France. Some authors, and among them M. Juloux, believe that the atrophy, though it comes on slowly, nevertheless comes surely; and M. Laurens reported, out of thirty-two cases, sixteen of atrophy of the testis, and nine times impotence. M. Lereboullet, however, cannot accept these conclusions: he believes rather that the testicles may become modified, both as to volume and consistence, without there being any real progressive or persistent atrophy of these organs. He thinks that army surgeons, seeing the frequency of epidemics of this disease (mumps), would meet with more cases among old soldiers than they actually do, if the atrophy occurred at all frequently and persistently; and hence he concludes that the atrophy is only partial, and that it does not remain permanent. Atrophy of the testicles also occurs after traumatic orchitis as the result of excessive masturbation, and, though very rarely indeed, after gonorrhœal orchitis or syphilitic orchitis. But M. Reclus, in his thesis, "Du Tubercule du Testicule" (Delahaye, Paris, 1876), has shown that there are varieties of atrophy. Thus, in syphilitic orchitis, the testis atrophies very slowly; it is very hard, and often hypertrophied, in consequence of gummous deposits. Under the microscope it is seen that the lesion commences in the reticular tissue which surrounds the seminiferous tubercles; these then atrophy as the result of pressure, but very slowly. In the orchitis which follows mumps and masturbation the atrophy goes on with great rapidity, and the epididymis often remains intact. Under the microscope we find that the inter-canalicular tissue is but little altered, while the tubercles, which are alone affected, present a notable hypertrophy of their internal coat, with atrophy of their epithelial lining, and disappearance of their lumen. Thus, then, we have to do with a parenchymatous as opposed to an interstitial sclerosis. We reserve for another occasion a consideration of the mammary development which accompanies the disease.

THE MEDICAL DEFENCE ASSOCIATION.

The Council of this Association have just issued its first report. They give a brief summary of the origin of the Society. It was founded in May, 1875, with the object of checking the spread of unqualified practice, "which, through the apathy of the medical corporations and the profession generally, had increased to an unprecedented extent, and become a very serious public evil." The movement met with considerable support, chiefly, we believe, of general practitioners, whose interests it certainly was to suppress a practice which, quite irrespective of its illegal bearings and of its obvious evils, materially interfered with their own rights and privileges. From the cases published in which legal proceedings had been taken by the Society, it seems that they have chiefly busied themselves with so-called "quacks," or with offenders who have *openly* ventured to practise as "medical men." In many cases penalties have been obtained; in some cases—and this we see with regret—a compromise has been entered into, the Society undertaking not to prosecute on the "offender" undertaking to cease from practising. This is obviously weak, for nothing is so deterrent as being held up to public obloquy and having the name and circumstances published. There is, too, another point which the Association must take up—that is, "prescribing chemists." They are at the root, as we think, of the entire evil. Either they have the right to prescribe, or they have not. If they have not the right, they must be punished if they attempt to exercise it. The report tells us that the chemists and druggists have a defence association of their own, and that this Association has come forward to support a chemist who is appealing in the Court of Exchequer against an adverse verdict, by which £20 was recovered as a penalty for "counter prescribing." We congratulate the Association on this determination; it will become a *cause célèbre* in the annals of medicine, and will decide, probably, once and for all, the moot question as to whether chemists may or may not prescribe. We only hope that medical practitioners, whom this case most nearly concerns, will not allow the prosecution to miscarry for want of ample funds. It ought to be well defended, and put into the hands of first-rate counsel. We agree with the report in lamenting the practice of qualified medical men supporting and protecting unqualified practitioners and chemists who prescribe and visit. Such conduct is unworthy of their profession. The Society might call public attention to such disgraceful conduct, even though they possess not the means of putting a stop to it. Above all, the Society must not cease to work, and work hard, because the penalties do not come into their own hands. They will reap material advantages indirectly, if not directly, and every successful prosecution will add to the importance and influence of the Association, and to the facilities with which prosecutions may be taken up and successfully carried out.

THE ACTION OF SALICIN ON THE HEALTHY BODY.

In calling attention to the observations of Senator on the influence of salicin in febrile diseases (*Medical Times and Gazette*, August 4, 1877, p. 120) we omitted to refer to some interesting experiments by Professor Ringer and Mr. J. S. Bury, of University College Hospital, on the influence of

salicin on the healthy body, with special reference to its effect on the temperature (*Journal of Anatomy and Physiology*, July, 1877, p. 589). Their experiments were made on healthy boys, and the temperature was taken hourly from 9 a.m. to 12 p.m. The dose usually given was gr. xxx. in ʒj. water, for, to produce any symptoms characteristic of the drug, such a dose is absolutely necessary. Toleration of the drug is soon established, so that at last large doses fail to produce any marked symptoms, except slight fever, which delays and lessens the normal daily evening fall of temperature—an effect probably due to the development of slight gastric catarrh. As far as any depressing action on the temperature in health was concerned, it was found that even very large doses of salicin only seemed *to lessen the diurnal range of the temperature* on the day following their administration, while they very slightly increased the maximum temperature on that day. Speaking generally, the action of salicin on the healthy temperature (in male children) is practically *nil*. The most characteristic symptoms presented by a patient under the influence of full medicinal doses of salicin are a dusky flush uniformly suffusing the whole face on slight excitement, and a dull, heavy expression of the countenance. Other symptoms which are less constant are deafness, noises in the ears, frontal headache, trembling of the hands, and quickened breathing. Very large doses render the headache so severe that the patient buries his head in the pillow; they also cause very marked muscular weakness and tremor, and great irritability of the muscles, so that they contract strongly even with slight stimuli. Tingling may be complained of in the extremities and elsewhere, and the voice may become thick and husky. There is exaggerated breathing, though the patient has no sense of pulmonary oppression. Large doses often repeated raise the pulse to 140 per minute, and render it very weak. Delirium was not noticed during these experiments. Salicin renders the sweat neutral or alkaline even in rheumatic patients with acid urine.

UNQUALIFIED CHARLATANISM.

However happy may be the issue of the flirtations of the homœopaths with the scientific and orthodox section of the profession, there seems no reason to believe that medical treatment is approaching in any way to uniformity:

> "Our little systems have their day,
> They have their day and cease to be."

But if the homœopathists, as their uninvited advances seem to indicate, believe that their little system has had its day, the recent trial at South Molton, in Devonshire, shows that other forms of charlatanism have good reason to complain of repressive legislation. A man named Harper, who is known by the name of "The White Witch," but who calls himself a herbalist, was called in to see a patient. He went to the house of the woman, felt her pulse, and said he did not know whether he could do her any good, as he was only a humble instrument in the hands of God. He gave her four or five iron rods in succession, with which she tapped a piece of iron held by her in the other hand, while lying in bed. At the end of the rods were the names of different planets, such as Jupiter and Mercury. He also asked the age of the woman, and the hour she was born, saying he wanted to find out under what planet she was born. He gave her some bitters to take, but she died a few days afterwards. The man was unqualified, so in more than one sense are a good many homœopaths. As a treatment the iron rods and many homœopathic remedies are about on a par. The Bench sentenced the defendant to a month's imprisonment. Notice of appeal was given, and he was admitted to bail. The homœopathic requisitionists "hold that it is competent for any qualified medical man to adopt any theory or practice which he believes to be best for his patients"; but the fact of a man being "qualified," instead of making ridiculous theory and ridiculous practice acceptable to other qualified men, only justifies the assumption that there is a still graver element than absurdity in the case, and suggests the reflection that charlatanism does not cease to be reprehensible when it is associated with corporation seals and Latin diplomas, but on the other hand becomes disreputable in proportion to the respectability of the degrees which it dishonours. From this point of view it might be more advisable to look with favour upon the "subtle craft" of the White Witch of Barnstaple, than to listen to the social advances of the homœopaths; but as both parties seem to be in an advanced stage of senile decay, the dignity of the profession may be best consulted by allowing the White Witch to retire into the workhouse, and permitting the homœopathists to bury their dead "system" in the limbo of antiquated errors.

THE SANITARY STAFF OF DUBLIN.

At a special meeting of the Municipal Council of Dublin, held on Monday, August 27, the Town Clerk read the following report of the committee of the whole house appointed by order of the Council of the 13th inst., *in re* the dismissal of sanitary police, and appointment of other suitable and fit persons instead thereof:—

"Your committee, in obedience to your order of the 13th inst., whereby the following notice of motion by Councillor Murphy was submitted for consideration and report, viz.—'That the services of the sanitary police be discontinued from and after the 3rd September, 1877, being the next quarter-day; that notice hereof be given to Colonel Lake, or his successor; and that the Public Health Committee be authorised to advertise for, appoint, and employ other suitable and fit persons instead thereof at salaries of £1 per week for eight sanitary inspectors and 25s. per week each for the two superintendents; and that clothing as like as possible to the police uniform and of an approved pattern be provided for this staff; and that none be employed but *superannuated police-sergeants or constables discharged from the force with a pension and good character*'—beg leave to report that they met on Wednesday, the 15th August inst., and after careful consideration of the change proposed to be effected in the sanitary staff by Councillor Murphy, they, instead thereof, submit the following for consideration and approval by the Council, viz.—'That in order to reduce *the present needless expenditure* of the Public Health Committee, but at the same time maintaining complete efficiency, the present staff be arranged as follows:—*Metropolitan Police employed on Sanitary Duty*.—Present staff—2 inspectors at £160, £320; 4 sergeants at £94 9s. 4d., £377 17s. 4d.; 4 acting ditto at £89 5s. 4d., £357 1s. 4d.; 4 constables at £80 3s. 4d., £320 13s. 4d.; 1 constable at £86 0s. 8d., £86 0s. 8d. Total present cost, £1461 12s. 8d. Proposed staff—1 inspector at £160, £160; 3 sergeants at £94 9s. 4d., £238 8s.; 4 acting ditto at £89 5s. 4d., £357 1s. 4d.; 2 constables at £80 3s. 4d., £160 6s. 8d.,—£960 16s. Amount of reduction, £500 16s. 8d. The above amounts include clothing.' All which we submit as our report, this 15th day of August, 1877.—John Barrington, Chairman."

If there is one thing certain about the sanitary administration of Dublin, it is the necessity which at present exists for increasing the inspectorial staff of the Health Committee of the Corporation. The proposal, therefore, to reduce "the present needless expenditure" of the most important corporate committee by substituting for the active members of the metropolitan police-force, now employed as sanitary officers, "superannuated police-sergeants" and pensioned-off constables, seems rather out of place. To the credit of the Corporation of Dublin be it recorded that on reconsideration it was almost unanimously resolved—"That, considering the importance of a perfect system of sanitary inspection, it is inexpedient to make any change in the number of the present staff." It is worthy of note that in the debate on the question more than one speaker alluded to the vigilant eye kept on the Public Health Committee by the Dublin Sanitary Association. The allusion does not seem to have been thrown away on the "City Fathers."

INDIAN MEDICAL SERVICE.

The following is a list of the candidates for her Majesty's Indian Medical Service, who were successful at the competitive examination at London in February last, and who have undergone a course of instruction at the Army Medical School, together with the total number of marks obtained at the examinations at London and at Netley. The first-named gentleman gained the Martin Memorial Medal :—

	Marks.		Marks.
1. Rogers, T. K.	5613	14. Mullane, I.	4471
2. Hatch, W. K.	5382	15. Elcum, D.	4443
3. Owen, W.	5380	16. Mullen, D.	4399
4. Masani, H. D.	5280	17. Taaffe, R. J.	4337
5. Gillies, W.	5060	18. Robinson, E. L.	4336
6. Jack, D. M.	5050	19. Nelis, I. A.	4315
7. Coury, W.	4991	20. Bouton, G. C.	4096
8. Nailer, H. A. F.	4915	21. Smyth, W. B.	4033
9. Kirtikar, K. R.	4830	22. Chatterill, N.	3945
10. Kellie, G. I.	4760	23. Crofts, A. M.	3939
11. Hancock, G. I.	4673	24. Crofts, I.	3895
12. Basu, D.	4635	25. Coates, W.	3894
13. Mackenzie, A. W.	4608	26. Blood, I.	3892

27. Dutt, B. L. . . 3763 marks.

THE HEALTH OF BIRMINGHAM.

In issuing his fourth annual report on the health of the borough of Birmingham, for the year 1876, Dr. Alfred Hill, the Medical Officer of Health for that district, shows that the birth-rate for the period has been 42·53 per 1000 of the population, which is higher than recorded in any previous year. It is 4 per 1000 higher than the average of the last ten years, and higher than that of any of the large English towns, the ratio in London being only 36·5 per 1000. Dr. Hill remarks that the statement is very often made that the death-rate of a community is high because the birth-rate is high; this, he observes, has been refuted by several writers, notably by Mr. N. A. Humphreys, of the Registrar-General's office, and it certainly is not supported by a comparison of the respective birth- and death-rates in the borough of Birmingham during the last four years. During that period the highest birth-rate has coincided with the lowest death-rate, and the lowest birth-rate with nearly the highest death-rate, so that it is clear a high birth-rate taken by itself is not the general cause of a high death-rate. The infant mortality of the district has decreased from 196 to 160 per 1000 births registered; this is reported to be partly due to the considerably smaller fatality of infantile diarrhœa. It is also gratifying to find that there has been a diminution of mortality from zymotic diseases. During the year under notice Dr. Hill has given particular attention to the subject of defects in house-construction, and he appends to his report some very useful sketches, showing the best methods of arranging waste-pipes, etc., so as to carry off all obnoxious gases to the outside of the house, instead of allowing them to poison the atmosphere of the rooms. This latter subject is one of so much importance that it may, with great advantage to the public, enlist the attention of medical officers of health.

TURKISH HOSPITAL AT SCUTARI.

A correspondent of the *Daily Telegraph*, writing from Turkey, states that two days before going to the front Baker Pasha and several of the English officers on his staff visited the hospital at Scutari, accompanied by Mr. Pratt, of the Red Cross Society. There were 1184 patients under treatment, most of them badly wounded, and some suffering from ophthalmia. They were all wonderfully fine men in physique, and from the absence of alcohol, or any sort of intoxicating drinks, seemed to suffer comparatively little. The lives they lead keep their blood in such a healthy state that their wounds generally heal in an extraordinarily short time. Amputations cannot be performed without the permission or wish of the patient. Their objection is based on the idea of "going maimed before Mahomet"; and this prevails to such an extent that, as a rule, death is preferred. Sometimes, however, the love of life asserts its power, in which cases the operations are borne cheerfully and manfully. The rooms were clean and sweet, the beds possibly too near, unavoidably so on account of the crowded state. Beautiful gardens for the use of convalescents surround the hospital, which must not be confounded with the one used by the English during the Crimean War, and which has now reverted to the purpose for which it was originally built—viz., a Turkish barracks.

HOW MEDICAL APPOINTMENTS ARE MADE IN IRELAND.

Recently the post of Medical Officer to the North Dublin Union Workhouse became vacant by the resignation of Dr. John Rutherford Kirkpatrick, a gentleman who had for several years filled this responsible appointment with credit to himself, and advantage to the sick poor in the institution. As there is a salary of £150 per annum attached to the office, a very large number of candidates entered the field. Some of these gentlemen possessed the highest qualifications, both personal and professional. A closely contested election on August 22 resulted in the appointment of Dr. Robert Kenny by a majority of one over the candidate who secured the next highest number of the guardians' votes. Now, against Dr. Kenny we have not one word to say, but we confess we were surprised, nay, almost startled, when we read the following passage in an editorial comment on the election, in the columns of the *Freeman's Journal*, the leading Liberal and Roman Catholic daily newspaper in Dublin :—"On the whole, although the absence of some Liberals and defection of others is to be noted and regretted, the Liberals as a body made a good fight and carried their man against difficulties which their adversaries calculated to be insurmountable." Is it, then, possible that in Ireland the *medical* qualifications of candidates for medical appointments are so completely lost sight of, and that men are appointed as medical officers only according as they are Conservatives or Liberals, Protestants or Roman Catholics?

LONDON WATER.

When are we to get at the bottom of the water question? Are we to adopt Sir William Fergusson's motto, and take plenty of water, no matter whence it comes, provided we have plenty of it? Are we to listen to the most interested class—civil engineers,—and go in for some gigantic scheme in order to bring water from the lakes or from Wales—or, let us say at once, the ice regions of the North Pole? At the meeting of the British Association at Plymouth we had a new scheme aired, the absurdities of which are so paramount that the authors practically contradict themselves in different papers read before that would-be-learned body. Suffice it to say that the scheme entails the relaying of all the London water-pipes, not, as one might suppose, for the purpose of rendering them stronger or better adapted to a high pressure; no, the purpose is to lay them down in duplicate—high pressure and low pressure, good water and bad water. But there will be a great additional advantage: there will practically be a new water company—another of Sinbad's friends, whom we would fain get rid of. The subject is worthy of fuller discussion, but the inevitable autumn tourist has begun to make his appearance in the *Times*. We shall soon have the sea-serpent and the gigantic gooseberry.

NITRITE OF AMYL IN CHLOROFORM—DEATH.

A correspondent, *àpropos* of the two deaths under anæsthetics which we recently recorded, thinks that nitrite of amyl ought always to be tried in cases where death is threatened from chloroform, and suggests that a small bottle of it should be kept ready at hand on all occasions. We fully endorse the suggestion, believing that it may occasionally prove useful.

Sims' method of suspending the patient by his legs might also be borne in mind and tried. But—and on this we would insist—nothing will prevent deaths but a careful administration in each and every case. Those who are giving the anæsthetic should do nothing else, and they ought always to bear in mind that they are administering a drug which is dangerous to human life, and ought to act accordingly.

THE TREATMENT OF DISEASE WITH COMPRESSED AND RAREFIED AIR.

Compressed air has been used for some time in France and Germany to a limited extent in the treatment of various diseases of the lungs, and also as a general roboriser of the system; but in consequence of the expensive apparatus required for its administration, it has not had much vogue except in large establishments in which a number of patients are collected together under the care of a medical man who superintends the "cure." Under the old system, of which we are at present speaking, the patients undergoing the "cure," as the Germans call it, are placed in a strong air-tight chamber, somewhat resembling a diving-bell, in which the air is kept at a pressure of from half to one, or at the utmost two, atmospheres, and in which they remain a definite time. Thus, at Reichenhall, in Bavaria, the cure consists of sittings of two hours each, taken once a day for a month. Those who have undergone a course of treatment with compressed air in the above fashion describe the sensation as by no means pleasant, especially owing to the pressure on the tympana, which necessitates constant sipping of water in order to equalise the tension within and without the middle ear by opening the Eustachian tube in the act of swallowing. Furthermore, the idea of being shut up without the possibility of escape for even two hours is not agreeable; and we know of a case in which, though a lady fainted in the air-chamber, her companion was unable to obtain any assistance, the attendant outside, in answer to her knocks, refusing to open the door until the regulation period had expired.

Since 1870 the idea of enclosing people, so to speak, in a bath of compressed air has been abandoned by a number of physicians in Germany, and it has been proposed instead simply to make the patient inspire the compressed air from a reservoir by means of a tube and closely-fitting mouthpiece. In addition, the treatment of disease by air at a different pressure from that of the atmosphere has been extended by making use of *rarefied* air as well as of compressed air. A number of apparatus have been proposed for supplying compressed and rarefied air, the best of which appears to be that of Dr. Waldenburg.(a) This consists of an external cylinder of metal closed below and open above, and containing water up to a certain level, and of a second cylinder open below and closed above, which fits into the first one, and is suspended in it by cords passing over pulleys and to which weights are attached externally just as in an ordinary gasometer. Supposing now that the inner cylinder be filled with atmospheric air and hermetically closed by having its lower edge immersed in the water in the outer cylinder, we can either obtain compressed air by placing weights on it so as to make it sink deeper in the water, or rarefied air by increasing the weights suspended from the pulleys so as to raise it higher in the water and increase the space occupied by the air. In order to diminish the expense as well as to increase the portability of this kind of apparatus, Dr. Philip Biedert, of Worms, has suggested an air reservoir with collapsible walls, like those in fact of a bellows or accordion, which allow a diminution in the size of the receptacle without a corresponding diminution in its diameter, and therefore in the pressure that it maintains. As we are here bent rather on giving a comprehensive general account of what is at present known about the treatment with compressed and rarefied air, we shall not enter further into the minutiæ of the apparatus employed, but having indicated their principle, must refer those of our readers who desire more detailed information to Lecture No. 104, in Volkmann's *Sammlung Klinischer Vorträge*, (b) to which we are mainly indebted for the materials of this article, and which contains references to all the recent literature of the subject.

Before speaking of the application of compressed and rarefied air to the treatment of disease, we may say a few words on the physiological properties of these agents. In the first place, it will be seen at once that there is a difference between the old method of enclosing a person in a chamber containing compressed air, and the new system, by which he simply inspires the air by the mouth from a reservoir containing it. In the former, the air influences the whole surface of the body, and its action on the interior of the thorax is modified by its action on the outside and on other parts of the body; in the latter, the direct action of the air is limited to the interior of the thorax, and the system at large is only secondarily affected.

Leaving the old system out of further consideration, and limiting our attention exclusively to the new one, it may be stated that the general result of the inhalation of compressed air consists in the improvement of the nutrition, of the hæmopoietic function, and of the external appearance, owing to the increased amount of oxygen which is carried to the lungs at each respiration. Not only, however, is the amount of oxygen which the lungs respire augmented by the compression of the air, but also by the increase of *vital capacity* which the inhalation produces, and which Dr. Biedert has found to be as much as from 500 to 700 or even 1000 cubic centimetres, and this increase is not limited merely to the time during which the inhalation lasts, but continues long afterwards. Speaking generally, we may say that by the inhalation of compressed air the lung gets more air brought to it than it ordinarily does, and that, on the other hand, by the inhalation of rarefied air, more air is withdrawn from it than ordinarily occurs, and this statement is founded on the careful experiments of Waldenburg and others. Waldenburg has also shown that compressed and rarefied air exert an influence which extends beyond the lungs to the circulation of blood between the right ventricle and the left auricle of the heart, so that this lesser circulation can be rendered emptier if compressed air, and fuller if rarefied air, be inhaled. According to Biedert, in addition to their bio-chemical action on the lungs and the general system, both compressed and rarefied air exert a directly stimulating effect upon the lungs, owing partly to the friction of the air as it rushes vigorously into and out of them, and partly to the repeated alterations of pressure and the amount of distention of their blood-vessels. This latter property is one that requires to be remembered in considering the cases to which the method may be applied, and most care is needed is using rarefied air, which is found to be the most strongly irritating. It is probable that the freer expectoration which follows the use of the pneumatic apparatus is due to this stimulating or irritating property of the inspired air. In consequence of this property the inhalation of compressed and rarefied air is inapplicable *to all acute inflammatory processes in the lungs.*

The diseases in which this method of treatment, which we shall now pass on to consider, have been found most efficacious, are phthisis and a phthisical disposition, chronic bronchitis, emphysema, asthma, and compression of the lungs by pleuritic adhesions. It has been recommended by Waldenburg in stenosis of the larger air-passages, and also in certain diseases of the heart. In phthisis it is possible, by means of compressed air, to increase the capacity of a narrow thorax, and to strengthen the weak respiratory muscles by means of the exertion used in inspiring rarefied air. It is also probable that the compressed air may help to relieve the congestion of inflamed parts of the lung, and that the rarefied air, by increasing the depth, and perhaps the number of inspirations, may improve the general nutrition of the lung by rendering the circulation in it more active. According to Dr. Biedert, those cases of phthisis in which the irritating property of the inspired air makes itself most felt, especially those in which there is much fever, are the least suited to the pneumatic treatment; cases also in which there are large areas of consolidation are unsuitable to it. Moderate hæmoptysis is no contra-indication to the use of compressed air. As far as we can judge, however, from Dr. Biedert's statements, the pneumatic method appears rather to *alleviate* the symptoms in phthisis than to exert a definitely curative action on it, and it seems more probable that it will be of value in strengthening the chest muscles, and opening out the chest in persons with a phthisical predisposition, than in the actual disease itself.

In either case the method employed is the same. The sitting begins by the patient inspiring compressed air alone, and then, when the irritation and cough which it has set up diminishes,

(a) *Berl. Klin. Wochenschrift*, 1873, Nos. 39 and 40.
(b) "Die pneumatische Methode und der transportable pneumatische Apparat," von Philipp Biedert, Assistentarzt in Worms am Rhein.

he inspires rarefied air, and the sitting is ended by a few inspirations of compressed air. The compression of the air varies between $\frac{1}{92}$ and $\frac{1}{45}$ atmosphere, and the rarefaction from $\frac{1}{324}$ to $\frac{1}{68}$ atmosphere, and the number of inspirations at each sitting ranges from 20 to 60. The sittings take place once, or at the utmost twice a day, and in the commencement of the treatment the medical man must be always present, to superintend the use of the apparatus. Later on this duty may be handed over to an assistant, or to the patient himself, provided he be intelligent; the physician only exercising a general supervision from time to time. In the use of compressed air, it has been found advisable not to exceed a pressure of 1 atmosphere; and the patient should be directed, as soon as he has overcome the initial irritation, to inspire slowly and as deeply as possible, without using force. On the other hand, when he breathes rarefied air, he must inspire vigorously.

In *bronchitis* this treatment renders expectoration more easy, stimulates the lung, and improves the circulation in it; and since the compressed air penetrates further into the lungs than any other local application, it is probable that it reaches diseased parts which would be inaccessible to any other direct treatment. The ordinary pneumatic treatment of bronchial catarrh consists in inspiration of compressed air at the same pressure as in phthisis. The use of rarefied air is only indicated if we wish to stimulate the lung more vigorously, or to promote expectoration; and it must be followed, if there is much catarrh, by a few inspirations of slightly compressed air in order to remove the temporary congestion of the lung, which Waldenburg has shown to be produced by a rarefied air. In all cases excessive irritability of the lungs, or any aggravation of existing mischief, is an indication for reducing the pressure, or temporarily stopping the pneumatic treatment. In *emphysema*, the treatment begins with short sittings, in which from ten to twenty inspirations of compressed air ($\frac{1}{90}$ to $\frac{1}{68}$ atmosphere) are taken and repeated after an interval of ten minutes. On the second or third day the really curative treatment of the disease, as Dr. Biedert calls it, commences. Instead of breathing in compressed or rarefied air, the patient is made to *expire* into an atmosphere of rarefied air, the number of expirations ranging from thirty to fifty once or twice a day, and depending on the sensibility of the patient's lungs to the irritation of the air. The theory of action of this method is, that the rarefaction within the chest causes a diminution in the size of the thorax, and also of the lungs, owing to increased pressure on their outer surface; that the same pressure elevates the abnormally depressed diaphragm; and that the blood is sucked, as it were, into the tissues of the lungs so as to counteract the anæmia due to the emphysema.

In the so-called "bronchial asthma" the indications for the pneumatic treatment are the same as those in bronchial catarrh. During the actual asthmatic attacks, inhalation of compressed air appears to be quite useless. In two cases of compression of the lung by pleuritic adhesions, Dr. Biedert has succeeded in raising the vital capacity in one from 2600 to 3500 cubic centimetres, and in the other from 2200 to 2600 cubic centimetres. The patients inspired compressed air at pressures up to $\frac{1}{34}$ atmosphere, from 30 to 50 inspirations being taken at each sitting. The value of the pneumatic method appears to be as marked in some forms of heart disease as in any of the diseases we enumerated above. According to Waldenburg, affections of the mitral valve are those which are most benefited by it; and Dr. Biedert refers to a striking instance of disappearance of dropsy, and general improvement, under the influence of compressed air, in a case of mitral stenosis and incompetence. Rosenstein also, in his article on Valvular Diseases in the sixth volume of "Ziemssen's Cyclopædia," is equally favourable to this treatment.

The contra-indications to the use of *compressed* air are degeneration of bloodvessels and an apoplectic tendency; and to that of *rarefied* air, especially in the form of inspiration, pulmonary hæmorrhages. The whole method is unsuited to active inflammations in the lungs as well as to advanced bronchial dilatation.

In concluding this article, which does not pretend to do more than give our readers an outline of what is meant by the modern "pneumatic method," we may say that the method itself appears to us to be at present a tentative one, and that we need a much wider trial of its efficacy, and a longer experience of its merits and demerits before it can be allowed to take its place among recognised systems of treatment. Theoretically there is much to be said in favour of it, but we doubt very much whether it can permanently overcome the anatomical changes which give rise to emphysema, or oppose more than a temporary resistance to a contracting pleura. In any case, however, we ought to know something about it, and to experiment with it in this country as they are doing in Germany.

FROM ABROAD.

Alimentation of Young Infants.

Incited by a discussion upon this subject which occurred recently at the Academy of Medicine, M. Labbée has entered, in some recent numbers of the *Journal de Thérapeutique*, upon an elaborate investigation of all the documents and facts relating to it, and in the number for August 10 he sums up the conclusions at which he has arrived:—

1. Every year 10 per cent. of the 18 per cent. of infants who annually die during the first year of life in France, in all probability do so owing to defective alimentary hygiene. So fearful a mortality may be considerably reduced, if not quite prevented, the remedy exclusively residing in a proper mode of rearing. 2. Suckling is the best and most certain mode of alimentation, that which gives the infant the best chance of surviving at the end of the first year, and that which insures it the best constitution. Figures amply prove this; for while the mortality of infants fed artificially is comprised between 22 and 94 per cent., that of sucklings is comprised between 11·18 and 22 per cent. With regard to the constitution, it is known that scrofula is especially prevalent in the departments where most children are brought up by hand; and it is probable that ulterior investigations will show that athrepsia (diseases of innutrition), the scourge of early life, which attacks with such intensity ill-nourished infants, leaves behind it irreparable disorders, even when it is cured. 3. Maternal suckling is, beyond all contradiction, better both for mother and child than hired nursing. This statement as regards the child amounts to almost a commonplace, so generally is it admitted; but many mothers are unaware how beneficial suckling may prove to themselves, procuring for them not only the satisfaction of fulfilled duty, but also the incomparable advantage of a better and more complete re-establishment. 4. As far as regards the child, the maternal milk and that supplied by a wet-nurse at home may be placed on the same footing. A nurse not residing in the family is in general of but very slight use. As long as the infant has good milk in sufficient abundance whenever it desires, it is of little consequence, for, although woman's milk is better for it than any other, the maternal milk is not indispensable. This is, however, looking at the question in its scientific, not in its moral aspect. 5. In the choice of a nurse, the question of diathesis being put aside, we should be especially guided by the condition of her own infant. Neither the chemical analysis nor the microscopical examination of the milk can furnish data that are equivalent to inspection of the infant. 6. For the control of the value of suckling there is a method the results of which are absolutely certain, namely, the periodical weighing of the infant. It is to this alone we can have recourse to ascertain whether the nurse is a good one, and whether the infant attains its regular growth. For this purpose M. Labbée furnishes all the figures requisite for the verification of the development of the infant day by day. 7. The infant should be kept exclusively at the breast during the first six months, and milk should constitute the basis of its nutriment until the period of weaning. 8. There is no fixed epoch for weaning, although there are more or less favourable moments for doing so which will be best appreciated by a medical practitioner. As a general rule, it should not be thought of before a twelvemonth, and when the suckling can be prolonged until the eighteenth month the results obtained are better. The practice of Trousseau, which consisted in weaning the infant in the period of time comprised between the evolution of the two groups of teeth, should be adhered to. 9. When the mother has not sufficient milk she may supplement it by cows' milk, this mixture furnishing good results. This plan succeeds especially well in the country, but is still advantageous even in towns. 10. Suckling by means of an animal, as a goat for example, is but rarely practicable, but the infants in general thrive. 11. Many mothers cannot suckle from not having any milk, while others soon lose theirs, so that artificial alimentation becomes frequently a necessity. This procedure succeeds better in the

country than in towns, and exacts more care and intelligence than suckling; but, well carried out, it furnishes almost as good results as those procured from the breast. But in large cities it can scarcely be relied upon for bringing up infants in satisfactory condition. 12. In artificial alimentation, milk should constitute the exclusive food during the first six months, and that of the cow is preferable to goat's milk, which is too rich in casein and butter. Suckling by the bottle must be modelled, as far as possible, upon natural suckling,—that is, the quantities of milk given should be equivalent to those sucked. 13. A mixed regimen, whether the infant be brought up at the breast or by the bottle, should not be commenced until the end of the sixth month. From six months to a year, farinaceous and feculent diet may be employed; from the first year to the period of weaning, fatty bodies, eggs, and highly azotised aliments, such as meat, may be resorted to. 14. The various farinaceous foods for infants, announced as possessed of great nutritive power, are not possessed of the properties of good milk. They may, however, be also employed for the purpose of variety of food, which has its advantages. 15. Artificial milks are never of the same value as breast-milk, and should never be substituted for it. 16. When an infant is ill-nourished, and when its alimentary ration is insufficient, whatever may be the origin of such insufficiency, that assemblage of accidents arises which Parrot has designated by the term *athrepsie;* and if this affection is sometimes cured, its ulterior consequences are still to be dreaded—infants that have escaped its first onset still remaining feeble and miserable. Its only remedy is a well-devised alimentary hygiene.

REVIEWS.

Traité des Maladies de la Prostate. Par le Dr. Henri Picard, Professeur libre de Pathologie des Voies Urinaires à l'École Pratique. Paris: Baillière et Fils. 1877.

Treatise on Diseases of the Prostate. By Dr. Henri Picard, Professor, etc.

Dr. Picard commences his book upon diseases of the prostate with an excellent description of the anatomy and relations of the gland; and he points out the importance of a knowledge of the arrangement of the various fasciæ of the part, for the purposes of surgical diagnosis. The minute structure and also the average size of the prostate are carefully described, especial reference being made to the work of M. Ch. Robin.

He then discusses the physiology and pathology of the gland in relation to the organs of generation and to the urinary apparatus, and alludes to the influence of prostatic disease upon the bladder and kidneys, and sometimes even upon the heart. A section is devoted to the consideration of deformities and absence of the prostate, which are rare conditions; and this is followed by a chapter on contusions, wounds, and false passages. The first two injuries are not common, with the exception of those wounds which are made for the extraction of foreign bodies from the urethra or bladder. The last—false passages—are sufficiently frequent, and we think the author might with advantage have said somewhat more upon their management.

The most important part of the work, and in our opinion by far the most valuable, is that which deals with the subject of inflammation of the prostate and its consequences and treatment. The most common cause of prostatic inflammation is an urethritis, though it may sometimes have its origin in disease of the bladder. It is seldom a primary affection, but may be induced by forcible catheterism, lithotrity, or the application of other irritants. Exposure to cold, alcohol, drinking, and venereal excesses are frequently the immediate cause of a prostatitis when there is a pre-existing urethritis. The affection is one chiefly of middle life. The author gives a clear account of the symptoms and diagnosis of both the acute and chronic form. In the acute stage there is usually considerable fever, much pain in the perineum increased by micturition or defæcation, tenesmus, and often retention of urine. If suppuration occurs, as it often does, there will probably be rigors and throbbing pain. A digital examination of the rectum, which is very painful, reveals a swelling of the prostate and perhaps fluctuation. The passage of a catheter gives the same indications. Abscess may burst either into the urethra, the rectum, the perineum, or the ischio-rectal fossa; more rarely into the bladder. Abscess of the prostate may, moreover, have a pyæmic origin. In the chronic form the symptoms are less marked, and much resemble those of stone. The author devotes a good deal of attention to the diagnosis between chronic prostatis and spermatorrhœa, and shows that in the first the discharge never consists of the secretion of the prostate alone, but is a compound fluid consisting of the secretions of the various glands of the urethra mixed with that of the prostate, and sometimes containing also seminal fluid.

He points out that in spermatorrhœa, which he considers to depend usually upon lesions of the nervous centres, there are sometimes found in the seminal fluid crystals of phosphate of lime, which are never seen in health. The treatment of inflammation of the prostate is fully considered, and especial attention directed to the use of belladonna, both in suppositories and as an ointment, and also to the local application of astringent solutions. After a short section on peri-prostatic abscess, there is a chapter upon the various ulcerative deseases of the prostate. These are divided into—1, inflammatory ulcerations, and 2, diathetic ulcerations, including herpetic, arthritic, scrofulous, tuberculous, and cancerous. This chapter contains a short description of the endoscope, which, however, the author admits is not often available for diagnostic purposes, on account of its difficulty of management. The varieties of prostatic calculi are next described, and the author alludes to the share they have in producing enlargement of the gland.

Increase in the size of the prostate is the subject of an elaborate chapter, in which the pathology of the affection is discussed, and the different forms of enlargement are considered. The author remarks that the great number of medical and surgical remedies that have been employed in the treatment of prostatic enlargement, shows that the condition is not very amenable to any of them. Naturally, therefore, the chief point for consideration is the best method of emptying the bladder in these cases. The last chapter is upon atrophy of the prostate, a condition rarely met with.

The book shows a fair acquaintance with the literature of the subject, although the author does not seem so familiar with the latest suggestions with regard to the treatment of enlarged prostate, as with the rest of his subject. The volume is well printed, and is announced in the preface to be the first of three by Dr. Picard, upon the diseases of the urinary organs.

Epitome of Skin Diseases, with Formulæ. By Tilbury Fox, M.D., and T. C. Fox, B.A., M.B. Cantab. Second Edition. London: Renshaw. 1877.

The first edition of this little pocket companion is exhausted, and another has been issued. This is sufficient testimony to the value of the work. A few alterations and additions have been made. The subjects are arranged alphabetically, and a selection of formulæ is appended at the end of the book. We do not doubt that it will continue in high favour.

A New Original Discoverer of Etherisation.—The dispute concerning the claims of Wells, Morton, and Jackson, as the discoverers of etherisation, has been long and hotly contested in the United States. But now, acoording to an article in the *Virginian Medical Monthly*, by Dr. Marion Sims, a Dr. Long, of Athens, Georgia, is the real Simon Pure. The discovery of Dr. Long by Dr. Sims himself seems to have been quite accidental, a medical man who had recently come to consult him at New York having almost casually remarked that he had been present when Dr. Long removed a tumour under the action of ether in 1842, and performed other operations in 1843 and 1844. The patient who was operated upon in 1842, made an affidavit as to the fact in 1849. As Morton commenced etherisation in September, 1846, he was thus antedated by four years. However, Dr. Long seems to have attached very little importance to his procedure, and took no pains to make it public, and of course all knowledge of it would have died out had not more energetic persons re-discovered and utilised the properties of ether. The matter seems of little importance, and, at all events, requires more authentication. "It is proposed," says the *New York Medical Record*, "to compromise the difficulty by making Congress vote to each of the families of Long, Wells, Morton, and Jackson, $100,000! As there is not much likelihood that Congress will be in any hurry to take up the discussion, there may be still time and opportunity for a few more discoverers to put in their claims."

GENERAL CORRESPONDENCE.

"EXPERIMENTS ON HAY FEVER."

LETTER FROM DR. C. H. BLACKLEY.

[To the Editor of the Medical Times and Gazette.]

SIR,—In your issue for August 18 I find a short notice of some fragmentary experiments on the cause of hay-fever, tried by Dr. Patton, of Mississippi, U.S., at the suggestion of Professor Binz.

As there appears to be a considerable amount of misunderstanding with regard to the real nature of the disease in question, and as my name has been brought prominently forward in the article (Virchow's *Archives*, lxix. S. 410) which has given occasion to your remarks, I should be glad if you would permit me to make some observations on the experiments which are there cited to prove that pollen is not the cause of hay-fever. In order to give your readers a clear idea of the facts upon which Dr. Patton bases his objection to the pollen theory, I will give a condensed account of the experiments tried by him.

On June 10 last year, Dr. Patton inhaled a strong dose of the mixed pollens of *Festuca pratensis* and *Dactylis glomerosa*. Uneasiness and obstruction of the nostril operated upon were soon produced. After an hour and a half, however, every symptom had vanished. On the 13th and 14th the experiment was repeated. The result was the same as before. On June 15 a smaller quantity of pollen was placed in the left eye. Lively itching was brought on, with a moderate injection of the vessels, and a tolerably strong secretion of tears. After an hour no trace of these appearances was left. On June 20 a strong dose of the pollen of *Secale cereale* was blown up the nostril by means of an elastic tube. The irritation and obstruction were greater than before. A single attack of sneezing took place, but after two or three hours all had passed off. On June 22 the experiment was repeated in the same way. The result was less marked. The application of a small quantity of secale pollen to the conjunctiva on the 20th had the same effect as on the 15th. Rubbing in the pollen of grasses to scarified spots on the extremities . . . . had for result only very transitory irritation.

In concluding the account of his experiments, Dr. Patton says:—"As we see, I gave myself every chance of taking hay-fever, but the accredited cause—pollen—left me *in statu quo* either because it is not the cause of hay-fever or because it did not find present in me the still unknown predisposing causes under the influence of which it becomes a genuine irritant."

After reading the above account over, one is puzzled to decide whether to admire most the simplicity that permits these experiments to be put forward as a proof that hay-fever is not caused by pollen, or the logic that leads to the conclusion that, although it produces genuine irritation, it is not a "genuine irritant," because the effect soon passes off after the pollen ceases to be applied. On the same principle, if a purgative is administered and produces its specific effects it cannot be a genuine purgative if the disturbance passes off after the drug ceases to be given.

The truth is, Dr. Patton does not seem to me to understand the true nature of hay-fever. The symptoms he produced were, with one exception, exactly those of the early stages of the disease, and the only thing necessary to complete the picture was the continued application of pollen for a more lengthened period. The transitory character of the symptoms is just that that distinguished the malady, especially in its catarrhal form. Pollen has no zymotic properties, and no single circumstance in the history of hay-fever is brought out more prominently in my work than the fact that if a sufferer can get away from the contact with pollen he will begin rapidly to recover. The shorter the period of exposure has been the more rapid the recovery, and *vice versâ*.

But although I differ from Dr. Patton in the conclusions he draws from his experiments, I must express my sense of obligation to him for the testimony he brings in support of my views, and I can only hope that other observers who are susceptible to the action of pollen will test the validity of my opinions on the causes of hay-fever in the same manner. *Experientia docet.* I am, &c., CHAS. H. BLACKLEY.

Stretford-road, Manchester, August 21.

MEDICAL NEWS.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, August 23:—

Bothamley, Richard Broughton, Dorrington, Spalding.
Gimblette, George Hart Desmond, Southsea.
Le Fevre, George, Melbourne, Australia.
Plumbe, Samuel Thomson, Maidenhead.
Seth, Owen, 7, Powis-square, W.
Woods, John Francis, 61, Bunhill-row, E.C.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Havens, Edward John, London Hospital.
Higgs, Alfred, London Hospital.
Lucas, Charles, Middlesex Hospital.
Mellor, Thomas, Manchester Hospital.
Roper, George Arthur, St. Thomas's Hospital.

BIRTHS.

CARTER.—On August 26, at Lynton House, Anerley, Surrey, the wife of J. Roe Carter, L.K.Q.C P. Ire., late Colonial Surgeon (St. Lucia, W.I.), of a daughter.

COOKE.—On August 16, at 16, Woburn-place, the wife of Thomas Cooke, F.R.C.S., of a daughter.

FLETCHER.—On August 23, at 149, Camden-road, N.W., the wife of J. Corbet Fletcher, M.D., of a son.

GOOD.—On August 21, at Ivy Cottage, Lower Sydenham, the wife of Surgeon-Major J. Good, L.R.C.S. Edin., of a daughter.

GULLAND.—On August 24, at St. Mark's House, St. Helier's, Jersey, the wife of Surgeon-Major Gulland, M.D., of a son.

TURLE.—On August 26, at Woodside Grange, North Finchley, the wife of James Turle, M.D., of a son.

WORTHINGTON.—On August 25, at Garston, near Liverpool, the wife of J. V. Worthington, L.R.C.P. Edin., of a son.

MARRIAGES.

ARMSTRONG—SMYTHE.—On August 23, at Booterstown Church, George Reid Armstrong, eldest son of Geo. C. Armstrong, M.D., of Blackrock, county Dublin, to Kathleen Mary, daughter of G. Sackville Smythe, Esq., of same place.

AXFORD—STEPHENS.—On August 23, at the Moravian Church, Bristol, William Herbert Axford, eldest son of the late William Axford, of Maddox-street, London, to Emily, second daughter of Henry Oxley Stephens, M.D., of Bristol.

BUCK—WALKER.—On August 27, at the parish church, Birstall, W. Elgar Buck, M.A., M.D., of Leicester, to Marian, elder daughter of W. H. Walker, of Birstall Holt, Leicester.

DOUGLAS—WRANKMORE.—On August 23, at St. John's Church, Croydon, Ernest Thornton Douglas, son of William Douglas, M.R.C.S. Eng., of Banbury, to Evelyn Hestern, only daughter of the late Richard Wrankmore, Esq., R.N.R.

GORDON—LEE.—On August 23, at St. Leonard's Church, Bilston, John Gordon, M.D., of New Cross, London, to Edith Emily, eldest daughter of the Rev. Charles Lee, M.A., Vicar of Bilston.

GWYNNE—DYER.—On August 28, at the parish church, Wimbledon, Aubrey Percival, second son of D. W. G. Gwynne, M.D., to Catherine, third daughter of the late S. Dyer, Esq., of Cromhall, Gloucestershire.

HART—MCENTEE.—On August 16, at St. Mary's, Moseley, Philip Neville Hart, M.B., M.R.C.S., of Erith, Kent, son of the Rev. Richard Hart, late Vicar of Old Catton, Norfolk, to Eliza Jane, eldest daughter of W. C. McEntee, Esq., of Altadore, Moseley, Worcestershire.

IRVING—GILLARD.—On August 29, at St. Mark's, Kennington, John Henry Irving, of Belvidere, Kent, younger son of the late Edward George Irving, M.D., R.N., to Sarah Evelyn, eldest daughter of Richard Gillard, M.R.C.S., of 60, Clapham-road, S.W.

KEEGAN—STERN.—On August 16, at the Church of St. Othmar, Vienna, Denis Francis Keegan, M.D., of the Bengal Medical Establishment, to Francisca M. Stern, fourth daughter of the late Herr Herman Stern, of Vienna.

MOORE—POPE.—On August 23, at West Malling, William, fourth surviving son of the Rev. Edward Moore, Rector of Broughton Malherbe, Kent, to Alice Montagu, eldest daughter of Peter Montagu Pope, M.D., of West Malling.

NORTH—BUTTS.—On August 28, at the parish church, Broadwater, Sussex, Walter Meyrick North, B.A., of Brasenose College, Oxford, barrister-at-law, to Earle Ada, elder daughter of Harry Grosvenor Butts, M.D., of Demerara, West Indies.

PEARLESS—RAIKES.—On June 18, at Christ Church, South Yarra, Australia, Walter Relf Pearless, M.R.C.S. Eng., of East Grinstead, Sussex, to Marianne Sessel, eldest daughter of H. Campbell Raikes, late Bengal Civil Service, of Weston-super-Mare, Somersetshire.

DEATHS.

BURKITT, WILLIAM ROBERT, L.R.C.S.I., Surgeon-Major late 52nd Light Infantry, at Marine Villa, Wicklow, on August 23, aged 42.

CURGENVEN, HILDA, daughter of Wm. Grafton Curgenven, M.D., of 41, Friar-gate, Derby, at Derby Villa, Bexley, Kent, on August 26, aged 3 months.

DAVIES, LOUISA JANE, the wife of W. Bowen Davies, L.R.C.P.L., of Brynarlais, Llandrindod Wells, at Eden-grove, Holloway, on August 23, aged 32.

DURRAN, DAVID, M.D., at Fulham, on August 16, in his 67th year.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

ALCESTER UNION.—Medical Officer and Public Vaccinator of the Inkberrow District. Applications, stating age and qualifications, accompanied by testimonials as to character and ability, to J. Langston Jones, Clerk, on or before September 3.

BEAFORD GENERAL INFIRMARY.—Resident Surgeon. Applications, with testimonials, to the Chairman of the Weekly Committee, on or before September 27.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer. Candidates must be unmarried, and registered members of the medical profession. Applications, with certificate of registration, accompanied by references, to be sent to the Medical Committee, Children's Hospital, Shelthouse-lane, Birmingham, not later than September 7.

CHORLTON UNION.—Assistant to the Workhouse Medical Officer. Applicants must be fully qualified and registered. Applications, accompanied by copies of recent testimonials and statement of qualifications, to Wm. N. Edgill, Clerk to the Guardians, Union Offices, Grosvenor-square, Manchester, not later than September 4, endorsed "Assistant to Medical Officer."

HOLBEACH UNION, LINCOLNSHIRE.—Medical Officers for the Lutton and Tydd Districts, and Public Vaccinator for the Lutton District. Applications, stating qualification, accompanied by testimonials and certificate of registration under the Medical Acts, to Richard P. Mossep, Clerk, on or before September 5.

NANTWICH UNION.—Medical Officer. Applications, with testimonials of qualification, to C. E. Speakman, Clerk, on or before September 12.

NORTH-EASTERN HOSPITAL FOR CHILDREN, HACKNEY-ROAD, E.—Physician. Candidates must be either F. or M.R.C.P. Lond. Applications, with qualifications and testimonials, to Alfred Nixon, Secretary, 27, Clement's-lane, E.C., on or before September 11.

ROYAL FREE HOSPITAL, GRAY'S INN-ROAD.—Assistant-Physician and Assistant-Surgeon. The Assistant-Physician must be a Member of the College of Physicians of London, and the Assistant-Surgeon a Fellow of the Royal College of Surgeons of England. Testimonials to James S. Blyth, Secretary, before September 1.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Carmarthen Union.—The Carmarthen District is vacant; area 17,885; population 12,904; salary £80 per annum.

Walsingham Union.—Mr. F. E. Taylor has resigned the Wells District; area 13,318; population 4950; salary £68 10s. per annum.

Weymouth Union.—Mr. H. H. J. Sterling has resigned the Owermoigne District; area 3271; population 441; salary £16 per annum.

Wigton Union.—Mr. W. A. Tennent has resigned the Allonby District; area 12,800; population 2334; salary £13 per annum.

APPOINTMENTS.

Brentford Union.—Albert B. Day, M.R.C.S. Eng., L.S.A., to the Workhouse.

Hailsham Union.—Alfred H. Hackney, M.R.C.S. Eng., L.S.A., to the Third A District.

Kington Union.—Wm. Hanson, L.R.C.S. Edin., L.R.C.P. Edin., to the Kinsham District.

Leicester Union.—Claude Douglas, M.R.C.S. Eng., L.R.C.P. Lond., to the First District.

Leominster Union.—John Elliot, M.R.C.S. Eng., L.S.A., to the Bodenham District.

Lexden and Winstree Union.—Francis Trimmer, M.R.C.S., L.S.A., to the Ninth District.

Royston Union.—James G. Anderson, L.R.C.S. Edin., M.R.C.S. Eng., to the Fifth District.

Sleaford Union.—John C. Eaton, M.R.C.S. Eng., L.S.A., to the Wilsford District.

BERLIN UNIVERSITY.—Prof. Helmholtz has been elected Rector Magnificus for the ensuing year, and Prof. Du Bois Reymond Dean of the Medical Faculty.

DR. CONNEAU.—In the notice of the late Dr. Conneau inserted in our last number, it should have been stated that the 1,200,000 fr. donation from the Emperor's Civil List, entrusted to him for distribution, was an annual sum.

ABSENCE OF SMALL-POX IN BERLIN.—As for the last two years, no case of small-pox has been brought into the small-pox station attached to the Royal Charité Hospital, it has for the present been closed, provision having been made for immediately reopening it should the necessity arise.—*Deutsche Med. Woch.*, August 11.

AT an inquest held at Wednesbury on Saturday last, on the body of a child named Emma Harris, it appeared that the deceased, when taken ill, was conveyed to a herbalist, who prescribed for her. After taking the medicine she became worse, and soon afterwards died. The Coroner intimated that the herbalist would probably be prosecuted, and that the parents were liable to be indicted for manslaughter. The verdict returned was "Death from natural causes," and the mother was censured for not obtaining proper medical advice. The terrors of the law should be brought down upon this prescribing herbalist.

HEALTH OF THE PUNJAUB.—There was only one death registered under the head of cholera; it occurred in the town of Majitha, district Amritsar. From small-pox 377 deaths were registered, against 333 in the previous week. The disease continues to prevail with great severity in the districts of Gurgaon, Bannu, and Dera Ismail Khan; seventy-nine, sixty-five, and forty-one deaths respectively were registered in them. The districts of Karnál, Montgomery, and Mooltan also are suffering severely from it. The deaths registered under the head of fevers were 4651, against 4583 in the previous week.

MENTAL THERAPEUTICS.—In a paper read at the Neurological Association, Dr. Beard made the following psychological suggestions:—1. The ill-success of patients treating themselves, and of physicians treating their own families, is partly due to the want of awe and the emotion of wonder to co-operate with them. 2. The old custom of keeping patients ignorant of the contents of prescriptions, by writing them in Latin, had psychology on its side. Possibly, we may be going too far the other way. 3. It is entirely possible that hydrophobia and tetanus may be brought on, with all their distinctive symptoms, and that death may result, through the emotions of fear and expectation alone. 4. Patients whose will and intellect are feeble have a bad prognosis, for with them the subjective symptoms are trifling; and, *vice versâ*. 5. Physicians of great scientific attainment and real worth may fail when an ignorant and obscure charlatan succeeds, because with the latter wonder and awe are excited, and these are more powerful therapeutically than simple respect. 6. In experimenting in hospitals with new medicines, patients must be deceived, or else the results are complicated by mental influence.—*New York Medical Record*, July 21.

TREATMENT OF PARALYSIS OF THE FACIAL NERVE.—Dr. Mascarel strongly recommends the following procedure in cases of rheumatic facial paralysis *à frigore*, independent of intra-cranial complications. A platinum-needle is introduced to the depth of one or one and a half centimetres in the direction of the stylo-mastoidean foramen towards the exit of the facial nerve from the cranium, and a similar needle is carried horizontally into the superior fibres of the orbicularis of the eyelids of the paralysed side. Each needle being brought into contact with the poles of even a feeble pile, intermittent currents are kept up for a period varying from twelve to twenty minutes. Violent and almost convulsive contractions are determined in the orbicularis, and sometimes even after the first sitting the eyelids are brought into contact. Next day the same operation is repeated, the needle being now passed into the lower fibres of the orbit. On the third, fourth, fifth, and sixth days the needle is successivcly plunged into the muscles of the face which prove most refractory—the other needle on all the occasions being directed towards the stylo-mastoidean foramen. After the seventh or eighth day Dr. Mascarel has always found the paralysis disappear in a dozen cases that have come under his care.—*Bulletin de Thérap.*, July 30.

MEDICATION BY MEANS OF THE UNDERCLOTHING.—Under the title "Dermic Medication," Dr. Hachenberg, of Round Mount, Texas, gives an account of a method of treatment concerning the utility of which he had published as far back as 1852. The medicine is used in the form of a solution into which the woollen underclothes of the patient are dipped, being well dried and aired before they are worn. The perspiration dissolves the medicine, which is thus kept continually applied to the skin, producing in many instances the same effect as when employed in the ordinary modes. This method is of particular service in the weak, especially in diseases of the skin. The whole range of soluble medical salts can indeed be used in this manner. "For example, I have treated obstinate constipation with a saturated solution of sulphate of magnesia by the woollen shirt; a chronic intermittent fever with a weak acidulated solution of quinine; neuralgia and hysteria with several of the sedative and antispasmodic salts; skin diseases by alum, borax, chloride and sulphate of potash, etc.; and constitutional depression and paralysis by strychnine. I have used solutions of nauseants by the shirt in affections of the lungs, and the mucous tissue in particular, with the desired effect. Many of the excessive hæmorrhagic and morbid exosmotic operations of the body can, in a great measure, be controlled by the alum shirt, as colliquative sweats and diarrhœas, and even effusions into the cellular tissue not caused by some serious organic disease."—*New York Medical Record*, July 7.

SATURDAY HOSPITAL FUND.—Considerable discussion took place at the meeting of delegates, on Saturday last, of the Saturday Hospital Fund, on the subject of what allowance should be made to provident dispensaries. It was decided that the dispensaries shall receive allowances *pro ratâ* for those who are attended at them free only, striking out the number of patients who partially pay for advice and medicine.

THE POLITICAL MOVEMENT IN FRANCE AND THE PROFESSION.—The French Government is carrying its high-handed procedures with respect to the approaching elections into all quarters. The *Gazette Médicale de Bordeaux* appeals to the profession respecting the deprivation of their posts which two respectable *confrères* have undergone. M. Vernhes was medical officer to one of the railways, and M. Drouin surgeon to a prison. The one had committed the heinous crime of voting for the Liberal deputy on a former occasion, and therefore cannot be trusted in the present emergency; and the other had ventured to offer himself as a candidate for the municipal council in opposition to the nominee of the préfet. The *Gazette* has called upon (hitherto in vain) the French Medical Association to protest against this arbitrary procedure, and expresses its somewhat sanguine belief that no members of the profession will be found willing to offer themselves to fill the vacant posts.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Corrigendum.—Dr. Dupuy writes to us that an error occurs in his article in course of publication. It is to be found on page 86, line 57. Instead of *right* angular gyrus centre, read *left*.

Swinford.—The Association Scientifique de France met this year at Havre. The meeting commenced on the 23rd inst. M. Broca, Professor to the Faculté de Médecine, and director of the School of Anthropology in Paris, is the President, and M. Kuhlmann, the chemical manufacturer of Lille, the Vice-President.

Merritt.—The number of Indians of all descriptions at present inhabiting the United States is estimated at 300,000. Two centuries ago they numbered upwards of 2,000,000. Every tribe, with the exception of the Sioux or Dacotahs, is rapidly decreasing, owing to contagious diseases, intemperance, and wars, both among themselves and with the whites. They are placed under the management of the Indian Bureau—a branch of the interior department of the United States Government, and are governed by agents and superintendents specially appointed for that purpose, the districts in which they live being divided into fourteen superintendencies.

Victor.—The Arabian school of medicine, while the Saracens were masters of Spain, was well acquainted with several metallic remedies. The researches, however, of the chemists, or rather alchymists, first brought to light the value of metals in the hands of the physician. They made thus an important addition to the number of medicines, and effected a change in the healing art, which is felt to the present time.

A Metropolitan Teacher.—The annual registration of students pursuing their professional studies in this metropolis and in the provinces has *not* been suspended, but will take place as usual in October. Write to Mr. Stone.

The Manchester Meeting.—We are informed that a larger number than usual of the members of the Council of the College of Surgeons attended that meeting, read papers, and took part in the discussion; and, for the first time, amongst the latter was the President, Mr. J. Birkett, who readily responded to the request so courteously made to him by Mr. E. Lund, the President of the Surgical Section, to give them the benefit of his great experience.

Mr. Mitchell.—The name of David Griffith Jones was removed from the Register immediately after his conviction, and is not likely to be restored.

B., Westminster.—Dr. Prichard, perhaps, of all others merits the title of founder of modern anthropology. See his "Natural History of Man."

Buckley.—The general census of 1846 shows that Antwerp contained 88,487 inhabitants. In 1851 the population was 95,501, and in 1873 126,663, or, including the suburbs now situated within the fortifications, above 180,000.

Zoologist.—The invention, or rather growth, of the modern aquarium cannot, in the absence of precise data, be accurately traced. The aquarium, as we find it at Brighton, has, like many other things now in daily use, been elaborated from small beginnings. It is known that, more than two centuries ago, marine animals were, for the purposes of study and observation, removed from the sea and kept in confinement; and there is extant a drawing of the date of 1742, which represents the form of an aquarium containing zoophytes.

Denis.—Dominique Anel was celebrated for his successful treatment of aneurism and fistula lachrymalis, and was the inventor of the probe and syringe still known by his name. He wrote several medical works, published at Amsterdam in 1707, Turin 1713, and Paris 1822. He died about 1730.

Artoza.—According to history, Asclepiades died, at an advanced age, from the effects of a fall.

C. C. N.—Dr. William Balfour Baikie was the surgeon and naturalist to the Niger Expedition of 1854. The death of the senior officer occurring at Fernando Po, Dr. Baikie succeeded to the command. He died on his way home, at Sierra Leone, in November, 1863, aged thirty-nine years. An appropriate monument has been erected to his memory within the nave of the ancient cathedral of St. Magnus.

Quintus.—During the past summer session of the University of Leipzig the number of medical students was 366.

Ultima.—It was Sir Thomas Watson's remark. He said—"You will hear persons disputing about the term contagion; but such disputes can only arise from the want of a distinct definition of the sense in which it is employed. I understand a disorder to be contagious when it is in any way communicable from person to person."

Partan.—Anaxilaus, of Larissa, a physician and Pythagorean philosopher, was banished from Rome by Augustus, B.C. 28, on the charge of practising the magic art. This accusation appears to have originated in his superior skill in natural philosophy, by which he produced effects that the ignorant attributed to magic.

Vidus.—We believe the first mention of the capacity of those born deaf to receive instruction is in the writings of Rodolphus Agricola (born A.D. 1442), of Gröningen. He does not state who was the parent of the art, but he mentions in his posthumous work, "De Inventione Dialecticæ," that he had himself witnessed a person deaf from infancy, and consequently dumb, who had learned to understand writing, and, as if possessed of speech, was able to note down his whole thoughts. The truth of this relation was doubted by Louis Vives, of Valentia, who wrote in the beginning of the sixteenth century; but it appears there is as good reason to put trust in Agricola's account, as to join in Vives' disbelief.

Meteorologist.—It was in 1788, Mr. Wilson, of Glasgow, published a paper on hoar-frost in the *Transactions of the Royal Society of Edinburgh.*

H. L., Manchester.—The Government Inspector of the Provincial Medical Schools is Mr. John Birkett, the President of the Royal College of Surgeons. He succeeded Dr. Ogle.

Decimus.—Mr. John Bell was the first surgeon who successfully applied, in Scotland, the science of anatomy to practical surgery. In 1790, whilst yet a very young man, he built a theatre in Surgeon's-square, Edinburgh, where he delivered lectures on surgery and anatomy, carried on dissections, and laid the foundation of a museum. As there was then scarcely any private teaching, or means of cultivating anatomy by private dissections, the establishment of a school naturally excited great hostility against Mr. Bell; every attempt at private teaching being considered, in those days, an encroachment on the privileges of the professors and the rights of the University.

Dr. Williams.—The following is the account of the extraordinary person to whom you allude. He practised at the Cape of Good Hope for some time:—Dr. James Barry was Staff-Surgeon to the Garrison and the Governor's medical adviser. Lord Charles Somerset described him as the most skilful of physicians and the most wayward of men. He had been in professional attendance on the Governor, who was somewhat fanciful about his health; but the Æsculapius, taking umbrage at something said or done, had left his patient to prescribe for himself. The Earl of Albemarle says he had heard so much of this capricious yet privileged gentleman, that he had a great curiosity to see him, and soon after sat next him at dinner at one of the regimental messes. In the learned pundit he beheld a beardless lad, with an unmistakably Scotch type of countenance—reddish hair and high cheek-bones. There was a certain effeminacy in his manner which he seemed to be always striving to overcome. His style of conversation was greatly superior to that usually heard at a mess-table in those days of non-competitive examination. A mystery attached to Barry's whole professional career, which extended over more than half a century. While at the Cape he fought a duel, and was considered to be of a most quarrelsome disposition. He was frequently guilty of flagrant breaches of discipline, and on more than one occasion was sent home under arrest, but somehow or other his offences were always condoned at head-quarters. In Hart's Annual Army List for 1865 the name of James Barry, M.D., stands at the head of the list of Inspectors-General of Hospitals. In July of the same year the *Times* one day announced the death of Dr. Barry; and the next day it was officially reported to the Horse Guards that the doctor was a woman! It is singular that neither the landlady of her lodging, nor the black servant who had lived with her for years, had the slightest suspicion of her sex. The late Mrs. Ward, daughter of Colonel Tidy, stated that she believed the doctor to have been the legitimate granddaughter of a Scotch earl, and that the *soi-disant* "James Barry" adopted the medical profession from attachment to an army surgeon who had not been many years dead.

Mr. Kingsbridge.—In some parts of Devonshire the woodnuts are called "nits," hence the old saying—"The more nits, the more pits"; implying that with an unusual quantity of nuts the mortality that season will be large. During the recent most enjoyable excursion of some members of the British Medical Association to the English Lakes arranged by Messrs. Cook, a large quantity of nuts was pointed out by the tourists, and the above explanation given by a well-known member of our profession.

Histologist.—The late Professor Quekett was the third conservator of the Hunterian Museum. He died at Pangbourne, Berkshire, on August 20, 1861, in the 46th year of his age, leaving a widow (since deceased) and four sons. Messrs. Clift, Owen, and Quekett were Fellows of the Royal Society, as is the present conservator—Professor Flowers.

"The cry is, Still they come."—The names of 400 candidates for the preliminary examination in Arts, etc., for the diplomas of Fellow and Member of the Royal College of Surgeons have been entered at that institution for the examination which will take place at Burlington House in the ensuing month.

A Member and Dr. R.—No place has yet been decided on for the next annual meeting of the Association. A wish was generally expressed at Manchester that it should be in Ireland. Cork and Belfast were mentioned.

Spes.—The old Hôtel Dieu, Paris, on the other side of the square Notre Dame, will be demolished, and the site devoted to a public garden. The first hospital erected there is assigned to the year 656. The founder was Landry, Bishop of Paris. The chapel of the new hospital, and dome of the basement fittings, will not be completed for another twelve months.

COMMUNICATIONS have been received from—

Mr. Charles A. Fox, Stoke Newington; Mr. Haynes Walton, London; Mr. John Chatto, London; Dr. Sparks, Exmouth, Devon; Dr. J. W. Moore, Dublin; Dr. Russell, Birmingham; Dr. Robert Lawson, Sutton; Secretary of the Hospital Saturday Fund, London; Mr. Becher, Ramsgate; Dr. Dupuy, New York; Dr. J. M. Dolan, Halifax; Mr. T. M. Stone, London.

BOOKS AND PAMPHLETS RECEIVED—

John B. Roberts, M.D., Excision of the Lower End of the Rectum in Cases of Cancer—Dr. Emil Fleischer, A System of Volumetric Analysis—W. K. Parker, F.R.S., and G.T. Bettany, M.A., B.Sc., The Morphology of the Skull.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Home Chronicler—La Province Médicale—Cincinnati Clinic—Gazeta Medica da Bahia—Tatler—Whitehall Review—New York Medical Journal—American Practitioner—Hardwicke's Science Gossip—Archives of Dermatology.

APPOINTMENTS FOR THE WEEK.

September 1. *Saturday (this day).*

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

3. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

4. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

5. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

6. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

7. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, August 25, 1877.

BIRTHS.

Births of Boys, 1190; Girls, 1133; Total, 2323.
Average of 10 corresponding years 1867-76, 2135·7.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	662	599	1261
Average of the ten years 1867-76	730·5	677·2	1407·7
Average corrected to increased population ...	...	...	1506
Deaths of people aged 80 and upwards ...	...	...	29

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	1	5	2	1	4	...	2	...	27
North	751729	3	7	7	...	3	...	4	...	40
Central ...	334369	...	2	2	...	...	...	2	...	18
East	639111	...	7	3	1	2	..	3	2	24
South	967692	7	8	10	...	8	1	3	2	49
Total	3254260	11	29	24	2	17	1	14	4	158

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·650 in.
Mean temperature	62·0°
Highest point of thermometer	83·3°
Lowest point of thermometer	40·5°
Mean dew-point temperature	52·0°
General direction of wind	S.W.
Whole amount of rain in the week	1·67 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, August 25, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Aug. 25.	Deaths Registered during the week ending Aug. 25.	Temperature of Air (Fahr.) Highest during the Week.	Temperature of Air (Fahr.) Lowest during the Week.	Temperature of Air (Fahr.) Weekly Mean of Mean Daily Values	Temp. of Air (Cent. Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	Rain Fall. In Centimetres.
London	3533484	46·9	2323	1261	83·3	40·5	62·0	16·67	1·67	4·2
Brighton	102264	43·4	53	50	74·3	45·3	60·7	15·95	...	...
Portsmouth ...	127144	28·3	89	63	73·4	50·0	61·3	16·23	0·33	0·8
Norwich	84023	11·2	52	40	...	...	...	...	...	...
Plymouth	72911	52·3	35	25	71·5	41·0	59·8	15·45	0·98	2·4
Bristol	202950	45·6	120	74	81·2	37·7	59·7	15·39	1·19	3·0
Wolverhampton ...	73389	21·6	52	27	76·0	42·0	57·9	14·39	1·27	3·2
Birmingham ...	377436	44·9	307	169	...	...	...	...	...	...
Leicester	117461	36·7	95	69	...	...	...	...	...	...
Nottingham ...	95025	47·6	70	49	80·9	36·8	60·2	15·67	1·29	3·2
Liverpool	527083	101·2	335	281	68·9	49·6	56·8	13·78	3·32	8·4
Manchester ...	359213	83·7	236	165	...	...	...	...	...	...
Salford	141184	27·3	110	68	70·6	40·1	56·0	13·33	2·45	6·2
Oldham	89796	19·2	74	47	...	...	...	...	...	...
Bradford	179315	24·8	115	60	70·0	45·8	57·3	14·06	1·65	4·1
Leeds	298189	13·8	203	119	70·0	44·0	57·5	14·17	1·63	4·1
Sheffield	282130	14·4	177	94	72·0	42·0	58·4	14·66	2·75	6·9
Hull	140002	38·5	112	70	71·0	42·0	57·2	14·00	2·61	6·3
Sunderland ...	110382	33·4	61	40	67·0	45·0	55·0	12·78	3·02	7·6
Newcastle-on-Tyne	142231	26·5	101	52	...	...	...	...	...	...
Edinburgh	218729	52·2	131	64	63·0	40·5	51·8	11·01	5·46	13·8
Glasgow	555933	92·1	374	212	62·7	44·0	52·8	11·56	2·80	7·1
Dublin	314666	31·3	164	134	77·7	38·7	57·1	13·95	1·00	2·5
Total of 23 Towns in United Kingdm	8144940	38·3	5389	3233	83·3	37·7	57·7	14·28	2·08	5·2

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·65 in. The highest reading was 30·03 in. on Friday morning, and the lowest 29·35 in. at the end of the week.

* The figures for the English and Scottish towns are the number enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

THE STUDENTS' NUMBER

OF THE

MEDICAL TIMES AND GAZETTE

FOR

1877-78.

IN the present number of the *Medical Times and Gazette*, which is specially intended for the guidance of junior Students of Medicine and those about to become students, we have, to a great extent, overlooked the claims of the senior students for instruction and guidance. The reason is simple. As soon as a student enters a school he becomes, or ought to become, part and parcel of it. His teachers will be always glad to help him with advice as to what is best to be done; and as this advice must be founded on a special knowledge, such advice is sure to be better than what we can give, addressed to all. We therefore begin with the period of preparatory education, passing thence to the selection of a school for the first year's studies, thence on to the second year and its appropriate studies, culminating in the first professional examination. With the third year's studies comes the second and in some instances final examination; in the case of certain examining bodies, this comes at the end of the fourth year. In our remarks we shall have in mind for the most part the English Examinations, but those of Scotland and Ireland shall have due attention.

I.—PRELIMINARY EDUCATION.

By the Regulations of the General Medical Council, no person can be registered as a medical student unless he shall have previously passed a preliminary examination in the subjects of general education as hereinafter provided. For the present, testimonials of proficiency granted by educational bodies, according to the subjoined list, are accepted; the Council reserving the right to add to or take from the list. (A degree in Arts of any university of the United Kingdom, or of the colonies, or of such other universities as may be specially recognised from time to time by the Medical Council, is considered a sufficient testimonial of proficiency.)

LIST OF EXAMINING BODIES WHOSE EXAMINATIONS FULFIL THE CONDITIONS OF THE MEDICAL COUNCIL AS REGARDS PRELIMINARY EDUCATION.

I.—*Universities of the United Kingdom.*

Oxford.—Examination for a degree in Arts; Responsions; Moderations; Local Examinations (Senior), certificate to include Latin and Mathematics; Local Examinations (Junior), certificate to include Latin and Mathematics, and also one of the following optional subjects:—Greek, French, German, Natural Philosophy, including mechanics, hydrostatics, and pneumatics.

Cambridge.—Examination for a degree in Arts; Previous Examination; Local Examinations (Senior), certificate to include Latin and Mathematics; Local Examinations (Junior), certificate to include Latin and Mathematics, and also one of the following optional subjects:—Greek, French, German, Natural Philosophy, including the elements of statics and hydrostatics.

Durham.—Examination for a Degree in Arts; Examination for students in their second and first years; Registration Examination for medical students; Local Examinations (Senior), certificate to include Latin and Mathematics; Local Examinations (junior), certificate to include Latin and Mathematics, and also one of the following optional subjects:—Greek, French, German, Natural Philosophy, including mechanics, hydrostatics, and pneumatics.

Oxford and Cambridge Schools' Examination Board.(a)—Certificate to include—Arithmetic (including vulgar and decimal fractions), Algebra (including simple equations), Geometry (first two books of Euclid), Latin (including translation and grammar), and one of the following optional subjects:—Greek, French, German, mechanical division of Natural Philosophy.

London.—Examination for a Degree in Arts or Science; Matriculation Examination.

Aberdeen, Edinburgh, Glasgow, St. Andrews.—Examination for a degree in Arts; Preliminary Examination for Graduation in Medicine or Surgery.

Edinburgh.—Examination of (Senior) Candidates for Honorary Certificates under the Local Examinations of the University of Edinburgh.

Glasgow.—Senior Certificate of Local Examination Board of the University of Glasgow; certificate to include English Literature, Arithmetic, Algebra, Geometry, Latin, and also one of the following optional subjects:—Greek, French, German, Natural Philosophy.

St. Andrews.—Honours Certificates granted under Local Examinations; certificate to include English Literature, Arithmetic, Algebra, Geometry, Latin, and also one of the following optional subjects:—Greek, French, German, Natural Philosophy.

Dublin.—Examination for a degree in Arts; Public Entrance Examination.

Queen's University (Ireland).—Examination for a degree in Arts; Entrance Examination; Examination for the Diploma of Licentiate in Arts; Previous Examination for B.A. degree.

II.—*Other Bodies named in Schedule (A) to the Medical Act.*

Royal College of Surgeons of England.—Examination conducted under the superintendence of the College of Surgeons, by the Board of Examiners of the Royal College of Preceptors.

The Society of Apothecaries in London.—Examination in Arts.

Royal College of Physicians, Edinburgh, Royal College of Surgeons, Edinburgh.—Preliminary Examination in General Education, conducted by a Board appointed by these two Colleges combined.

Faculty of Physicians and Surgeons of Glasgow.—Preliminary Examination in General Education.

Royal College of Surgeons in Ireland.—Preliminary Examination; certificate to include Mathematics.

Apothecaries' Hall of Ireland.—Preliminary Examination in General Education.

III.—*Examining Bodies in the United Kingdom not included in Schedule (A) to the Medical Act.*

Royal College of Preceptors.—Examination for a First Class Certificate.

The Examiners for Commissions and Appointments in her Majesty's Service, Military, Naval, and Civil.—Certificate to include all the subjects required by the General Medical Council.

IV.—*Indian, Colonial, and Foreign Universities and Colleges.*

Universities of Calcutta, Madras, and Bombay.—Entrance Examination; certificate to include Latin.

M'Gill College, Moutreal.—Matriculation Examination.

University of Toronto; Trinity College, Toronto; Queen's College, Kingston; Victoria College, Upper Canada.—Matriculation Examination.

King's College, Nova Scotia.—Matriculation Examination; Responsions.

Medical College, Halifax, Nova Scotia.—Matriculation Examination.

University of Fredericton, New Brunswick.—Matriculation Examination.

University of Melbourne.—Matriculation Examination; certificate to include all the subjects required by the General Medical Council.

University of Sydney.—Matriculation Examination.

University of the Cape of Good Hope.—Matriculation Examination.

University of Adelaide.—Matriculation Examination.

Codrington College, Barbadoes.—1. English Certificate for Students of two years' standing, specifying the subjects of Examination. 2. Latin Certificate, or "Testamur."

Tasmanian Council of Education.—Examination for the Degree of Associate of Arts; certificate to include Latin and Mathematics.

Christ's College, Canterbury, New Zealand.—Voluntary Examinations; certificate to include all the subjects required by the General Medical Council.

South Australia, South Australian Institute, Adelaide.—Preliminary General Examination—First Class Certificate.

It is recommended that the Licensing Boards do not accept the certificate of proficiency in General (Preliminary) Education from any of the bodies, the names of which are contained in the list annually circulated, unless such certificate

(a) The *English* is provided for by the following resolution of the Executive Committee, passed October 27, 1876:—"That, as every candidate for the certificate of the Oxford and Cambridge Schools' Examination Board is required to answer questions in such a manner as to satisfy the examiners that he has an adequate knowledge of English Grammar and Orthography, this shall be held as conforming to the requirements of the Medical Council in reference to English Language."

testify that the student to whom it has been granted has been examined in the following subjects:—

1. English language—including Grammar and Composition.(b)
2. Arithmetic, including vulgar and decimal fractions; Algebra, including simple equations.
3. Geometry—First two books of Euclid, or the subjects thereof.
4. Latin, including translation and grammar.
5. And in one of the following optional subjects:—Greek, French, German, Elementary Mechanics of Solids and Fluids, meaning thereby Mechanics, Hydrostatics, Pneumatics, and Hydraulics.

The authorities of the University of Oxford simply say that each candidate for their degree must have graduated in Arts—that is, attained at least to the rank of B.A. The University of London insists on all men who want to enrol themselves as candidates for their degrees, save those who have passed at certain colonial establishments, passing the somewhat stiff matriculation examination of the University. Though almost all the other examining bodies have preliminary examinations of their own, nevertheless the certificate of having passed one of them is in almost every case accepted as evidence of a due knowledge of the subjects of preliminary education, so that practically a student may pass when and where he chooses. Nevertheless, the great majority of students select the body whose final qualification they seek; hence it comes that in England the great bulk of students select the preliminary examination of the Royal College of Surgeons or of the Apothecaries' Society. The former is conducted by the College of Preceptors, the latter by selected examiners. As the Preliminary Examination of the Royal College of Surgeons of England is that most largely frequented, and is a very fair sample of the several requirements from gentlemen desiring to enter the profession, we give their programme, which is as follows:—

For the year 1878, and until further notice, the following are the subjects of examination:

PART I.—COMPULSORY SUBJECTS.

1. Writing from dictation.
2. English Grammar.
3. Writing a short English Composition, such as a description of a place, an account of some useful or natural product, or the like.
4. Arithmetic. No candidate will be passed who does not show a competent knowledge of the first four rules, simple and compound, of vulgar fractions and of decimals.
5. Questions on the Geography of Europe, and particularly of the British Isles.
6. Questions on the outlines of English History; that is, the succession of the sovereigns, and the leading events of each reign.
7. Mathematics. Euclid, Books I. and II., or the subjects thereof. Algebra, to simple equations inclusive
8. Translation of a passage from the second book of "Cæsar's Commentaries—De Bello Gallico."

PART II.—OPTIONAL SUBJECTS.

Papers will also be set on the following six subjects; and each candidate will be required to offer himself for examination on one subject at least, at his option; but no candidate will be allowed to offer himself for examination on more than four subjects:—

1. Translation of a passage from the first book of the Anabasis of Xenophon.
2. Translation of a passage from X. B. Saintine's "Picciola."
3. Translation of a passage from Schiller's "Wilhelm Tell."

(Besides these translations into English, the candidate will be required to answer questions on the grammar of each subject, whether compulsory or optional.)

4. Mechanics. The questions will be chiefly of an elementary character.
5. Chemistry. The questions will be on the elementary facts of Chemistry.
6. Botany and Zoology. The questions will be on the classification of plants and animals.

(The quality of the handwriting and the spelling will be taken into account.)

N.B.—Each candidate (who has not at a previous examination paid the amount) is required to pay a fee of £2 on the morning of the first day of the examination prior to his admission thereto. Examinations are held in March and September. Particulars respecting the examination will be duly advertised in the journals. Candidates are required to apply for the prescribed form of application a month before the date of the examination, and to send the same to the College not less than three weeks before its commencement.

(b) The General Medical Council will not consider any examination in English sufficient that does not fully test the ability of the candidate—(1) To write a few sentences in correct English on a given theme, attention being paid to spelling and punctuation as well as to composition; (2) to write a portion of an English author to dictation; (3) to explain the grammatical construction of one or two sentences; (4) to point out the grammatical errors in a sentence ungrammatically composed, and to explain their nature; and (5) to give the derivation and definition of a few English words in common use. Provided always, that an examination may be accepted as satisfactory that secures, on the part of the candidate passing it, a sufficient grammatical knowledge of English.

Note.—A candidate, in order to qualify for the Membership, is required to pass at one and the same examination, in all the subjects of Part I. and in one subject in Part II., and failure in any one of those subjects necessitates re-examination in all. A candidate, in order to qualify for the Fellowship, is required, in addition to the subjects included in Part I., to pass in not less than four, at his option, of the subjects in Part II.

SYLLABUS OF SUBJECTS FOR EXAMINATION, 1878.

1. *The English Language.*—The leading features of its history; its structure and grammar; English composition.

[N.B.—The examiners direct the attention of candidates and of their teachers to the large proportion of failures in the English examination. They recommend the study of one of the following grammars:—Angus's, Adams's, William Smith's, Mason's, and, in additiou, Trench's "English Past and Present."]

2. *The Latin Language.*—January Examination: Cæsar, De Bello Gallico, Book V. April Examination: Cicero, De Amicitiâ. September Examination: Horace, Odes, Book III. Re-translation of easy sentences. Grammatical questions will be introduced into the Latin paper, and each candidate will be expected to give satisfactory answers to these.

3. *Mathematics.*—The ordinary rules of Arithmetic; Vulgar and Decimal Fractions; Addition, Subtraction, Multiplication, and Division of Algebraical Quantities; Simple Equations; the First Two Books of Euclid.

4. (*a.*) *Greek:* Xenophon, Anabasis, Books I. and II.; grammatical questions. (*b.*) *French:* Molière, L'Avare; translation from English into French; grammatical questions. (*c.*) *German:* Fouqué, Undine; translation from English into German; grammatical questions. (*d.*) *Natural Philosophy:* Mechanics; Hydrostatics and Pneumatics.

[N.B.—The books recommended for study in this subject are Smith's "Statics," and Smith's "Hydrostatics," or Newth's "Natural Philosophy."]

Certificates in Arts granted by any of the bodies whose certificate is recognised by the Medical Council will be accepted from candidates who present themselves at the professional examination at the Hall, as equivalent to their having passed the above examination.

The following is an outline of the subjects for the Matriculation Examination of the University of London:—

Candidates are examined in the following subjects:

Mathematics.—Arithmetic: The ordinary rules of arithmetic; Vulgar and Decimal Fractions; Extraction of the Square Root. Algebra: Addition, Subtraction, Multiplication, and Division of Algebraical Quantities; Proportion; Arithmetical and Geometrical Progression; Simple Equations. Geometry: The First Four Books of Euclid, or the subjects thereof.

Natural Philosophy.(c)—Mechanics: Composition and Resolution of Statical Forces; Simple Machines (Mechanical Powers)—Ratio of the Power to the weight in each; Centre of Gravity; General Laws of Motion, with the chief experiments by which they may be illustrated; Law of the Motion of Falling Bodies. Hydrostatics, Hydraulics, and Pneumatics; Pressure of Liquids and Gases, its equal diffusion and variation with the depth; Specific Gravity, and modes of determining it; the Barometer, the Syphon, the Common Pump and Forcing Pump, and the Air Pump. Optics; Laws of Reflection and Refraction; formation of Images by Simple Lenses. Heat: its Sources; Expansion; Thermometers—relations between different Scales in common use; difference between Temperature and Quantity of Heat; Specific and Latent Heat—Calometers; Liquefaction; Ebullition; Evaporation; Conduction; Convection; Radiation.

Chemistry.—Chemistry of the Non-metallic Elements, including their compounds as enumerated below, their chief physical and chemical characters, their preparation, and their characteristic tests. Oxygen, Hydrogen, Carbon, Nitrogen; Chlorine, Bromine, Iodine, Fluorine; Sulphur, Phosphorus, Silicon. Combining Proportions by weight and by volume; General Nature of Acids, Bases, and Salts; Symbols and Nomenclature. The Atmosphere - its constitution; effects of Animal and Vegetable Life upon its composition. Combustion; structure and properties of Flame; nature and composition of ordinary fuel. Water: Chemical peculiarities of Natural Waters, such as rain-water, river-water, spring-water; sea-water. Carbonic Acid; Carbonic Oxide; Oxides and Acids of Nitrogen; Ammonia; Olefiant Gas; Marsh Gas; Sulphurous and Sulphuric Acids, Sulphuretted Hydrogen. Hydrochloric Acid, Phosphoric Acid, and Phosphuretted Hydrogen; Silica.

Classics.—The Greek and Latin Languages.(d) The Latin subjects are—for January, 1878—*Livy:* Book II. For June, 1878—*Ovid:* Epistolæ ex Ponto, Book II. The Greek subjects for 1878 are—for January, 1878—*Homer:* Iliad, Book X. For June, 1878—*Xenophon:* Hellenics, Book II. The papers in Greek and Latin shall contain passages to be translated into English, with questions in grammar, and with questions in History and Geography arising out of the subjects of the books selected. Short and easy passages shall also be set for translation from other books not so selected. A separate paper shall be set containing questions in Latin Grammar, with simple and easy sentences of English to be translated into Latin. Special stress is laid on accuracy in the answers to the questions in Greek and Latin Grammar.

The English Language.—Orthography, Writing from Dictation, the Grammatical structure of the Language.

Outlines of English History and Modern Geography.—History of England to the end of the seventeenth century, with questions in modern geography.

The French or the German Language, at the option of the candidate.

The papers in French and German shall contain passages for translation into English, and questions in grammar, limited (except when German is taken as an alternative for Greek) to the Accidence.

Candidates shall not be approved by the Examiners unless they have shown a competent knowledge in each of the following subjects, according to the details specified under the several heads:—1, Latin; 2, any two of the following languages:—Greek, French, and German; 3, the English Language, English History, and Modern Geography; 4, Mathematics; 5, Natural Philosophy; 6, Chemistry.

(c) The questions in Natural Philosophy will be of a strictly elementary character.

(d) Candidates may substitute German for Greek.

ADVICE TO YOUNG CANDIDATES.

Thus far we have dealt with the mere rules and regulations of the various bodies, but it behovos us also to give the young candidates some advice on the subject. There can be no doubt of the exceeding great value of these examinations. Nothing has done so much good in raising the general status of medical men in the upholding of the dignity of our profession as the institution and general enforcement of these. It becomes everyone who desires to enter our profession, and to fight his way to its highest posts of honour, to do all he ean to maintain this status or to raise it to even a higher pitch.

To those who can by any possibility afford it, we should say, Take a degree in Arts before entering upon the study of Medicine. The training acquired at a University is simply invaluable, and the possession of a degree in Arts gives a man a start which ean be obtained in no other way. It at once gives him the ehances of thoso higher appointments so eagerly sought for, and gives him a stamp through life which is always acknowledged and respected.

Should the taking of a degree be impracticable, we should recommend as the next best qualification the Matriculation Examination of the University of London. This, too, is of great value, and is acknowledged by students among themselves, to say nothing of the outer world, as the mark of superior educational acquirements. It is notorious, too, that the medical graduates of this University, who eonstitute its real glory, number among their ranks the greater part of the most distinguished men of the day. Moreover, the possession of such a professional qualification as is given by the University of London is looked upon as the stamp and seal of superior professional acquirements. For all these and other reasons which could be adduced, we would strongly urge intending students of Medicine to pass their preliminary examination here; for, should they do so, they have the option at any future time of going on to take their degree in the University; but, according to the rules of the University, no part of medical education counts prior to the passing of their Matriculation Examination. For this reason, therefore, a student must pass this examination at the very beginning of his medical career. He eannot turn back in the middle of his studies; his ehance is gone.

By the note above it will be seen how little difference there is, as regards preliminary education, between the requirements demanded by the Royal College of Surgeons of those who look forward to the qualification of Membership, and those who aspire to the Fellowship. As the Fellowship of this body is looked upon as giving the same stamp to a surgeon as the M.D. of London does to a physician, we would earnestly urge all who ean attain to it to take up the additional preliminary subjects required for this qualification. For should they at any future time desire to become Fellows of tho College by examination, they will, in all probability, find that it is hard indeed to begin again the studies requisite for the passing of this preliminary examination.

APPRENTICESHIP.

In former days the mode of access to the profession was by apprenticeship to some regular praetitioner, and this was till recently the rule at Apothecaries' Hall, but practically it has been almost completely departed from. Then the plan was for the young apprentice to enter his master's dispensary or surgery, where he would learn to compound medicines, make a pill, and spread a plaster; by-and-by coming in due course to see and prescribe for patients of various ranks, and suffering from various maladies. With a good master, no course of instruction could be better, and with it men were apt to make better practical practitioners than now, especially as regards the prescribing of medicines and their eompounding. But with a careless master the system only tended to perpetuate routine practice, and to produce careless, ignorant, and self-conceited practitioners. Undoubtedly the plan rendered students, when they eame to the hospital—which they did towards the elose of their apprenticeship—much more at homo and much more able to appreciate what they saw and heard around them. The system is not yet wholly forgotten, and, with the proviso above mentioned, we heartily commend it. In a modified form it may still be usefully intercalated into the modern system of medical education. The number of years prescribed for this education is four, whilst most hospital courses are so arranged as to be got over in three, leaving a year unoccupied by class work. This year may be spent with advantage, either before entering the medical school, or after having finished the course. Of the latter we shall speak hereafter, but the young student may spend it well, before joining a hospital, in working in the laboratory of a general practitioner, learning something of Chemistry and Pharmacy, and thus preparing himself to enter the school with advantage. This gives him a decided pull over those who como straight to the hospital from a public school. Moreover, this is to be said: it is a good thing for a young man to feel his own weight, his responsibilities and duties, before entering a medical school. The change is so sudden and so violent, from the strict discipline of a school, to the almost unrestricted liberty of the medical student, that sometimes young lads lose their heads for awhile; but the almost uniform good behaviour of the medical students of the present day has a decidedly beneficial effect upon the newly entered candidates for medical qualification.

At all events, we would strongly urge on all intending students to acquire, before entering a medical school, some knowledge of Chemistry and Physics, and, if possible, an acquaintance with Human Osteology, commonly known as "the bones."

REGISTRATION.

As soon as the student has passed his preliminary examination, he ought to register his certificate at the office of the General Medical Council, 315, Oxford-street, W., or at that of one of the Branch Registrars, which will save him all further trouble as regards preliminary education. This is necessary, if the student desires to spend the first year with a general practitioner or at a country hospital, so as to make the time thus spent count. But when the student comes to enter a medical school, he must register the actual commencement of his hospital studies. In London the plan is this: On entering a school the student receives certain class-tickets or other certificate of having joined the school; with these in his hands he goes to the College of Surgeons, and is there registered as a Student of the College. This is necessary for admission to the examinations of the College as far as metropolitan students are concerned. Tho same kind of thing is done at Apothecaries' Hall; but it is now common for the return required by the General Medical Council to be sent in by the school authorities. *All registration must be made within fifteen days of the beginning of the session or other mode of study, or the year will be lost.*

II.—PRELIMINARY SCIENTIFIC EDUCATION.

Speaking of general education, we have incidentally referred to the importance of certain scientific acquirements. These, though not absolutely essential to some knowledge of Medicine, are so important as to bo held in the first rank of subsidiary subjects. Thus, by the rules of the College of Surgeons, a student may be examined on the following subjects, but the examination is not compulsory: these are—Mechanics, Chemistry, Botany, and Zoology. Of these, the first three are of most importance to the student, and every effort ought to

be made to acquire a knowledge of them sufficient at least to pass this examination. The University of London, however, has instituted an examination known as the Preliminary Scientific, dealing with these and allied subjects. This examination is a very powerful test of a man's acquirements, and many break down under it. We strongly counsel all to pass it, if possible, before entering on their purely medical studies. It is sad to see the loss of time implied by a man being forced to devote his attention to purely scientific subjects when he ought to be attending to others which belong to later periods of his career, and which he will havo to work up under like unfavourable auspices. The following are the regulations relating to this examination in the University of London :—

PRELIMINARY SCIENTIFIC (M.B.) EXAMINATION.

The Preliminary Scientific Examination shall take place once in each year, and shall commence on the third Monday in July.

[Candidates for the degree of M.B. are strongly recommended by the Senate to pass the Preliminary Scientific Examination before commencing their regular medical studies; and to devote a preliminary year to preparation for it according to the following programme:—Winter Session: Experimental Physics; Chemistry (especially Inorganic); Zoology. Summer Session: Practical Chemistry (Inorganic); Botauy.]

Candidates shall be examined in the following subjects:—

INORGANIC CHEMISTRY.

Differences betweeu mechanical mixture, solution, and chemical combination; outlines of crystallography; formation of crystals; dimorphism; isomorphism; conditions on which the melting-point and the boiling-point of a substance depend; difference between elementary and compound substances; laws of chemical combination; equivalent weights of the elements; multiple proportions; the atomic theory; atomic value (quantivalence); molecules; molecular weights; relation between the density of a gas and its molecular weight; abnormal densities; Avogadro's hypothesis; combination of gases by volume; compound radicals; atomic and molecular combination. Meaning of chemical symbols, formulæ, and equations; calculation of quautities by weight and by volume; chemical changes, and the conditions under which they occur; combination; decomposition; double decomposition; nature of acids, bases, and salts; capacity of saturation of acids and bases; nomenclature. Relation between atomic weight and specific heat; Faraday's electrolytic law; principles of spectrum analysis; diffusion of gases. Hydrogen, chlorine, bromine, iodine, fluorine; the combination of the last four elements with hydrogen. Oxygen; ozone; water and peroxide of hydrogen; the oxides and oxyacids of chlorine; chlorates and hypochlorites. Sulphur; sulphuretted hydrogen; the oxides of sulphur; sulphuric acid and the sulphates; sulphurous acid and the sulphites; chlorosulphuric acid. Nitrogen; the atmosphere and its relations to animal and vegetable life; ammonia; ammonium and its salts; the oxides of nitrogen; nitric acid and nitrates; nitrous acid and nitrites. Phosphorus; phosphoretted hydrogen; the oxides of phosphorus; phosphoric acid and the phosphates; chloride and oxychloride of phosphorus. Arsenic and its oxides; arseniuretted hydrogen; arsenious acid and its salts; arsenic acid and its salts; the sulphides of arsenic; detection of arsenic. Antimony, its oxides and sulphides; antimoniuretted hydrogen; chlorides of antimony; compounds of autimonic oxide; detection of antimony. Boron; boracic acid and the borates. Carbon; carbonic oxide and carbonic acid; the carbonates; carbon oxysulphide; sulphocarbonic acid; marsh-gas; ethylene; combustion; structure of flame; coal-gas; Davy lamp; principles of illumination. Silicon; Siliciuretted hydrogen; silicon chloride; silicon chloroform; silica and the silicates. Potassium; sodium; silver. Calcium; strontium; barium. Aluminium. Magnesium; zinc; cadmium. Lead. Manganese; iron; cobalt; nickel; chromium. Bismuth; copper; mercury; gold; tin. Platinum. The chief compounds of these metals with the more important acid radicals; the detection of these metals and their compounds, in powder or in solution.

EXPERIMENTAL PHYSICS.

[Candidates will be expected to show a general acquaintance with the methods and apparatus by which the leading principles of Physics as enumerated below can be illustrated and applied.]

Units of measurement. The laws of motion considered experimentally. The chief forces of nature. The general properties of solids, liquids, and gases. The nature, intensity, and transmission of fluid pressure in general. The pressure of liquids in equilibrium under the action of gravity. The equilibrium of solids floating or entirely immersed in gravitating fluids. The specific gravities of substances, with the ordinary modes of determining them. Measurement of the pressure of the atmosphere and of the elastic force of gases. Diffusion of liquids and gases. Definition of work and energy: conservation and transmutation of energy.

Acoustics.—Production and mode of propagation of sound; intensity, pitch and quality. Velocity of sound in air. Influence of temperature and density. Velocity of sound in other media. Laws of reflection and Refraction. Nature of musical sounds. Longitudinal vibrations of rods and of columns of air. Transverse vibrations of strings; variation in their rate of vibration by changes in their tension, length, thickness, and substance.

Heat.—Definitions of heat and temperature. Construction of instruments for the measurement of temperature. Expansiou of solids, liquids, and gases under heat. Change of state; tension of vapours; latent heat. Radiant heat; its reflection, refraction, and absorption. Conduction; definition of thermal conductivity. Convection. Specific heat; mechanical equivalent of heat.

Magnetism.—Properties of magnets; induction—magnetic relations of iron and steel. Terrestrial magnetism.

Electricity.—Two electrical states, and their mutual relations. Conduction and insulation. Induction. Electric attraction aud repulsion. Distribution and accumulation of electricity on conductors. Electric discharge. Voltaic electricity; the various batteries. Electro-motive force. Strength of currents, resistance; Ohm's law. Heating and chemical effects of electric currents; action between currents and magnets; electro-magnetism, Induced currents; magneto-electricity. Thermo-electricity.

Optics.—Laws of propagation of light; measurement of velocity of light; photometry. Laws of reflection and refraction of light. Reflection at plane and at spherical surfaces. Refraction at plane and at spherical surfaces. Refraction through lenses, ineluding the formation of images. Chromatic dispersion.

BOTANY AND VEGETABLE PHYSIOLOGY.(a)

Structure, functions, and life-history of simple unicellular plants, such as *Protococcus* and *Saccharomyces* (yeast), as types of vegetable life. Structure, functions, and life-history of *Penicillium*, *Mucor*, or some other simple fungus. Structure, functions, and life-history of *Chara* or *Nitella*. Morphology, histology, and history of the reproduction of a fern. Morphology and histology of a flowering plant; structure of a flower; homologies of leaves and floral organs; histology of ordinary vegetable tissues, such as epidermis, parenchyma, fibro-vascular tissue, and their arrangement in the stem and leaves. General principles of vegetable nutrition; food of plants; action of green parts of plants; nature and flow of sap. Growth of a flowering plant; formation of wood and bark; nature of cambium. Reproduction of a flowering plant; structure of ovule; methods of fertilisation; development of ovule into seed; distinctive characters of gymnosperms. Distinctive characters of the principal British natural orders, viz.,—*Dicotyledons*, Ranunculaceæ, Cruciferæ, Caryophylleæ, Leguminosæ, Rosaceæ, Umbelliferæ, Compositæ, Scrophulariaceæ, Labiatæ, Amentaceæ; *Monocotyledons*, Orchideæ, Liliaceæ, Cyperaceæ, Gramineæ; *Acotyledons*, Filices, Musci, Lichens, Algæ, Fungi. (Description in technical language of specimens of flowering plants to be provided by the examiners.) Derivation and meaning of the following terms, and demonstration of their application on specimens (provided by the examiners):—Thalamifloral, calycifloral, corollifloral; hypogynous, perigynous, epigynous; monandrous, diandrous, etc.; individual, variety, species, genus, order, class, kingdom.

ZOOLOGY.

General structure and life-history of the following animals, as types of some of the principal divisions of the animal kingdom:—Amœba, paramœcium, hydra, tænia, leech, mussel, snail, centipede, insect, lobster, frog. Comparative structure of the digestive apparatus (including the teeth) in the dog, sheep, pig, and rabbit. Comparative structure and actions of the circulating and respiratory organs in the animals enumerated in the first sentence of this paragraph, and also in each of the vertebrated classes. Essential structure of secretory organs; principal varieties in the structure of the liver and kidney. General plan of the nervous system in mollusca, arthrozoa, and vertebrata. Proportionate development of the spinal cord and of the several encephalic centres in the ascending series of vertebrata. Respective functions of those centres. Modes of reflex action. Outlines of the comparative history of embryonic development in frog, bird, and mammal.

III.—PROFESSIONAL EDUCATION.

THE COURSES NECESSARY FOR QUALIFICATION.

THE object of medical education may be said, though inaccurately, to be twofold. The final end is, of course, to enable a man to practise his profession with advantage to himself and safety to the public. But the only criterion or test of this capability available to the public is the *testamur*, certificate, or diploma of some responsible body, which is accepted and registered by the General Medical Council. These bodies are somewhat numerous, and their requirements very diversified; consequently, the young student must take care, provided he wants a given diploma, to make his course of instruction correspond with that required by the body whence he desires his qualification. Moreover, it often happens that after a time a man may, for certain reasons, desire the diploma of another body besides that he originally contemplated; and for this reason alone, were it for no other, a wide curriculum is most desirable. In strict logic, therefore, these rules should be here given, and we shall try to indicato them as briefly and clearly as possible.

(A.) REGULATIONS OF BODIES GRANTING THE DEGREE OF DOCTOR OF MEDICINE.

1. UNIVERSITY OF OXFORD.

DEGREES IN MEDICINE.

EVERY student in Medicine is required to have passed all the examinations for the degree of B.A., and to reckon the time of his medical study from the final examination for Arts.

1. Candidates for the degree of B.M. are required to pass two examinations, each of which is held yearly in full Michaelmas Term, usually at the end of November, due notice being given, in the usual manner, by the Regius Professor of Medicine.

The subjects of the first examination are Human Anatomy and Physiology, Comparative Anatomy and Physiology to a

(a) Candidates for this and other botanical examinations are expected to bring with them a pocket-lens or simple microscope of two powers, and also a sharp penknife.

certain extent, and those parts of Mechanical Philosophy, Botany, and Chemistry which illustrate Medicine. The subjects of the second examination are the Theory and Practice of Medicine (including Diseases of Women and Children), the Materia Medica, Therapeutics, Pathology, the Principles of Surgery and Midwifery, Medical Jurisprudence, and General Hygiene. Every candidate at this second examination is to be examined in two of the ancient authors, Hippocrates, Aretæus, Galen, and Celsus; or in one of those four, and in some more modern author approved by the Regius Professor, as Morgagni, Sydenham, or Boerhaave.

Before a candidate is admitted to the first of these two examinations, he must have spent two years in professional studies after having passed the examinations required for the degree of B.A., unless he was placed in the first or second class in the School of Natural Science, in which case, if he received from the public examiners a special certificate of his attainments in Mechanical Philosophy, Chemistry, or Botany, he may be admitted to this examination at once, and need not then be examined again in any science specified in such certificate.

Before a candidate is admitted to the second examination, he must have completed sixteen terms from the date of the same *testamur*, and two years from the date of his *testamur* in the first medical examination, and must deliver to the Regius Professor satisfactory certificates of his attendance at some first-class hospital.

No one from another University can be incorporated as a graduate in Medicine without passing these two examinations, as well as having previously passed all examinations for the B.A. degree at his own University.

2. A Bachelor of Medicine wishing to proceed to the degree of Doctor is required to read publicly within the precincts of the Schools, in the presence of the Regius Professor, a dissertation composed by himself on some medical subject approved by the Professor, and to deliver to him a copy of it.

2. UNIVERSITY OF CAMBRIDGE.

REGULATIONS FOR DEGREES IN MEDICINE AND SURGERY.

Degree of Bachelor of Medicine.—Before a student can become a Bachelor of Medicine he must have resided nine terms (three academical years) in the University, and have graduated in Arts, or have passed the Previous Examination.

Five years of medical study are required, unless the student has graduated with honours as Bachelor of Arts, in which case four years of medical study are deemed sufficient.

There are three examinations for M.B.

The first examination is in—1. Chemistry and other branches of Physics; 2. Botany. Before presenting himself for it the student must have attended lectures on Chemistry, including manipulations, and on Botany.

The second examination is in—1. Elements of Comparative Anatomy; 2. Human Anatomy and Physiology; 3. Pharmacy. The student must have completed two years of medical study; and must also produce certificates of attendance on lectures on the Elements of Comparative Anatomy, Human Anatomy and Physiology, and Pharmacy; and of one year's hospital practice, and of one season's dissections.

The third examination is in—1. Pathology and Practice of Physic; 2. Clinical Medicine; 3. Medical Jurisprudence; 4. Principles of Surgery; and 5. Midwifery. The candidate must have completed the course of medical study, and must produce certificates of attendance on one course of lectures on each of the following subjects:—Pathological Anatomy, Principles and Practice of Physic, Clinical Medicine, Clinical Surgery, Medical Jurisprudence, and Midwifery. With attendance on ten cases of Midwifery; and of having attended the medical practice of a hospital during three years, and the surgical practice during one year; and of having been clinical clerk for six months at a recognised hospital, or of having had special charge of hospital, dispensary, or union patients under a qualified medical practitioner.

After the third examination an Act has to be kept, which consists in reading an original thesis, followed by a *vivâ voce* examination on the subject of the thesis, as well as on other subjects of the Faculty.

The Degree of Doctor of Medicine may be taken three years after M.B. An Act has to be kept, with *vivâ voce* examinations, and an essay has to be written extempore. A Master of Arts of four years' standing can proceed direct to M.D. provided he produces the same certificates and passes the same examinations as for M.B.

Degree of Master in Surgery.—The candidate must have passed all the examinations for the degree of M.B., and must produce certificates of having attended a second course of lectures on Human Anatomy, one course of lectures on the Principles and Practice of Surgery, one year's clinical surgical lectures, a second season of dissections, three years' surgical practice of a recognised hospital, and of having been House-Surgeon or Dresser for six months. The subjects of the examination are—1. Surgical Anatomy; 2. Pathology and the Principles and Practice of Surgery; 3. Clinical Surgery.

The examinations are partly in writing and partly *vivâ voce* in the dissecting-room and in the hospital. They take place in the Michaelmas and Easter Terms.

3. UNIVERSITY OF LONDON.

This University grants degrees both in Medicine and Surgery, and certificates in subjects relating to Public Health. Those available for young students are the Bachelorships of Medicine and Surgery.

Every candidate for the degree of Bachelor of Medicine shall be required—

1. To have passed the matriculation examination in this University (unless he has taken a degree in Arts in one of the Universities of Sydney, Melbourne, Calcutta, or Madras, and Latin was one of the subjects in which he passed).

2. To have passed the preliminary scientific examination, which is in Experimental Physics, Inorganic Chemistry, Practical Chemistry, Botany and Vegetable Physiology, and Zoology.—See page 250. (Candidates for the degree of M.B. are strongly recommended by the Senate to pass the preliminary scientific examination before commencing their regular medical studies.)

3. To have been engaged in his professional studies during four years subsequently to matriculation or graduation in Arts, at one or more of the medical institutions or schools recognised by this University; one year, at least, of the four to have been spent in one or more of the recognised institutions or schools in the United Kingdom.

4. To pass two examinations in Medicine.

FIRST M.B. EXAMINATION.

No candidate shall be admitted to the first M.B. examination unless he have passed the preliminary scientific examination at least one year previously,(a) and have produced certificates to the following effect:—

1. Of having completed his nineteenth year.

2. Of having, subsequently to having passed the matriculation examination, or taken a degree in Arts in one of the before-named universities, been a student during two years at one or more of the medical institutions or schools recognised by this University; and of having attended a course of lectures on each of three of the subjects in the following list:—DESCRIPTIVE AND SURGICAL ANATOMY, GENERAL ANATOMY AND PHYSIOLOGY, COMPARATIVE ANATOMY, PATHOLOGICAL ANATOMY, MATERIA MEDICA AND PHARMACY, GENERAL PATHOLOGY, GENERAL THERAPEUTICS, FORENSIC MEDICINE, HYGIENE, OBSTETRIC MEDICINE AND DISEASES PECULIAR TO WOMEN AND INFANTS, SURGERY, MEDICINE.

3. Of having, subsequently to having passed the matriculation examination or taken a degree in Arts, dissected during two winter sessions.

4. Of having, subsequently to having passed the matriculation examination or taken a degree in Arts, attended a course of Practical Chemistry, comprehending practical exercises in conducting the more important processes of general and pharmaceutical Chemistry; in applying tests for discovering the adulteration of articles of the Materia Medica, and the presence and nature of poisons; and in the examination of mineral waters, animal secretions, urinary deposits, calculi, etc.

5. Of having attended to Practical Pharmacy, and of having acquired a practical knowledge of the preparation of medicines.

The fee for this examination shall be five pounds.

Candidates shall be examined in the following subjects:—ANATOMY, PHYSIOLOGY, MATERIA MEDICA AND PHARMACEUTICAL CHEMISTRY, ORGANIC CHEMISTRY.

(a) Candidates who matriculated previously to January, 1861, will not be required to pass the preliminary scientific examination in any other subjects than Chemistry and Botany; and they will be allowed to pass the preliminary scientific examination and the first M.B. examination in the same year, if they so prefer.

Law of substitution; compound radicals; homologous series; principles of ultimate analysis. The chemical history of the cyanogen group; cyanogen; hydrocyanic acid; cyanic acid and urea; sulphocyanic acid; uric acid. Amylaceous and saccharine substances; fermentation; alcohol, wine, beer, bread, etc. Homologues of alcohol; ethers, simple and mixed; oxidation of alcohol; aldehyd and acetic acid and their homologues. Glycol and oxalic acid and their homologues. Glycerine; fatty and oily bodies; saponification. Principal vegetable acids. Ammonia and its derivatives; ammonium and ammoniacal salts. The chief natural organic bases. The chief constituents of the vegetable organism; cellulose; vegetable fibrin; albumin, casein, glutin, etc. The chief constituents of the animal organism; animal fibrin, albumin, casein, gelatin; blood, milk, bile, urine, etc. Decay, putrefaction; destructive distillation. The chemical principles of the processes of nutrition and respiration in plants and animals.

SECOND M.B. EXAMINATION.

No candidate shall be admitted to the second M.B. examination within two academical years of the time of his passing the first examination, nor unless he have produced certificates to the following effect:—

1. Of having passed the first M.B. examination.

2. Of having, subsequently to having passed the first M.B. examination, attended a course of lectures on each of two of the subjects comprehended in the foregoing list, and for which the candidate had not presented certificates at the first M.B. examination.

3. Of having conducted at least twenty labours. (Certificates on this subject will be received from any legally qualified practitioner in medicine.)

4. Of having attended the surgical practice of a recognised hospital or hospitals during two years, with clinical instruction on and lectures on Clinical Surgery.

5. Of having attended the medical practice of a recognised hospital or hospitals during two years, with clinical instruction on and lectures on Clinical Medicine. N.B.—The student's attendance on the surgical and on the medical hospital practice may commence at any date after his passing the preliminary scientific examination, and may be comprised either within the same year or within different years; provided that in every case his attendance on surgical and medical hospital practice be continued for at least eighteen months subsequently to his passing the first M.B. examination. Attendance during three months in the wards of a lunatic asylum recognised by the University, with clinical instruction, may be substituted for a like period of attendance on medical hospital practice.

6. Of having, subsequently to the completion of his attendance on surgical and medical hospital practice, attended to Practical Medicine, Surgery, or Obstetric Medicine, with special charge of patients, in a hospital, infirmary, dispensary, or union, during six months.

7. Of having acquired proficiency in vaccination. (Certificates on this subject will be received only from the authorised vaccinators appointed by the Privy Council.)

The candidate shall also produce a certificate of moral character from a teacher in the last school or institution at which he has studied, as far as the teacher's opportunity of knowledge has extended.

The fee for this examination shall be £5.

Candidates shall be examined in the following subjects:—General Pathology, General Therapeutics and Hygiene; Surgery, Medicine, Obstetric Medicine, Forensic Medicine.

The examinations shall include questions in Surgical and Medical Anatomy, Pathological Anatomy, and Pathological Chemistry.

BACHELOR OF SURGERY.

No candidate shall be admitted to the examination for the degree of Bachelor of Surgery unless he have produced certificates to the following effect:—

1. Of having passed the second examination for the degree of Bachelor of Medicine in this University.

2. Of having attended a course of instruction in Operative Surgery, and of having operated on the dead subject.

Candidates are examined on Surgical Anatomy and surgical operations, by printed papers; examination, and report on cases, of surgical patients; performance of surgical operations upon the dead subject; application of surgical apparatus; *vivâ voce* interrogation.

MASTER IN SURGERY.

The examination for the degree of Master in Surgery shall take place once in each year, and shall commence on the fourth Monday in November.

No candidate shall be admitted to this examination unless he have produced certificates to the following effect:—

1. Of having taken the degree of Bachelor of Surgery(b) in this University.

2. Of having attended, subsequently to having taken the degree of Bachelor of Surgery in this University—*a*. To Clinical or Practical Surgery during two years in a hospital or medical institution recognised by this University. *b*. Or to Clinical or Practical Surgery during one year in a hospital or medical institution recognised by this University; and of having been engaged during three years in the practice of his profession. *c*. Or of having been engaged during five years in the practice of his profession, either before or after taking the degree of Bachelor of Surgery in this University. (One year of attendance on Clinical or Practical Surgery, or two years of practice, will be dispensed with in the case of those candidates who at the B.S. examination have been placed in the first division.)

3. Of moral character, signed by two persons of respectability.

These certificates shall be transmitted to the Registrar at least *fourteen days* before the examination begins.

DOCTOR OF MEDICINE.

The examination for the degree of Doctor of Medicine shall take place once in each year, and shall commence on the fourth Monday in November.

No candidate shall be admitted to this examination unless he have produced certificates to the following effect:—

1. Of having passed the second examination for the degree of Bachelor of Medicine in this University.

2. Of having attended, subsequently to having taken the degree of Bachelor of Medicine in this University—*a*. To Clinical or Practical Medicine during two years in a hospital or medical institution recognised by this University. *b*. Or to Clinical or Practical Medicine during one year in a hospital or medical institution recognised by this University; and of having been engaged during three years in the practice of his profession. *c*. Or of having been engaged during five years in the practice of his profession, either before or after taking the degree of Bachelor of Medicine in this University. (One year of attendance on Clinical or Practical Medicine, or two years of practice, will be dispensed with in the case of those candidates who at the second M.B. examination have been placed in the first division.)

3. Of moral character, signed by two persons of respectability.

These certificates shall be transmitted to the Registrar at least *fourteen days* before the examination begins.

EXAMINATION IN SUBJECTS RELATING TO PUBLIC HEALTH.

A special examination shall be held once in every year in subjects relating to Public Health, and shall commence on the second Monday in December.

No candidate shall be admitted to this examination unless he shall have passed the second examination for the degree of Bachelor of Medicine in this University at least one year previously; nor unless he shall have given notice of his intention to the Registrar at least two calendar months before the commencement of the examination.

Candidates shall be examined in the following subjects:—Chemistry and Microscopy, in relation to the examination of air, water, and food; Meteorology and Geology, as far as they bear on the duties of Health Officers, viz.:—General knowledge of meteorological conditions; reading and correction of instruments. General knowledge of soils; their conformation and chemical composition.

Vital Statistics, in reference to the methods employed for determining the health of a community; birth-rate; death-rate; disease-rate; duration and expectancy of life. Present amount of mortality, and its causes, in different communities.

Hygiene.—General principles of Hygiene. Special topics: Soil, construction of dwellings, conservancy of cities, unhealthy trades; supply of food to cities and examination of food; disposal of sewage, water-supply.

Medicine, in reference to the origin, spread, and method of prevention of diseases generally, but especially those of the epidemic class.

Sanitary Engineering, as far as regards the arrangements

(b) Candidates who have obtained the degree of Bachelor of Medicine previously to 1866 will be admitted to the examination for the degree of Master in Surgery without having taken the degree of Bachelor in Surgery; and in the case of such candidates, the attendance on surgical practice required by Regulation 2 may commence from the date of the M.B. degree.

connected with water-supply, sewerage, and ventilation. A knowledge of the reading of plans, sections, scales, etc.

Sanitary Law, as far as it relates to the duties of Officer of Health. A knowledge of the powers given under the various Sanitary Acts, as defined in the instructions issued by the Local Government Board, and of the methods of procedure in special cases.

The examination, which shall be both written and practical, shall extend over four days.

Candidates shall not be approved by the examiners unless they have shown a competent knowledge in all the principal subjects of the examination.

4. UNIVERSITY OF DURHAM.

For Registration.—Candidates for registration as students in Medicine must have passed the Medical Registration examination appointed by the University, or such other examination as the Warden and Senate may deem equivalent thereto.

Any Arts examination recognised by the General Medical Council is accepted by the University.

For Licences and Degrees in Medicine and Surgery.—Two licences and three medical degrees are conferred by the University of Durham, viz., licences in Medicine and Surgery, and the degrees of Bachelor of Medicine, Master in Surgery, and Doctor of Medicine.

Regulations for the Licence in Medicine.—1. The candidate must produce certificates of registration as a student in Medicine, of good moral conduct, of having attained the age of twenty-one years, and such certificates of attendance on lectures and hospital practice as the Warden and Senate shall require.

2. The candidate must have been engaged in medical and surgical study for four years after registration as a student in Medicine. One of the four years must be spent at the University of Durham College of Medicine, Newcastle-on-Tyne; the other three may be spent either at Newcastle-on-Tyne, or at one or more of the schools recognised by the licensing bodies named in Schedule (A) of the Medical Act, 1858.

There are two professional examinations—the first is held at the end of the second winter session; the final at the end of the fourth year of medical study.

Regulations for the Licence in Surgery.—The regulations are the same as those for the licence in Medicine, except that the final examination is directed more particularly to Surgery, and may or may not be passed at the same time as the final examination for the licence in Medicine.

Regulations for the Degree of Bachelor of Medicine.—1. The candidate must produce certificates of registration as a student in Medicine, of good moral conduct, of having attained the age of twenty-one years, and such certificates of attendance on lectures and hospital practice as the Warden and Senate shall require.

2. The candidate must have obtained a degree in Arts of the University of Durham, or must have passed the Arts examination for graduation in Medicine of the University, or must produce one or other of the following certificates:—(*a.*) A certificate of graduation in Arts at any of the following Universities, viz.:—Oxford, Cambridge, Durham, London, Queen's University (in Ireland), Edinburgh, Glasgow, St. Andrews, Aberdeen, Calcutta, Madras, Bombay, McGill College (Montreal), and Queen's College (Kingston). (*b.*) A certificate of having passed the preliminary or extra-professional examination for graduation in Medicine of any of the following Universities, viz.:—London, Edinburgh, Glasgow, St. Andrews, Aberdeen, Queen's University (Ireland); the Arts examination, qualifying for the Membership of the Royal College of Physicians of London; the Arts examination, qualifying for the Fellowship of the Royal College of Surgeons of England.

3. The candidate must have been engaged in medical and surgical study for four years after registration as a student in Medicine. One of the four years must be spent at the University of Durham College of Medicine, Newcastle-on-Tyne; the other three may be spent either at Newcastle-on-Tyne, or at one or more of the schools recognised by the licensing bodies named in Schedule (A) of the Medical Act, 1858.

There are two professional examinations. The first is held at the end of the second winter session, the final at the end of the fourth year of medical study. The subjects are the same as for the licence in Medicine, but the examinations are more stringent.

Regulations for the Degree of Master in Surgery.—The regulations are the same as for the degree of Bachelor of Medicine, except that the final examination is directed more particularly to Surgery.

Regulations for the Degree of Doctor of Medicine.—1. The candidate must have obtained the degree of Bachelor of Medicine, must be of the age of twenty-four years, and must have been engaged, subsequently to his having received the degree of Bachelor of Medicine, for at least two years in attendance on a hospital, or in the Military or Naval Services, or in medical and surgical practice. 2. The candidate must write an essay, based on original research or observation, on some medical subject, selected by himself, and approved of by the Professor of Medicine, and must pass an examination thereon, including the collateral medical sciences involved in the subject of the essay.

EXAMINATIONS.

Registration Examinations.—Registration examinations will be held at Durham, commencing September 18, 1877, and April 16 and September 17, 1878. Application must be made, at least one month before the day of examination, to Arthur Beanlands, Esq., Durham, to whom candidates must, at the same time, send the examination fee of £1, and certificates of age and character, and specify the optional subject in which they wish to be examined. The following are the subjects for the registration examinations:—Necessary Subjects—The history contained in the Acts of the Apostles; English Grammar and Composition; Arithmetic, including Vulgar and Decimal Fractions; Algebra, including Simple Equations; Euclid, Books I. and II.; Latin Grammar, with—*in September*, 1877 and 1878, Virgil, Æneid, Lib. I. and II.; *in April*, 1878, Cæsar, De Bello Gallico, Lib. I. and II. In addition to the above, all candidates are required to satisfy the examiners in one (at least) of the following optional subjects:—Greek Grammar, with Xenophon's Memorabilia, Books I. and II.; French Grammar, with Voltaire's Charles XII.; German Grammar, with Goethe's "Dichtung und Wahrheit," Book I.; elementary questions in Mechanics, Hydrostatics, and Pneumatics. In addition to the foregoing examinations the Warden has authority, in case of urgency, to appoint an extraordinary registration examination at any time. The fee for such examination is £2.

Professional Examinations.—The first professional examination for licences and degrees in Medicine and Surgery is held at the end of the second winter session. The following are the subjects of the examination:—Anatomy, Physiology, Chemistry, Botany. The next examination will be held in April, 1878. The final professional examination for licences and degrees in Medicine and Surgery is held at the end of the fourth year of medical study. The following are the subjects of the examination:—Materia Medica, Therapeutics, Medical Jurisprudence, Pathological Anatomy, Midwifery, Diseases of Women and Children, Medicine, and Surgery. The next examination will commence on June 10, 1878.

Examination for the Degree of Doctor of Medicine.—The candidate must write an essay, based on original research or observation, on some medical subject, selected by himself, and approved of by the Professor of Medicine, and must pass an examination thereon, including the collateral medical sciences involved in the subject of the essay. The examinations for licences and degrees in Medicine and Surgery are conducted in Newcastle—1. By printed papers of questions. 2. Practically in Anatomy, Physiology, Chemistry, Materia Medica, Pathology, Surgery, Medicine, Midwifery, and Medical Jurisprudence. 3. *Vivâ voce* on all the subjects.

Every candidate wishing to present himself for any of the above examinations must give at least fourteen days' notice to the Registrar of the College, and must, at the same time, send the fee (£1) and the necessary certificates.

Examination for the Degree of Doctor of Medicine, for Medical Practitioners of Fifteen Years' Standing, without Residence.—The Warden and Senate of the University of Durham, with the view of affording to practitioners of fifteen years' standing an opportunity of obtaining the degree of Doctor of Medicine, have instituted a special examination, under the following regulations:—

1. That the candidate shall be registered by the General Council of Medical Education and Registration of the United Kingdom.

2. That the candidate shall have been in the active practice of his profession for fifteen years.

3. That the candidate shall not be under forty years of age.

4. That the candidate shall produce a certificate of moral character from three registered members of the medical profession.

5. That if the candidate shall not have passed, previous to his professional examination (in virtue of which he has been placed on the Register), an examination in Arts, he shall be required to pass an examination in Classics and Mathematics. The subjects for this examination shall be as follows:—*a*. An English essay. (A short essay on some subject to be specified as the time of the examination.) *b*. Arithmetic. *c*. Euclid—Books I. and II. *d*. Latin—Translation from Virgil, Æneid, Lib. I. and II., together with grammatical questions. *e*. One of the following subjects:—(i.) Greek—Translation from Xenophon's Memorabilia, Books I. and II., with grammatical questions. (ii.) French—Translation from Voltaire's "Charles XII.," with grammatical questions. (iii.) German—Translation from Goethe's "Dichtung und Wahrheit," Book I., with grammatical questions. (iv.) Elements of Mechanics, Pneumatics, and Hydrostatics. (v.) Some treatise on Moral, Political, or Metaphysical Philosophy.

6. That if the candidate shall have passed, previous to his professional examination (in virtue of which he has been placed on the Register), a preliminary examination, he shall be required to translate into English a passage from some Latin author—such as Virgil, Cæsar, or Celsus,—and shall have an opportunity of showing proficiency in Greek, Moral Philosophy, or some modern language.

7. That the candidate shall be required to pass an examination in the following subjects:—*a*. Principles and Practice of Medicine, including Psychological Medicine and Hygiene. *b*. Principles and Practice of Surgery. *c*. Midwifery, and Diseases peculiar to Women and Children. *d*. Pathology, medical and surgical. *e*. Anatomy, medical and surgical. *f*. Medical Jurisprudence and Toxicology. *g*. Therapeutics.

8. That the fee shall be £52 10s., to be forwarded to the Registrar of the University of Durham College of Medicine, Newcastle-on-Tyne, when the candidate enters his name for the examination.

9. That if the candidate shall fail to satisfy the examiners, the sum of £21 shall be retained; but that if he shall again offer himself for the examination the sum of £42 only shall then be required.

An examination, in accordance with the above regulations, will be held on June 10, 11, 12, and 13, 1878.

The Arts examination will be held at the University, Durham, on June 10. The professional examination at the University of Durham College of Medicine, Newcastle-on-Tyne, on June 11, 12, and 13.

The following is the programme of the professional examination:—

First Day, *June* 11.—Morning, four hours (nine to one o'clock).—Paper of Questions: Medicine, 3 questions; Insanity, 1; Hygiene, 1; Pathology (medical), 1; Anatomy (medical), 1; Therapeutics, 1. Afternoon, three hours (two to five o'clock): Clinical examination of cases of disease (medical).

Second Day.—Morning, four hours (nine to one o'clock).—Paper of Questions: Surgery, 2 questions; Midwifery, 2; Pathology (surgical), 1; Anatomy (surgical), 1; Medical Jurisprudence, 1; Toxicology, 1. Afternoon, three hours (two to five o'clock): Clinical examination of cases of surgical disease and injury.

Third Day.—*Vivâ voce* interrogation, two hours.

Gentlemen intending to offer themselves as candidates are requested to forward their names to Dr. Luke Armstrong, Registrar of the University of Durham College of Medicine, Newcastle-on-Tyne, on or before May 1, 1878, together with the fee and the before-mentioned certificates.

5. UNIVERSITY OF ST. ANDREWS.

ORDINARY DEGREES.

The degrees in Medicine granted by the University of St. Andrews are those of Bachelor of Medicine (M.B.), Master in Surgery (C.M.), and Doctor of Medicine (M.D.).

The preliminary examination and professional curriculum and examinations for these degrees are generally the same as those of the Universities of Edinburgh, Aberdeen, and Glasgow. The following regulations, however, for candidates for the degrees of Bachelor of Medicine and Master in Surgery present some difference:—

No one shall be received as a candidate for the degree of Bachelor of Medicine or Master in Surgery unless two years at least of his four years of medical and surgical study shall have been in one or more of the following universities and colleges, viz.:—The University of St. Andrews; the University of Glasgow; the University of Aberdeen; the University of Edinburgh; the University of Oxford; the University of Cambridge; Trinity College, Dublin; Queen's College, Belfast; Queen's College, Cork; and Queen's College, Galway.

The remaining years of medical and surgical study may be either in one or more of the universities and colleges above specified, or in the hospital schools of London, or in the School of the College of Surgeons in Dublin, or under such private teachers of medicine as may from time to time receive recognition from the University Court.

Attendance on the lectures of any private teacher in Edinburgh, Glasgow, or Aberdeen shall not be reckoned for graduation in St. Andrews if the fee for such lectures be of less amount than is charged for the like course of lectures in the University of Edinburgh, of Glasgow, or of Aberdeen, according as the teacher lectures in Edinburgh, Glasgow, or Aberbeen.

Fees for Graduation.—For the degree of Bachelor of Medicine £5 5s. in respect of each of the three divisions of the examination on professional subjects; and if the candidate desires to be admitted to the degree of Bachelor of Medicine only, he shall not, on admission thereto, be required to pay any further fee in addition to the £15 15s. so paid by him; but if he desires to be admitted to the degree of Master in Surgery also, he shall, on being admitted to such degree pay a further fee of £5 5s.; and every candidate for the degree of Doctor of Medicine, who has previously obtained the degree of Bachelor of Medicine, shall pay, in addition to the fees paid by him as a candidate for the degree of Bachelor of Medicine, a fee of £5 5s., exclusive of any stamp duty which may for the time be exigible.

SPECIAL DEGREES.

The degree of Doctor of Medicine may be conferred by the University of St. Andrews on any registered medical practitioner above the age of forty years, whose professional position and experience are such as, in the estimation of the University, entitle him to that degree, and who shall, on examination, satisfy the medical examiners of the sufficiency of his professional knowledge; provided always, that degrees shall not be conferred under this section to a greater number than ten in any one year.

Regulations as to Special Degrees.—As regards registered medical practitioners above the age of forty years, the examinations are held in the United College of St. Salvator and St. Leonard, annually, in April. The graduation fee is £52 10s. Candidates must lodge with the Dean of the Medical Faculty the following certificates, along with application for admission to examination:—1. A certificate of age, being a baptismal certificate, or an affidavit of age. 2. Holograph certificates from at least three medical men of acknowledged reputation in the profession, or in the medical schools, recommending the candidate to the Senatus for the degree of M.D., and testifying to his professional position and skill. As only ten can graduate in each year, candidates are selected whose service and certificates seem, to the Medical Faculty, to present the highest professional claims; but where these seem equal, preference is given to priority of application and to age. 3. Candidates, when notified for examination, will remit a portion of the graduation fee—viz., £10 10s. This sum shall be forfeited should the candidate fail to appear, or to graduate, at the time appointed. 4. A satisfactory examination, written and *vivâ voce*, must be passed in the following departments:—(1) Materia Medica and General Therapeutics, (2) Medical Jurisprudence, (3) Practice of Medicine and Pathology, (4) Surgery, (5) Midwifery and Diseases of Women and Children.

6. UNIVERSITY OF EDINBURGH.

This University grants degrees in Medicine, Surgery, and Science (including Health).

No one is admitted to the degree of Bachelor of Medicine or Master in Surgery who has not been engaged in medical and surgical study for four years—the medical session of each year,

or *annus medicus*, being constituted by at least two courses of not less than one hundred lectures each, or by one such course, and two courses of not less than fifty lectures each; with the exception of the Clinical Courses, in which lectures are to be given at least twice a week during the prescribed periods.

Every candidate for the degrees of M.B. and C.M. must give sufficient evidence by certificates—

1. That he has studied each of the following departments of medical science—viz., Anatomy, Chemistry, Materia Medica, Institutes of Medicine or Physiology, Practice of Medicine, Surgery, Midwifery and the Diseases peculiar to Women and Children (two courses of Midwifery of three months each being reckoned equivalent to a six months' course, provided different departments of Obstetric Medicine be taught in each of the courses), General Pathology (or, in schools where there is no such course, a three months' course of lectures on Morbid Anatomy, together with a supplemental course of Practice of Medicine or Clinical Medicine), during courses including not less than one hundred lectures; Practical Anatomy, a course of the same duration as those of not less than one hundred lectures above described; Practical Chemistry, three months; Practical Midwifery, three months at a midwifery hospital, or a certificate of attendance on six cases from a registered medical practitioner; Clinical Medicine, Clinical Surgery, courses of the same duration as those of not less than one hundred lectures above prescribed, or two courses of three months' lectures being given at least twice a week; Medical Jurisprudence, Botany, Natural History (including Zoology), during courses including not less than fifty lectures.

2. That he has attended for at least two years the medical and surgical practice of a general hospital which accommodates not fewer than eighty patients, and possesses a distinct staff of physicians and surgeons.

3. That he has been engaged, for at least six months, by apprenticeship or otherwise, in compounding and dispensing drugs at the laboratory of a hospital, dispensary, member of a surgical college or faculty, licentiate of the London or Dublin Society of Apothecaries, or a member of the Pharmaceutical Society of Great Britain.

4. That he has attended for at least six months, by apprenticeship or otherwise, the out-practice of a hospital, or the practice of a dispensary, physician, surgeon, or member of the London or Dublin Society of Apothecaries.

The studies of candidates for the degrees of Bachelor of Medicine and Master in Surgery are subject to the following regulations:—

1. One of the four years of medical and surgical study required must be in the University of Edinburgh.

2. Another of such four years of medical and surgical study must be either in the University of Edinburgh, or in some other university entitled to give the degree of Doctor of Medicine.

3. Attendance during at least six winter months on the medical or surgical practice of a general hospital which accommodates at least eighty patients, and, during the same period, on a course of Practical Anatomy, may be reckoned as one of such four years, and to that extent shall be held equivalent to one year's attendance on courses of lectures as above prescribed.

4. One year's attendance on the lectures of teachers of Medicine in the hospital schools of London, or in the school of the College of Surgeons in Dublin, or of such teachers of Medicine in Edinburgh or elsewhere as shall from time to time be recognised by the University Court, may be reckoned as one of such four years, and to that extent shall be held as attendance on courses of lectures as above prescribed.

5. Candidates may, to the extent of four of the departments of medical study required, attend in such year or years of their medical and surgical studies, as may be most convenient to them, the lectures of the extra-academical teachers of Medicine specified in the foregoing Sub-section 4.

6. All candidates not students of the University availing themselves of the permission to attend the lectures of extra-academical teachers in Edinburgh must, at the commencement of each year of such attendance, enrol their names in a book to be kept by the University for that purpose, paying a fee of the same amount as the matriculation fee paid by students of the University, and having, in respect of such payment, a right to the use of the library of the University.

Every candidate must deliver, before March 31 of the year in which he proposes to graduate, to the Dean of the Faculty of Medicine—

1. A declaration, in his own handwriting, that he has completed his twenty-first year (or that he will have done so on or before the day of graduation), and that he will not be, on the day of graduation, under articles of apprenticeship to any surgeon or other master.

2. A statement of his studies, as well in Literature and Philosophy as in Medicine, accompanied with proper certificates.

Each candidate is examined, both in writing and *vivâ voce*—first, on Chemistry, Botany, and Natural History; secondly, on Anatomy, Institutes of Medicine, Materia Medica (including Practical Pharmacy), and Pathology; thirdly, on Surgery, Practice of Medicine, Midwifery, and Medical Jurisprudence; fourthly, clinically on Medicine and on Surgery in a Hospital. The examinations on Anatomy, Chemistry, Institutes of Medicine, Botany, Natural History, Materia Medica, and Pathology are conducted, as far as possible, by demonstrations of objects placed before the candidates.

The degree of Doctor of Medicine may be conferred on any candidate who has obtained the degree of Bachelor of Medicine, and is of the age of twenty-four years, and produces a certificate of having been engaged, subsequently to his having received the degree of Bachelor of Medicine, for at least two years in attendance on a hospital, or in the Military or Naval Medical Services, or in medical and surgical practice: provided always that the degree of Doctor of Medicine shall not be conferred on any person, unless he be a graduate of Arts in one of the universities of England, Scotland, or Ireland, or of such other universities as are above specified, or unless he shall, before or at the time of his obtaining the degree of Bachelor of Medicine, or thereafter, have passed a satisfactory examination in Greek, and in Logic or Moral Philosophy, and in one at least of the following subjects—namely, French, German, higher Mathematics, and Natural Philosophy; and provided also that the candidate for the degree of Doctor of Medicine shall submit to the Medical Faculty a thesis, certified by him to have been composed by himself, and which shall be approved by the Faculty, on any branch of knowledge comprised in the professional examinations for the degree of Bachelor of Medicine, which he may have made a subject of study after having received that degree. The candidate must lodge his thesis with the Dean on or before April 30 of the year in which he proposes to graduate. No thesis will be approved by the Medical Faculty which does not contain either the results of original observations in Practical Medicine, Surgery, Midwifery, or some of the sciences embraced in the curriculum for the Bachelor's degree; or else a full digest and critical exposition of the opinions and researches of others on the subject selected by the candidate, accompanied by precise references to the publications quoted, so that due verification may be facilitated.

Candidates, settled for a period of years in foreign parts, who have complied with all the regulations for the degree of M.D. (under the new statutes), but who cannot appear personally to receive the degree, may, on satisfying the Senatus to that effect, by production of sufficient official testimonials, have the degree conferred on them in absence.

NOTICES TO CANDIDATES FOR GRADUATION IN MEDICINE.

1. An *annus medicus* is constituted by at least two winter courses of one hundred lectures each, or by one such course, and two summer courses of fifty lectures each, all being duly certified.

2. Four *anni medici* are required for graduates in Medicine. Two at least of these years must be passed at a university which grants degrees in Medicine, one of the two being at Edinburgh.

3. One or two of the *anni medici* may be taken at qualified extra-academical schools, in the manner stated in the succeeding paragraph:

4. In University College, in King's College, in the hospital schools of London, in the extra-academical School of Edinburgh, in the School of the College of Surgeons of Dublin, and in certain medical schools where at least two lecturers have been qualified by the University Court, a candidate may make *two anni medici*—one of which must be constituted by hospital attendance and Practical Anatomy, and the other by at least two courses of one hundred lectures, or one such course, and two courses of fifty lectures. The classes at these schools only qualify to the extent of four, and one of the four must be Practical Anatomy.

5. In provincial schools where there are no lecturers qualified by the University Court, a candidate can make *one annus medicus only*, and this is constituted by attendance on a qualified hospital, along with a course of Practical Anatomy.

The Fees are—For the degree of M.B., three Examinations, £5 5s. each, £15 15s.; for the degree of C.M., £5 5s. additional; for the degree of M.D., £5 5s. additional to that for M.B., exclusive of £10 Government stamp.

The fees for C.M. and M.D. are required to be paid on or before July 15.

Note.—Total fees and stamp for graduating as M.D. only, by regulations, for students commencing before February, 1861, £25.

N.B.—The above fees include all charges for the diplomas.

RIGHTS OF THE MEDICAL GRADUATES OF SCOTLAND ACCORDING TO THE MEDICAL ACT.

Before the passing of the Medical Act of 1858, the degree of Doctor of Medicine granted by the universities of Scotland (as the possessor underwent a complete education and examination in all departments of Physic and Surgery), qualified the graduate to practise every branch of the medical profession throughout Scotland. One principal purpose of the Medical Act was to extend local rights of practice over the whole of her Majesty's dominions. But according to the hitherto accepted reading of a dubious clause in the Act, no one can practise both Medicine and Surgery without possessing two distinct diplomas—one for Medicine, and another for Surgery. The universities were thus compelled, in justice to their graduates, to give them the additional title of Master in Surgery, not as implying any additional study or examination, but as declaring more distinctly their qualifications, and to permit registration as regularly qualified practitioners in the whole field of their professional education. The Secretary for War some time ago issued an order that candidates for admission into the Medical Service of the Army should obtain their qualifications in Physic and Surgery from two different sources; the effect of which would have been to prevent any one university from qualifying for this purpose. The Scottish Universities' Commissioners, recognising the serious evils of such a system, followed up a remonstrance which had been

offered on the part of the University of Edinburgh, and obtained the rescinding of all restrictions in the source of qualification. Consequently, any single university in Scotland can now qualify candidates for the military service as well as for any other public medical service in the country.

The Medical Faculty have resolved that the written and oral examinations on Chemistry, Botany, and Natural History, in October, 1877, and April, 1878, shall be restricted in the following manner:—

1. *Chemistry.*—Classification of elements; general laws of chemical combination and action, as illustrated in the simpler compounds of the more commonly occurring elements; symbolic notation. Preparation and properties of the non-metallic elements and their chief compounds; manufacture of sulphuric, nitric, and hydrochloric acids and ammonia. Classification and general properties of acids, bases, and salts. Manufacture and properties of soda, potash, nitre, gunpowder, lime, mortars, cements, earthenware, porcelain, and glass. Metallurgical operations in general; preparation of iron, zinc, copper, lead, tin, mercury, and silver, from their ores; alloys; preparation, properties, and composition of cast-iron, wrought-iron, and steel; principal salts of potassium, sodium, ammonium, barium, strontium, calcium, magnesium, zinc, aluminium, chromium, manganese, iron, cobalt, nickel, copper, lead, silver, gold, mercury, platinum, tin, bismuth, antimony, arsenic. Classification of organic compounds; alcohol, ethers, acetic acid, tartaric acid, citric acid, wood, sugars, starch, coal-gas, coal-tar, oils and fats, saponification. Simple qualitative analysis. [*The Examination in analysis is conducted practically.*]

2. *Botany.*—The structure and functions of plants, vegetable organography and physiology, the principles of classification, classes, sub-classes, and sections of the natural system. (See Balfour's "Class-book," or his "Manual of Botany.") Botanical characters to be demonstrated on conspicuous specimens of the following natural orders:—Ranunculaceæ, Papaveraceæ, Cruciferæ, Caryophyllaceæ, Malvaceæ, Leguminosæ, Rosaceæ, Onagraceæ, Umbelliferæ, Dipsacaceæ, Compositæ, Campanulaceæ (including Lobeliaceæ), Boraginaceæ, Labiatæ, Scrophulariaceæ, Primulaceæ, Euphorbiaceæ, Salicaceæ, Corylaceæ, Coniferæ, Cycadaceæ, Orchidaceæ, Amaryllidaceæ, Liliaceæ, Palmæ, Cyperaceæ, Gramineæ, Filices, Musci. The student will be examined practically on the microscopical structure of plants, and he will be required to describe the organs of fresh plants put into his hands.

3. *Zoology and Comparative Anatomy.*—The general characters of the animal kingdom, and the general structure and organisation of animals; principles of zoological classification; general plan of structure, and physiology of the types: Protozoa, Porifera, Cœlenterata, Echinodermata, Vermes, Articulata, Mollusca, and Vertebrata. The special distinctive characters of the following groups, with a knowledge of familiar examples of each, and the conditions and circumstances under which they occur (candidates will be required to refer any specimens shown to them by the examiner for this purpose to their respective groups):—Rhizopoda, Infusoria; Porifera silicea, calcarea; Zoantharia, Alcyonaria, Hydrozoa, Echinidea, Asteridea, Crinoidea; Platyelmia, Nematelmia, Annelida; Crustacea, Arachnida, Myriapoda, Insecta; Lamellibranchiata, Gastropoda, Cephalopoda; Pisces, Amphibia, Reptilia, Aves, Mammalia.

7. UNIVERSITY OF GLASGOW.—FACULTY OF MEDICINE.

Three medical degrees are conferred by this University, viz.:—Bachelor of Medicine (M.B.), Master in Surgery (C.M.), and Doctor of Medicine (M.D.); all of which are recognised by the Medical Act as qualifying for practice throughout the British dominions.

The degree of Bachelor of Medicine may be obtained by candidates of the age of twenty-one years who have complied with the regulations as to education and examination. The degree of Master in Surgery is only conferred upon those who at the same time obtain the Bachelorship of Medicine; and the degree of Doctor of Medicine may be conferred on candidates of not less than twenty-four years of age who have obtained the Bachelorship two or more years previously, and have fulfilled certain conditions to be afterwards mentioned.

The medical curriculum is as nearly as possible the same as that in the University of Edinburgh.

The following is the order of the course of study recommended to students:—

First Winter Session: Anatomy, elementary or descriptive and practical; Chemistry.

First Summer Session: Botany, Practical Chemistry, Anatomy.

There may be advantages in beginning study in a summer session preceding the first winter, in which case instruction should be sought in Botany, elementary Anatomy, or elementary Chemistry.

Second Winter Session: Advanced Anatomy and Practical Anatomy, Physiology, Surgery; hospital attendance, surgical wards and clinical lectures.

First Professional Examination in April or October.

Second Summer Session: Zoology, Practical Anatomy, or Practical Chemistry, Practical Pharmacy; hospital attendance, surgical wards and clinical lectures.

Third Winter Session: Surgery, second course; Materia Medica; Practice of Physic; hospital attendance, medical wards and clinical lectures; Pathology.

Second Professional Examination in April or October.

Third Summer Session: Hospital attendance, medical wards and clinical lectures; Surgical Anatomy, Operative Surgery, Forensic Medicine.

Fourth Winter Session: Practice of Physic, second course; Forensic Medicine (for students proposing to graduate in 1878), Midwifery; hospital attendance, medical or surgical wards and clinical lectures; Midwifery practice.

Final Examination in July.

PROFESSIONAL EXAMINATIONS.

The professional examinations are conducted in writing, orally and practically, in three divisions, as follows:—

First Division: On Chemistry, Elementary Anatomy, Botany.

Second Division: On Advanced Anatomy, Physiology, Zoology with Comparative Anatomy.

Third or Final Division: On Materia Medica, General Pathology, Surgery, Practice of Medicine, Midwifery, Forensic Medicine, Clinical Surgery, Clinical Medicine.

DEGREE OF DOCTOR OF MEDICINE.

The degree of Doctor of Medicine may be conferred on any candidate of not less than twenty-four years of age, who has obtained the Bachelorship two or more years previously, provided he possesses a degree in Arts, or has, in addition to the Preliminary Examination in General Education required for the Bachelorship, also passed before obtaining the Bachelorship, or within three years thereafter, an examination in Greek, and Logic or Moral Philosophy, together with any one of the other optional subjects belonging to the Examination in General Education. He must also produce evidence of having been engaged in professional study or avocations for two years after having obtained the Bachelorship, and must lodge an inaugural dissertation composed by himself on a medical, surgical, or allied subject. Theses for the degree of M.D. to be lodged with the Registrar on or before March 20, June 20, or October 20. As the granting or withholding of the degree depends chiefly on the character of the dissertation, candidates are advised to bestow both time and care on its preparation.

The fees for degrees are the same as in Edinburgh.

The Examinations in General Education take place twice yearly—viz., in October and March. The examinations for session 1877-78 will be held on Wednesday, Thursday, and Friday, October 10, 11, and 12, 1877, and Thursday, Friday, and Saturday, March 28, 29, and 30, 1878. Those who intend to present themselves for either of these examinations are required to send in their names to the Assistant Clerk of Senate on or before September 28 or March 20. A fee of 10s. must be paid on entering their names by those who are not matriculated students—which fee will be returned on matriculation within the year.

The Professional Examinations are held at the following periods—viz.: The first in October (October 16, 1877) and April (April 5, 1878); the second in October (October 17, 1877) and April (April 6, 1878); the third in July (July 22, 1878).

8. UNIVERSITY OF ABERDEEN.

The following are the degrees in Medicine granted by this University—namely, Bachelor of Medicine (M.B.), Master in Surgery (C.M.), and Doctor of Medicine (M.D.).

The preliminary examination and professional curriculum, and examination for the degrees of B.M., C.M., and M.D., being in conformity with the Ordinances of the Scotch Universities Commissioners, are nearly the same as those of the Universities of Edinburgh, Glasgow, and St. Andrews.

The studies of candidates for the degrees of Bachelor of Medicine and Master in Surgery are subject to these regulations:—

One at least of the four years of medical and surgical study must be in the University of Aberdeen.

Another of such four years must be either in this University or in some other University entitled to give the degree of Doctor of Medicine.

FEES FOR GRADUATION.

1. Each candidate for the degree of M.B. shall pay a fee of £5 5s. in respect of each of the three professional examinations.

2. If the candidate desires to be admitted to the degree of Bachelor of Medicine only, he shall not, on admission thereto, be required to pay any further fee in addition to the £15 15s.

so paid by him; but if he desires to be admitted to the degree of Master in Surgery also, he shall, on being admitted to such degree, pay a further fee of £5 5s.

3. And every candidate for the degree of Doctor of Medicine shall pay, in addition to the fees paid by him for the degree of Bachelor of Medicine, a fee of £5 5s., exclusive of any stamp duty which may for the time be exigible.

EXEMPTION FROM THE FOREGOING REGULATIONS.

Students who shall have begun their medical studies before the first Tuesday of November, 1861, are entitled to appear for examination for the degree of M.D. after four years' study, one of which must have been at the University of Aberdeen.

9. UNIVERSITY OF DUBLIN.

DEGREES AND LICENCES IN MEDICINE AND SURGERY.

The degrees and licences in Medicine and Surgery granted by the University are—1. Bachelor in Medicine. 2. Doctor in Medicine. 3. Master in Surgery. 4. Bachelor in Surgery. 5. Master in Midwifery.

1. *Bachelor in Medicine.*—A candidate for the degree of Bachelor in Medicine must be a graduate in Arts, and may obtain the degree of Bachelor in Medicine at the same commencement as that at which he receives his degree of B A., or at any subsequent commencement, provided the requisite medical education shall have been completed. The medical education of a Bachelor in Medicine is of four years' duration, and comprises attendance on the following course of lectures, viz.:—Courses of five months' duration (November to April)—Anatomy, Practical Anatomy (with Dissections), Surgery, Chemistry, Practice of Medicine, Midwifery. Courses of three months' duration (April to July)—Botany, Practical Chemistry, Medical Jurisprudence, Materia Medica and Pharmacy, Institutes of Medicine.

Hospital Attendance.—1. Nine months' attendance on the clinical lectures of Sir Patrick Dun's Hospital. 2. Nine months' additional attendance on the clinical lectures of any hospital recognised by the Board. 3. Instruction in practical Midwifery, including not less than six deliveries. 4. Certificate of personal attendance on fever cases, stating name and date of each case.

Any of the above-named six or three months' courses may be attended at any medical school in Dublin recognised by the Provost and Senior Fellows (and three of them, at the discretion of the candidate, may be attended in the University of Edinburgh), provided the candidate has kept an *annus medicus* in the School of Physic.

The schools recognised are—1. The School of the Royal College of Surgeons in Ireland. 2. The Carmichael School. 3. The School of Dr. Steevens' Hospital. 4. The School of the Catholic University.

An *annus medicus*, or a year's attendance in the School of Physic, may be kept in three ways:—1. By attending at least two, or not more than three, of the foregoing courses which are of six months' duration. 2. By attending one course of six months' and two of three months' duration. 3. By nine months' attendance on Sir Patrick Dun's Hospital and clinical lectures; together with one course of six months', or, in lieu thereof, two courses of three months' duration.

The fee for nine months' attendance at Sir Patrick Dun's Hospital is £12 12s. The fee for each course of lectures is £3 3s. The fee for the *Liceat ad Examinandum* is £5. The fee for the degree of M.B. is £11.

2. *Doctor in Medicine.*—A Doctor in Medicine must be M.B. of at least three years' standing, or have been qualified to take the degree of M.B. for three years, and must perform exercises for the degree before the Regius Professor of Physic, in accordance with the rules and statutes of the University. Total amount of fees for this degree, £13.

3. *Master in Surgery.*—A Master in Surgery must be a Bachelor in Surgery of three years' standing, or have been qualified to take the degree of Bachelor in Surgery for three years; and must read a thesis publicly before the Regius Professor of Surgery, or undergo an examination before the Regius Professor, according to Regulations to be approved by the Provost and Senior Fellows. Fee for the Degree of Master in Surgery, £11.

Hospital attendance for three sessions, each of nine consecutive months' duration, in any recognised hospital, together with attendance on the clinical lectures on Medicine and Surgery there delivered, are required. Any of the above-named courses may be attended at any of the medical schools of Dublin recognised by the Board, provided the candidate has kept an *annus medicus* in the School of Physic. The following hospitals are recognised by the Board:—1, Sir Patrick Dun's School of Physic Hospital; 2, Meath Hospital; 3, Richmond, Whitworth, and Hardwicke Hospitals; 4, Dr. Steevens' Hospital; 5, Jervis-street Infirmary; 6, City of Dublin Hospital; 7, Mercer's Hospital; 8, St. Vincent's Hospital; 9, Adelaide Hospital; 10, Mater Misericordiæ Hospital. Of the courses of lectures which are of five months' duration, not more than three can be attended during any one session. Candidates will also be required to perform surgical operations on the dead subject. Candidates for the degree of Master in Surgery, who have already passed the examination for the degree of Bachelor of Medicine, will be examined in Anatomy and Surgery only. Fee for the *Liceat ad Examinandum*, £5. Fee for the degree of M.Ch., £11.

4. *Bachelor in Surgery.*—A Bachelor in Surgery must be a Bachelor in Arts, and have spent four years in the study of Surgery and Anatomy. He must also have passed the M.B. examination, before presenting himself at the B.Ch. examination, having previously completed the prescribed curriculum of study. The curriculum comprises the following, in addition to the complete course for the degree of Bachelor in Medicine:—Theoretical and Operative Surgery, one course; Dissections, two courses; Ophthalmic Surgery, one course. Candidates are required to perform surgical operations on the dead subject, and will also be examined in Bandaging and Minor Surgery, and in Surgical Pathology. Candidates for the degree of Bachelor in Surgery, who have already passed the examination for the degree of Bachelor in Medicine, will be examined in Anatomy and Surgery only. Fee for the *Liceat ad Examinandum*, £5. Fee for the degree of Bachelor in Surgery, £5.

5. *Master in Obstetric Science.*—A Master in Obstetric Science must have passed the M.B. and B.Ch. examinations, and produce certificates of having completed the following curriculum:—1. One winter course in Midwifery. 2. Six months' practice in a recognised lying-in hospital or maternity. 3. A summer course in Obstetric Medicine and Surgery. 4. Two months' practice in the Cow-pock Institution. Existing Graduates in Medicine, of the standing of M.D., are entitled to present themselves for examination, without complying with Regulations 3 and 4. Fee for the degree of Master in Obstetric Science, £5.

UNIVERSITY LICENCES.

Candidates for the licences in Medicine, Surgery, or Midwifery must be matriculated in Medicine, and must have completed four years in medical studies. Candidates for the licences in Medicine, Surgery, or Midwifery must pass the following examination in Arts, unless they be students in the Senior Freshman or some higher class:—Homer's Iliad, Books I., II. (omitting catalogue of ships), III.; Lucian's Dialogues (Walker's edition); Xenophon's Anabasis, Books I., II., III.; Virgil, Æneid, Books I., II., III.; Sallust; Horace, Satires; Latin Prose Composition; English Prose Composition; English History; Modern Geography; Arithmetic; Algebra to the end of Simple Equations; Euclid, Books I., II., III. Students who have passed the foregoing examination will be required to pay the admission fee of £15.

1. *Licentiate in Medicine.*—The medical course and examination necessary for the licence in Medicine are the same as for the degree of M.B., with the exception that any general hospital approved by the Board of Trinity College may be substituted for Sir Patrick Dun's. Candidates who are already Licentiates in Surgery of the Royal College of Surgeons in Ireland, or Members of the College of Surgeons of England, on passing the foregoing Arts examination, will be admitted to examination for the licence in Medicine. Fee for the *Liceat ad Examinandum*, £5. Fee for the licence in Medicine, £5.

2. *Licentiate in Surgery.*—The surgical course and examination necessary for the licence in Surgery are the same as for the degree of Bachelor in Surgery. Fee for the *Liceat ad Examinandum*, £5. Fee for the licence in Surgery, £5.

3. *Licence in Obstetric Science.*—The course and examination for the licence in Obstetric Science are the same as for the degree in Obstetric Science. Fee for the licence in Obstetric Science, £5.

Total Expenses of obtaining the Degrees of Bachelor in Medicine and Bachelor in Surgery.—I. Lectures: 1. Anatomy (one

course), £3 3s. 2. Practical Anatomy (three courses), £9 9s. 3. Dissections (three courses), £15 15s. 4. Surgery (two courses), £4 4s. 5. Practice of Medicine, £3 3s. 6. Chemistry (two courses), £4 4s. 7. Materia Medica and Pharmacy, £3 3s. 8. Midwifery, £3 3s. 9. Botany. 10. Medical Jurisprudence, £3 3s. 11. Institutes of Medicine, £3 3s. Matriculation fee, 5s. II. Hospitals: Sir P. Dun's (first year), £9 9s.; ditto (second year), £9 9s.; ditto (third year), £9 9s.; Practical Midwifery, £3 3s. Ophthalmic Surgery, £2 2s. III. Degrees: 1. *Licent ad Examinandum in Medicinâ*, £5. 2. *Licent ad Examinandum in Chirurgiâ*, £5. 3. M.B. degree, £11. 4. M.Ch. degree, £11. Total Expenses: 1. Lectures, £52 15s. 2. Hospitals, £33 12s. 3. Degrees, £32. Total, £118 7s.

N.B.—As no degrees in Medicine or Surgery are conferred except upon graduates in Arts, the expense of the degree of Bachelor in Arts, amounting altogether to £83 4s., should be added to the foregoing, making the total £281 11s.

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10. QUEEN'S UNIVERSITY IN IRELAND.

This University confers the degrees of M.D. and M.Ch. Students who wish to obtain the degree of M.D. or of M.Ch. in the Queen's University must be matriculated students of one of the Queen's Colleges at Belfast, Cork, or Galway, and must pursue the courses of study prescribed by the Senate of the University.

Each candidate for the degree of Doctor in Medicine or Master in Surgery is required—1. To have passed in one of the Colleges of the Queen's University the entrance examination in Arts, and to have been admitted a matriculated student of the University. 2. To have attended in one of the Queen's Colleges lectures on one modern continental language for six months, and lectures on Natural Philosophy for six months. 3. To have also attended, in some one of the Queen's Colleges, at least two of the courses of lectures marked below with an asterisk. For the remainder of the courses, authenticated certificates will be received from the professors or lecturers in universities, colleges, or schools recognised by the Senate of the Queen's University in Ireland. 4. To pass the University examinations—the first and second University examinations, and the degree examination. The curriculum extends over at least four years, and is divided into periods of at least two years each. Candidates are recommended to pass the matriculation examination prior to entering on the second period. It is recommended that the first period shall comprise attendance on the following courses of medical lectures: —*Chemistry; *Botany, with Herborisations for practical study, and Zoology; *Anatomy and Physiology; *Practical Anatomy; *Materia Medica and Pharmacy. And that the second period shall comprise attendance on the following courses of medical lectures:—Anatomy and Physiology (second course), Practical Anatomy (second course), *Theory and Practice of Surgery, *Midwifery, *Theory and Practice of Medicine, *Medical Jurisprudence. In addition to the above courses of lectures, candidates shall have attended, during either the first or second period, a course of lectures on a modern continental language (in one of the colleges of the University), and Experimental Physics (in one of the colleges of the University). Also, during the first period—Practical Chemistry, (in a recognised laboratory), and medico-chirurgical hospital (recognised by the Senate) containing at least sixty beds, together with the clinical lectures therein delivered, at least two each week—a winter session of six months. And during the second period—Practical Midwifery, at a recognised midwifery hospital, with the clinical lectures therein delivered, for a period of three months in a hospital containing not less than thirty beds, or six months in a hospital containing not less than fifteen beds; medico-chirurgical hospital (recognised by the Senate) containing at least sixty beds, together with the clinical lectures therein delivered, eighteen months, including either three winter sessions of six months each, or two winter sessions of six months each, and two summer sessions of three months each. Medical examinations are held in June, and in September and October. The June examinations are pass examinations. Both honour and pass examinations are held in September. Each candidate for examination in June must forward to the Secretary, on or before June 1, notice of his intention to offer himself as a candidate, along with his certificates, and each candidate for examination in September must forward similar notice, along with his certificates, before September 1.

(B.) BODIES GIVING LICENCES OR OTHER FORMS OF QUALIFICATION NOT BEING DEGREES IN MEDICINE.

1. THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

In the Royal College of Physicians there are three grades—Fellows, Members, and Licentiates. Of these the first is purely honorary, and so in a certain sense is the second. The third is that taken by the student on leaving his studies, and is valuable as being at once a qualification to practise Medicine, Surgery, and Midwifery, and is recognised by the Poor-law Board as a qualification in Surgery as well as in Medicine.

The College will, under its charter, grant licences to practise Physic, including therein the practice of Medicine, Surgery, and Midwifery (which licences are not to extend to make the Licentiates Members of the Corporation), to persons who shall conform to the following by-laws:—

Every candidate for the College licence (except when otherwise provided by the by-laws) is required to produce satisfactory evidence to the following effect:—

1. Of having attained the age of twenty-one years.
2. Of moral character.
3. Of having passed, before the commencement of professional study, an examination in the subjects of general education recognised by the College.
4. Of having been registered as a medical student in the manner prescribed by the General Medical Council. ["After October, 1870, every candidate (not exempted from registration) is required to have been registered at least four years previously."]
5. Of having been engaged in professional studies during four years, of which at least three winter sessions and two summer sessions shall have been passed at a recognised medical school or schools, and one winter session and two summer sessions in one or other of the following ways:—*a*. Attending the practice of a hospital or other institution recognised by the College for that purpose. *b*. Receiving instruction as the pupil of a legally qualified practitioner holding any public appointment which affords opportunities, satisfactory to the examiners, of imparting a practical knowledge of Medicine, Surgery, or Midwifery. *c*. Attending lectures on any of the required subjects of professional study at a recognised place of instruction. Professional studies commenced *before* the candidate shall have passed an examination in the subjects of general education will not be recognised by the College.
6. Of having attended, during three winter sessions and two summer sessions, the medical and surgical practice at a recognised hospital or hospitals, of having discharged the duties of clinical clerk at a recognised hospital for a period of not less than three months; of having performed the duties of dresser at a recognised hospital for a period of not less than three months; and of having been engaged during six months in the clinical study of Diseases peculiar to Women.
7. Of having studied the following subjects:—Anatomy (with dissections) during two winter sessions; Physiology during two winter sessions; Chemistry during six months; Practical Chemistry during three months; Materia Medica during three months; Practical Pharmacy during three months (by Practical Pharmacy is meant instruction in the laboratory of a registered medical practitioner, or of a member of the Pharmaceutical Society of Great Britain, or of a public hospital or dispensary recognised by the College); Botany during three months (this course of lectures may be attended prior to the commencement of professional studies; and any candidate producing satisfactory evidence that Botany formed one of the subjects of his preliminary examination will be exempt from attendance on this course); Morbid Anatomy during six months (this includes attendance and instruction in the post-mortem-room during the period of clinical study); Principles and Practice of Medicine during two winter sessions (it is required that the Principles of Public Health should be comprised in this course of lectures, or in the course of lectures on Forensic Medicine: the attendance on these lectures must not commence earlier than the second winter session at a recognised medical school); Principles and Practice of Surgery during two winter sessions (the attendance on these lectures must not commence earlier than the second winter session at a recognised medical school); Clinical Medicine during two winter sessions and two summer sessions (the attendance on these lectures must not commence until after the first winter session at a recognised medical school); Clinical Surgery during two winter sessions and two summer sessions (the attendance on these lectures must not commence until after the first winter session at a recognised medical school: by Clinical Medicine and Clinical Surgery are meant special study and instruction at the bedside, with lectures on cases); Midwifery and the Diseases peculiar to Women during three months (certificates must also be produced of attendance on not less than twenty labours, and of instruction and proficiency in vaccination); Forensic Medicine during three months.
8. Of having passed the professional examinations.

Any candidate who shall produce satisfactory evidence of having passed an examination on Anatomy and Physiology, conducted by any of the bodies named in Schedule (A) to the Medical Act, and recognised by the College as requiring a course of study and an examination satisfactory to the College, shall be exempt from re-examination on the subjects of the primary examination. Any candidate who shall have obtained a degree in Medicine at a university recognised by the College, after a course of study and an examination satisfactory to the College, shall be exempt from re-examination on the subjects of the primary examination. Any candidate who shall have obtained a degree in Surgery at a university

in the United Kingdom, after a course of study and an examination satisfactory to the College, shall be exempt from re-examination on Surgical Anatomy and on the Principles and Practice of Surgery. Any candidate who shall have passed the examination on Surgery conducted by the Royal College of Surgeons of England, or the Royal College of Surgeons of Edinburgh, or the Royal College of Surgeons in Ireland, after a course of study and an examination satisfactory to the College, shall be exempt from re-examination on Surgical Anatomy and on the Principles and Practice of Surgery. Any candidate being a "registered medical practitioner," whose qualification or qualifications shall have been obtained before January 1, 1861, having been with the consent of the College admitted a candidate for the licence, will be examined on the Principles and Practice of Medicine, Surgery, and Midwifery; but he will be exempted from such other parts of the professional examinations as his qualifications may seem to the examiners to render in his case unnecessary.

Licentiates of this College shall not compound or dispense medicines except for patients under their own care.

BY-LAWS AND REGULATIONS RELATING TO THE EXAMINATION FOR THE LICENCE.

Every candidate for the College licence, before he is admitted to examination, will be required to sign a declaration, stating that he has not been rejected within three months by any of the examining boards included in Schedule (A) to the Medical Act.

Any candidate who shall be rejected at the first examination will not be readmitted to examination until after the lapse of three months, and will be required to produce a certificate of the performance of dissections, or other professional study satisfactory to the examiners, during that time.

Any candidate who shall be rejected at the second or pass examination will not be readmitted to examination until after the lapse of six months, and will be required to produce a certificate of attendance on the practice of a recognised hospital, and also of attendance on clinical lectures, or other professional study satisfactory to the examiners, during that time.

The fee for the College licence is £15 15s., of which £5 5s. are to be paid on admission to the first examination, which fee will not be returned to any candidate rejected at this examination, but will be allowed in the fee for the licence, and he will be admitted to one subsequent first examiuation without the payment of an additional fee.

Any candidate who shall be rejected at the second or pass examination will have the fee paid on admission to this examination returned to him, less £3 3s.

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2. THE ROYAL COLLEGE OF SURGEONS, ENGLAND.

By far the most important qualification in this country is that of the Royal College of Surgeons of England, inasmuch as almost all English and many Scottish and Irish students become candidates for the Membership of that body. The College consists of two grades—Fellows and Members. The Fellowship is partly honorary, being obtained by the election of Members of a certain standing, but is now only obtainable by examination. The Membership is the qualification sought by students leaving their hospitals, hence the importance of the following regulations:—

I. Professional studies prior to the date at which the candidate shall have passed an examination in general knowledge are not recognised.

II. The following will be considered as the commencement of professional education:—

1. Attendance on the practice of a hospital or other public institution recognised by this College for that purpose.
2. Instruction as the pupil of a legally qualified surgeon holding the appointment of surgeon to a hospital, general dispensary, or union workhouse, or where such opportunities of practical instruction are afforded as shall be satisfactory to the Council.
3. Attendance on lectures on Anatomy, Physiology, or Chemistry, by lecturers recognised by this College.

The commencement of professional study, otherwise than by attendance on lectures in recognised medical schools, or by attendance on the practice of recognised hospitals, will not be admitted until a certificate thereof shall be furnished to the Secretary for registration at the College by the practitioner whose pupil the candidate shall have become, or by the medical superintendent of the hospital or other institution to the practice of which he shall have entered, and will, consequently, date only from the reception of such certificate by the Secretary; the certificate to be accompanied by proof of having passed the necessary preliminary examination in general knowledge.

III. Candidates will be required to produce the following certificates, viz.:—

1. Of being twenty-one years of age.
2. Of having been engaged, subsequently to the date of passing the preliminary examination, during four years, or during a period extending over not less than four winter and four summer sessions, in the acquirement of professional knowledge.
3. Of having attended lectures on Anatomy during two winter sessions.
4. Of having performed Dissections during not less than two winter sessions.
5. Of having attended lectures on General Anatomy and Physiology during one winter session.
6. Of having attended a practical course of General Anatomy and Physiology during another winter or a summer session, consisting of not less than thirty meetings of the class.

Note A.—By the practical course referred to in Clause 6, it is meant that the learners themselves shall, individually, be engaged in the necessary experiments, manipulations, etc.; but it is not hereby intended that the learners shall perform vivisections.

7. Of having attended lectures on Surgery during one winter session.
8. Of having attended a course of Practical Surgery during a period occupying not less than six months prior or subsequent to the course required by the preceding Clause 7.

Note B.—The course of Practical Surgery referred to in Clause 8 is intended to embrace instruction in which each pupil shall be exercised in practical details, such as in the application of anatomical facts to surgery, on the living person, or on the dead body. The methods of proceeding and the manipulations necessary in order to detect the effects of diseases and accidents, on the living person, or on the dead body. The performance, where practicable, of the operations of surgery on the dead body. The use of surgical apparatus. The examination of diseased structures, as illustrated in the contents of a museum of morbid anatomy, and otherwise.

9. Of having attended one course of lectures on each of the following subjects, viz.:—Chemistry, Materia Medica, Medicine, Forensic Medicine, Midwifery (with practical instruction, and a certificate of having personally conducted not less than ten labours); Pathological Anatomy during not less than three months.

Note C.—The course of lectures on Chemistry included in Clause 9 will not be required in the case of a candidate who shall have passed a satisfactory examination in this subject in his preliminary examination.

10. Of having studied Practical Pharmacy during three months.
11. Of having attended a three months' course of Practical Chemistry (with manipulations), in its application to medical study.
12. Of instruction and proficiency in the practice of Vaccination.

Note D.—In the case of candidates who commenced their professional education on or after October 1, 1868, the certificate of instruction in Vaccination will only be received from recognised vaccine stations, or from recognised vaccine departments in medical schools or hospitals, or other public institutions, where the appointed teacher of vaccination is not liable to frequent change, and where ample means for study are provided by not less than such a number of cases (eight or ten on an average weekly) as may be found, after due inquiry, to be sufficient for this purpose at each place.

Note E.—The certificates of attendance on the several courses of lectures must include evidence that the student has attended the practical instructions and examinations of his teacher in each course.

13. Of having attended, at a recognised hospital or hospitals, the practice of Surgery during three winter(a) and two summer(b) sessions.
14. Of having been individually engaged, at least twice in each week, in the observation and examination of patients at a recognised hospital or hospitals, under the direction of a recognised teacher during not less than three months.

Note F.—It is intended that the candidate should receive the instruction required by Clause 14 at an early period of his attendance at the hospital.

15. Of having, subsequently to the first winter session of attendance on surgical hospital practice, attended, at a recognised hospital or hospitals, clinical lectures on Surgery during two winter and two summer sessions.
16. Of having been a dresser at a recognised hospital, or of having, subsequently to the completion of one year's professional education, taken charge of patients under the superintendence of a surgeon during not less than six months, at a hospital, general dispensary, or parochial or union infirmary recognised for this purpose, or in such other similar manner as, in the opinion of the Council, shall afford sufficient opportunity for the acquirement of Practical Surgery.
17. Of having attended, during the whole period of attendance on surgical hospital practice (see Clause 13), demonstrations in the post-mortem rooms of a recognised hospital.
18. Of having attended, at a recognised hospital or hospitals, the practice of Medicine, and clinical lectures on Medicine, during one winter and one summer session.

Notice.—Clauses 6, 8, 11, 14, and 17, and Notes A, B, C, E, and F, together with the courses of lectures on Forensic Medicine and Pathological Anatomy mentioned in Clause 9, are applicable to candidates who commenced their professional education on or after October 1, 1870.

N.B.—Blank forms of the required certificates may be obtained on application to the Secretary, and all necessary certificates will be retained at the College.

SECTION II.

I. Certificates will not be received on more than one branch of science from one and the same lecturer; but Anatomy and Dissections will be considered as one branch of science.

II. Certificates will not be recognised from any hospital in the United Kingdom unless the surgeons thereto be members of one of the legally constituted Colleges of Surgeons in the

(a) The winter session comprises a period of six months, and, in England, commences on October 1, and terminates on March 31.
(b) The summer session comprises a period of three months, and, in England, commences on May 1, and terminate on July 31.

United Kingdom; nor from any school of Anatomy and Physiology or Midwifery, unless the teachers in such school be members of some legally constituted College of Physicians or Surgeons in the United Kingdom; nor from any school of Surgery, unless the teachers in such school be members of one of the legally constituted Colleges of Surgeons in the United Kingdom.

III. No metropolitan hospital will be recognised by this College which contains less than 150, and no provincial or colonial hospital which contains less than 100 patients.

IV. The recognition of colonial hospitals and schools is governed by the same regulations, with respect to number of patients and to courses of lectures, as apply to the recognition of provincial hospitals and schools in England.

V. Certificates of attendance upon the practice of a recognised provincial or colonial hospital, unconnected with, or not in convenient proximity to, a recognised medical school, will not be received for more than one winter and one summer session of the hospital attendance required by the regulations of this College; and in such cases clinical lectures will not be necessary, but a certificate of having acted as dresser for a period of at least six months will be required.

VI.—Certificates will not be received from candidates who have studied in London, unless they shall have registered at the College their cards of admission to attendance on lectures and hospital practice within fifteen days from the commencement of the session; nor from candidates who have studied in the provincial schools in England, unless their names shall be duly returned from their respective schools.

N.B.—At their first registration in October, candidates will be required to produce a certificate of having passed one or other of the preliminary examinations in general knowledge recognised by this College.

VII. Those candidates who shall have pursued the whole of their studies in Scotland or Ireland will be admitted to examination upon the production of the several certificates required respectively by the College of Surgeons of Edinburgh, the Faculty of Physicians and Surgeons of Glasgow, and the College of Surgeons in Ireland, from candidates for their diploma, together with a certificate of instruction and proficiency in the practice of vaccination, and satisfactory evidence of having been occupied, subsequently to the date of passing the preliminary examination, at least four years, or during a period extending over four winter and four summer sessions, in the acquirement of professional knowledge; and in the case of candidates who shall have pursued the whole of their studies at recognised foreign or colonial universities, upon the production of the several certificates required for their degree by the authorities of such universities, together with a certificate of instruction and proficiency in the practice of vaccination, and satisfactory evidence of having been occupied, subsequently to the date of passing the preliminary examination, at least four years, or during a period extending over four winter and four summer sessions, in the acquirement of professional knowledge.

VIII. Members or licentiates of any legally constituted College of Surgeons in the United Kingdom, and graduates in Surgery of any University recognised for this purpose by this College, will be admitted to examination on producing their diploma, licence, or degree, together with proof of being twenty-one years of age, a certificate of instruction and proficiency in the practice of vaccination, and satisfactory evidence of having been occupied, subsequently to the date of passing the preliminary examination, at least four years, or during a period extending over four winter and four summer sessions, in the acquirement of professional knowledge.

IX. Graduates in Medicine of any legally constituted College or University recognised for this purpose by this College will be admitted to examination on adducing, together with their diploma or degree, proof of being twenty-one years of age, a certificate of instruction and proficiency in the practice of vaccination, and satisfactory evidence of having been occupied, subsequently to the date of passing the preliminary examination, at least four years, or during a period extending over four winter and four summer sessions, in the acquirement of professional knowledge.

The following are regulations as to the examination for the qualification of Membership:—

The examination is divided into two parts.

1. The first, or primary examination, on Anatomy and Physiology, is partly written and partly demonstrative on the recently dissected subject, and on prepared parts of the human body.

2. The second, or pass examination, on Surgical Anatomy and the Principles and Practice of Surgery and Medicine,(c) is partly written, partly oral, and partly on the practical use of surgical apparatus, and the practical examination of patients.

3. The primary examinations are held in the months of January, April, May, July, and November, and the pass examinations generally in the ensuing week respectively.

4. Candidates will not be admitted to the primary examination until after the termination of the second winter session of their attendance at a recognised school or schools; nor to the pass, or surgical examination, until after the termination of the fourth year of their professional education.

5. The fee of £5 5s., paid prior to the primary examination, and allowed on the whole fee of £22(d) payable for the diploma, is retained; and after any two consecutive failures at the primary examination, the candidate is required to pay an *additional* fee of £5 5s prior to being again admitted to that examination, which *additional* fee is also retained.

6. Five guineas, part of the sum of £16 15s., the balance of the whole fee due for the diploma, and paid prior to the pass examination, is retained; and after any two consecutive failures at the pass examination, the candidate is required to pay an *additional* fee of £5 5s. prior to being again admitted to the said pass examination, which *additional* fee is also retained.

7. A candidate having entered his name for either the primary or pass examination, who shall fail to attend the meeting of the Court for which he shall have received a card, will not be allowed to present himself for examination within a period of three months from the date at which he shall have so failed to attend.

8. A candidate referred on the primary examination is required, prior to his admission to re-examination, to produce a certificate of the performance of dissections during not less than three months subsequently to the date of his reference.

9. A candidate referred on the pass examination is required, prior to his admission to re-examination, to produce a certificatate of at least six months' further attendance on the surgical practice of a recognised hospital, together with lectures on Clinical Surgery, subsequently to the date of his reference.

CERTIFICATE OF QUALIFICATION IN MIDWIFERY.

This College also, after due examination, grants a special certificate of qualification in Midwifery. This, however, though of great value to the possessor, cannot be registered, and is only granted to men otherwise qualified.

1. Persons who were Fellows or Members of the College prior to the first day of January, 1853, will be admitted to examination for the certificate of qualification in Midwifery upon producing their diploma.

2. Persons having become Members of the College subsequently to the first day of January, 1853, will be admitted to examination on producing their diploma, together with a certificate or certificates of having attended twenty labours.

3. Members or Licentiates of any legally constituted College of Surgeons in the United Kingdom, and graduates in Surgery of any University recognised for this purpose by this College, will also be admitted to examination on producing, together with their diploma, licence, or degree, proof of being twenty-one years of age; of having been occupied at least four entire years in the acquirement of professional knowledge; of having attended one course of lectures on Midwifery; and of having attended not less than twenty labours.

4. Graduates in Medicine of any legally constituted college or university recognised for this purpose by this College, will also be admitted to examination on producing, together with their diploma or degree, proof of being twenty-one years of age; of having been occupied at least four entire years in the acquirement of professional knowledge; of having completed at recognised schools the anatomical and surgical education required of candidates for the diploma of Member of the College; of having attended one course of lectures on Midwifery; and of having attended not less than twenty labours.

5. Persons having commeneed their professional education, either by attendance on hospital practice or on lectures on Anatomy, prior to the first day of January, 1853, will be admitted to examination on producing the several certificates of professional education required for admission to examination for the diploma of Member of this College at the period when such persons shall respectively have, in such manner, commenced their professional education.

6. Persons having commenced their professional education, either by attendance on hospital practice or on lectures on Anatomy, after the 31st day of December, 1852, will be admitted to examination on producing certificates of being twenty-one years of age; of having been engaged during at least four entire years in the acquirement of professional knowledge; of having completed at recognised schools the professional education required of candidates for the diploma of Member of this College; of having attended one course of lectures on Midwifery and the Diseases of Women and Children; and of having personally conducted thirty labours.

Note.—All candidates who commenced their professional education on or after October 1, 1866, will, in addition to the certificates enumerated in the foregoing clauses, be required to produce a certificate of having, prior to such commencement, passed a preliminary examination in general knowledge recognised by this College.

N.B.—The fee for the certificate is as follows, viz.:—1. Persons who were Fellows or Members of this College prior to January 1, 1853, £2 2s. 2. Persons admitted Fellows or Members of this College subsequently to

(c) Candidates can claim exemption from examination in Medicine under the following conditions, viz.:—(1.) The production by the candidate of a degree, diploma, or licence in Medicine entitling him to register under the Medical Act of 1858; or a degree, diploma, or licence in Medicine in a colonial or foreign university approved by the Council of the College. (2) A declaration by the candidate, prior to his admission to the final examination for Membership or Fellowship, that it is his intention to obtain either of the medical qualifications mentioned in the foregoing paragraph, in which case the diploma of the College will not be issued to him until he shall produce either the said medical qualification or proof of having passed the several examinations entitling him to receive the same.

(d) This sum of £22 is exclusive of the fee of £2 paid for the preliminary examination.

January 1, 1853, £3 3s. 3, 4. Persons producing any other diploma or certificate or degree which may be considered by the Council to afford satisfactory proof of sufficient surgical and medical education, £3 3s. 5, 6. All other persons, £10 10s.

3. SOCIETY OF APOTHECARIES (ENGLAND).

Every candidate for a certificate of qualification to practise as an apothecary will be required to produce testimonials—1. Of having passed a preliminary examination in Arts, as a test of general education. (This examination must be passed before the commencement of professional studies, which is defined by the Medical Council to be "the time of commencing studies at a medical school.") 2. Of having attained the full age of twenty-one years, of which satisfactory evidence will be required. 3. Of good moral conduct. 4. A certificate of three months' Practical Pharmacy from some recognised hospital or dispensary, or from a qualified medical practitioner. 5. Of having pursued a course of medical study in conformity with the regulations of the Court.

Course of Study.—Every candidate must attend the following lectures and medical practice during not less than three winter and two summer sessions (each winter session to consist of not less than six months, and to commence not sooner than the 1st nor later than the 15th of October; and each summer session to extend from May 1 to July 31):—

First Year.—Winter Session: Chemistry; Anatomy and Physiology; Dissections. Summer Session: Botany; Materia Medica and Therapeutics; Practical Chemistry.

Second Year.—Winter Session: Anatomy and Physiology, including dissections and demonstrations; Principles and Practice of Medicine; Clinical Medical Practice. Summer Session: Midwifery and Diseases of Women and Children, and Vaccination; (a) Forensic Medicine and Toxicology; Clinical Medical Practice.

Third Year.—Winter Session: Principles and Practice of Medicine; Clinical Medical Lectures; Morbid Anatomy; Clinical Medical Practice.

All medical students presenting themselves for the second examination shall produce evidence of having served the office of clinical clerk at a recognised hospital during the period of six weeks at least; and also shall produce evidence that they have been examined at the class examinations instituted by the various lecturers and professors of their respective medical schools and colleges.

In consequence of the registration of students being now conducted by the General Medical Council, students are informed that in future the registration at the Apothecaries' Hall will be discontinued. Students, however, will be expected to bring proof of the above registration on presenting themselves for examination.

Professional Examinations.—The Court of Examiners meet in the Hall every Wednesday and Thursday, where all candidates are required to attend at 4.30 p.m. each day. Every person intending to offer himself for examination must give notice in writing seven days previous to the day of examination, and must at the same time deposit all the required testimonials and the fee at the office of the Beadle, where attendance is given every day, except Sunday, from ten to four o'clock; Saturdays, ten to two.

The examination of candidates is divided into two parts, and is conducted partly in writing and partly *vivâ voce*.

The written and clinical examinations will take place on Wednesdays, and the *vivâ voce* examination on Thursdays.

The first examination, which may be passed after the second winter session, embraces the following subjects:—The British Pharmacopœia; Latin of Physicians' Prescriptions; Anatomy and Physiology; General and Practical Chemistry; Botany; and Materia Medica.

Second or pass examination, at the termination of the medical studies:—Principles and Practice of Medicine; Pathology; Therapeutics; Midwifery, including the Diseases of Women and Children; Forensic Medicine and Toxicology.

1. All graduates in Medicine of British universities will be admitted to a clinical and practical examination in the Practice of Medicine and Midwifery only.

2. Licentiates of the Royal College of Physicians, London; of the Royal College of Physicians, Edinburgh; of the Royal Colleges of Physicians and Surgeons, Edinburgh; of the King and Queen's College of Physicians, Ireland; of the Faculty of Physicians and Surgeons, Glasgow; and of the Apothecaries' Hall of Dublin, will be admitted to a clinical and practical examination in the Practice of Medicine, Midwifery, Forensic Medicine, and Toxicology.

3. Any candidate who has passed his first examination for the licence of the Royal College of Physicians, London; the licence of the King and Queen's College of Physicians, Ireland; the joint licence of the Royal College of Physicians and Surgeons, Edinburgh, or for the single licence of the College of Physicians, Edinburgh; the licence of the Faculty of Physicians and Surgeons, Glasgow; the first professional examination for the degree of M.B., or Master in Surgery, in the Universities of Oxford, Cambridge, Durham, or London; or the second part of the professional examination for the degree of M.B., or Master in Surgery, in the Universities of Edinburgh, Aberdeen, St. Andrews, and Glasgow; or the first examination for the medical or surgical degrees in the Irish universities; or the first examination for the licence of the Apothecaries' Company, Dublin, will be admitted to a single examination in Anatomy and Materia Medica (to those candidates who have not undergone an examination in those subjects), Practice of Medicine, Pathology, Therapeutics, Midwifery, Forensic Medicine, and Toxicology, part of which examination will be conducted in writing.

4. Members of the Royal College of Surgeons, England; Licentiates of the Royal College of Surgeons, Edinburgh; and Licentiates of the Royal College of Surgeons, Ireland; and all candidates who have passed the first Anatomical Examination of the Royal College of Surgeons, London; the Royal College of Surgeons, Edinburgh; the Royal College of Surgeons, Ireland, are exempt from *writing* on Anatomy and Physiology *only* in their first examination.

All qualified candidates, unless registered, will be required to produce their diploma.

5. Candidates who were apprenticed before August 1, 1858, and those students who commenced their hospital attendance on or before October 1, 1860, will be admitted to a *vivâ voce* examination on the following subjects:—In translating physicians' prescriptions; in such parts of Chemistry and Materia Medica as bear upon the Practice of Medicine, and on Toxicology; in Forensic Medicine, Visceral Anatomy, the Practice of Medicine, including Diseases of Women and Children; and in Midwifery.

The examination of candidates for certificates of qualification to act as Assistant in compounding and dispensing medicines will be as follows:—In translating physicians' prescriptions; in the British Pharmacopœia; in Pharmacy, Pharmaceutical Chemistry, Materia Medica, and Medical Botany.

No rejected candidate for the licence can be re-examined until the expiration of six months from his former examination. A candidate rejected on his first professional examination can be admitted to re-examination until after the expiration of three months. No rejected candidate as an Assistant can be re-examined until the expiration of three months.

Fees.—For a certificate of qualification to practise, £6 6s., half of which is retained in case of rejection, to be accounted for at a subsequent examination. For the first examination, £3 3s.; for an Assistant's certificate, £2 2s.; both of which sums are retained in case of rejection, and accounted for subsequently.

Students' Prizes.—The Society of Apothecaries annually offer two prizes for efficiency in the knowledge of Botany, and also two prizes for proficiency in the knowledge of Materia Medica and Pharmaceutical Chemistry. The prizes consist of a gold medal awarded to the candidate who distinguishes himself the most in the examination; and of a silver medal and a book to the candidate who does so in the next degree.

The examination in Botany will be held at the Hall of the Society on the third Thursday in June, at 10 a.m., and will be conducted by printed papers and *vivâ voce* questions.

The examinations in Materia Medica and Pharmaceutical Chemistry will be held at the Hall of the Socciety on the third Wednesday in August, at 10 a.m., and will be conducted by printed papers and *vivâ voce* questions.

The Society's Botanic Garden at Chelsea is open daily (except Sunday), from ten to five. Cards of admission may be had at the Beadle's Office, Apothecaries' Hall, Blackfriars, E.C.

Examination in Arts.—An examination in Arts will take place at the Hall, three times a year—viz., on the last Friday

(a) In compliance with a request from the General Medical Council of Education, the Court of Examiners of the Society of Apothecaries of London require that in future all pupils applying for their certificate of qualification to practise shall be instructed and furnished with certificates of proficiency in vaccination by gentlemen holding appointments in conformity with the regulations of the Local Government Board, Whitehall.

and Saturday in the months of January, April, and September. The fee for the examination is one guinea; and this must be paid at least *one week* before the day of examination. If a candidate fail to pass the examination, the fee will not be returned to him, but he will be admissible to either, or to both, of the two next following examinations without payment of an additional fee, upon giving at least one week's notice.

To prevent the necessity of candidates who are desirous of entering to the Preliminary Examination in Arts of attending personally to sign their names, and also for the purpose of identification, the following notice must be written by the candidate, in the presence of a magistrate, clergyman, or a registered medical practitioner, and sent to Mr. Sargeant, at the Apothecaries' Hall, with the fee, at least *one week* before the day of such examination:—

(*This Form of Notice to be copied and written in full by the Candidate.*)

I, _____,
residing at _____,
intend to present myself for the Preliminary Examination in Arts at the Apothecaries' Hall, London, on the _____,
and that I intend to take _____ as my optional subject.

Signature _____

The above has been written and signed in my presence by the above-named candidate, with whom I am personally acquainted.

Sign _____

Address _____

Date _____

Certificates in Arts granted by any of the bodies whose certificate is recognised by the Medical Council, will be accepted from candidates who present themselves at the professional examination at the Hall, as equivalent to their having passed the above examination.

In Scotland, besides the Universities, there are three licensing bodies, viz.:—

4. ROYAL COLLEGE OF PHYSICIANS, EDINBURGH;
5. ROYAL COLLEGE OF SURGEONS, EDINBURGH;
6. FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

The first alone can give a qualification in Medicine; the two latter can give only a surgical qualification. Each of the surgical bodies has, however, most sensibly joined with the College of Physicians, so that a candidate can, by a single set of examinations, acquire a qualification both in Medicine and Surgery. For this reason, and as the greater must include the less, we shall only give the rules applying to these conjoint examinations. These are so nearly identical, that one set of regulations will suffice.

The Royal College of Physicians and the Royal College of Surgeons, Edinburgh, and the Royal College of Physicians of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow, while they continue to give their diplomas separately under separate regulations, have made arrangements by which, after one series of examinations, the student may obtain two separate licences—one in Medicine, and one in Surgery.

The general principle of this joint examination is, that it is conducted by a board in which each body is represented, the object being to give to students facilities for obtaining from two separate bodies, and at less expense, a double qualification in Medicine and in Surgery. Students passing these examinations successfully will be enabled to register two qualifications under the Medical Act—viz., Licentiate of the Royal College of Physicians and Licentiate of the Royal College of Surgeons, Edinburgh; and Licentiate of the Royal College of Physicians of Edinburgh and Licentiate of the Faculty of Physicians and Surgeons of Glasgow.

Candidates for these qualifications commencing professional study on or after October 1, 1866, must have been engaged in professional study during four years, and in actual attendance at a university or recognised school of medicine during not less than four winter sessions or three winter sessions and two summer sessions, and must have completed the following curriculum:—

1. Anatomy, two courses of lectures in distinct sessions, six months each.
2. Practical Anatomy, twelve months.
3. Chemistry, one course of lectures, six months.
4. Practical or Analytical Chemistry, one course of lectures, three months.
5. Physiology, not less than fifty lectures.
6. Practice of Medicine, one course of lectures, six months.
7. Clinical Medicine, extending to six months.
8. Another course of Practice of Medicine, or of Clinical Medicine, at the option of the candidate.
9. Principles and Practice of Surgery, one course of lectures, six months.
10. Clinical Surgery extending to six months.
11. Another course of Surgery, or of Clinical Surgery, at the option of the candidate.
12. Materia Medica, one course of lectures, three months.
13. Midwifery, one course of lectures, three months.
14. Practical Midwifery, attendance on at least six cases of labour.
15. Medical Jurisprudence, one course of lectures, three months.
16. Pathological Anatomy, instruction in the post-mortem rooms of a recognised hospital, three months.
17. Practical Pharmacy, instruction, three months.
18. General Hospital, attendance on the practice of a public general hospital, containing on an average not less than eighty patients, twenty-four months.
19. Proficiency in Vaccination, certified by a public vaccinator or a registered practitioner.

[Attendance for six months on the practice of a public dispensary, or certificate of having been engaged for six months as visiting assistant to a registered practitioner.—Edinburgh.]

Students are strongly recommended to avail themselves of any opportunities they may possess of studying Ophthalmic and Mental Diseases, Natural History, Comparative Anatomy, and Practical Physiology, in addition to what is required in the curriculum.

The examinations are conducted partly in writing and partly orally. Recent dissections, anatomical specimens, chemical tests, articles of the materia medica, the microscope, surgical and obstetrical apparatus, and pathological specimens, are employed at the discretion of the examiners. Candidates at the second examination are subjected in the hospital to a practical clinical examination in Medicine and Surgery.

Candidates for the double qualification who have passed the examination in Anatomy, Physiology, and Chemistry of one or other of the licensing bodies enumerated in Schedule (A) of the Medical Act, on complying with the regulations in other respects, are admissible to the second professional examination. No candidate is exempted from examination in any of the subjects of the second examination.

A candidate, on showing a sufficient reason, may be admitted to examination on a day specially arranged, on paying an extra fee of £5 (£7 7s., Glasgow), which will not be returned in the event of his being remitted to his studies.

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7. KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

This body consists of Fellows and Licentiates. The regulations relating to the latter are as follows:—Candidates must produce—1. Evidence of having been engaged in the study of Medicine for four years. 2. A certificate of having passed the preliminary examination of one of the recognised licensing corporations before the termination of the second year of medical study. 3. Certificates of having studied at a school or schools recognised by the College, the following subjects, viz.:—Practical Anatomy; Anatomy and Physiology, or Institutes of Medicine; Botany; Chemistry; Practical Chemistry; Materia Medica; Practice of Medicine and Pathology; Surgery; Midwifery; Medical Jurisprudence. 4. Certificates of having attended a medico-chirurgical hospital in which regular courses of clinical lectures are delivered, together with clinical instruction, for twenty-seven months; or such hospital for eighteen months with nine months' attendance on a medical hospital, and similar courses of clinical lectures and instructions. 5. A certificate of having attended Practical Midwifery for six months at a recognised lying-in hospital, or evidence satisfactory to the College in each individual case of having attended Practical Midwifery. 6. Certificates of character from two registered physicians or surgeons.

A candidate who has already obtained a medical or surgical qualification recognised by the College is only required to

produce his diploma or certificate of registration, a certificate of Practical Midwifery, and testimonials as to character.

EXAMINATION FOR THE LICENCE IN MEDICINE.

The examination consists of two parts. The subjects of the first part, or previous examination, are—Anatomy, Physiology, Botany, Chemistry. The subjects of the second part, or final examination, are—Materia Medica, Practice of Medicine, Medical Jurisprudence, Midwifery.

All candidates for the second or final examination (with the exception below specified) (a) are examined in the Practice of Medicine at the bedside in one of the hospitals of Dublin, and afterwards in the College by means of printed questions and orally in the four subjects of examination.

Candidates qualified as follows are required to undergo the *second part* of the professional examination *only*, viz.:—1. Graduates in Medicine of a university in the United Kingdom, or of any foreign university approved by the College. 2. Fellows, Members, or Licentiates of the Royal College of Physicians of London or Edinburgh, who have been admitted upon examination. 3. Graduates or Licentiates in Surgery. 4. Candidates who, having completed the curriculum above mentioned, have passed the previous examination of any of the licensing corporations in the United Kingdom.

DIPLOMA IN MIDWIFERY.

Candidates already qualified in Medicine or Surgery may apply for permission to be examined for the diploma in Midwifery. The certificates required to be lodged are the same as those required from *qualified* candidates for the licence to practise Medicine.

Fees.—Fee for the licence in Medicine, £15 15s. Fee for licence in Medicine and diploma in Midwifery (for which latter there is a separate examination), if taken out within an interval of a month, £16. Fee for the diploma in Midwifery, £3 3s.

The election for Fellowship takes place twice a year, viz., on the first Friday in April and on St. Luke's Day (October 18). Candidates must be proposed and seconded three months previously.

RULES AND REGULATIONS RESPECTING FEMALE CANDIDATES FOR EXAMINATION FOR A LICENCE TO PRACTISE AS MIDWIVES AND NURSE-TENDERS.

Qualifications.—Age not less than twenty-one years; certificates of character.

Preliminary Examination.—Reading, writing, and arithmetic.

Course of Instruction.—Six months' attendance on systematic lectures on Midwifery, and not less than six months' attendance on bedside instruction in a lying-in hospital or maternity recognised by the College.

Subjects for the Examinations.—Midwifery (not including operations) and Nurse-tending.

Examination fee, £1 1s.

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8. THE ROYAL COLLEGE OF SURGEONS, IRELAND.

This body grants two qualifications—that of Fellow, and Letters Testimonial equivalent to a Licentiateship. The regulations relating to the latter are as follows:—

Candidates for the Letters Testimonial of the College may present themselves either at a Special or at a Stated Examination, as follows:—

SPECIAL EXAMINATIONS.

Every registered pupil shall be admitted, upon payment of a special fee of £5 5s., to a Special Examination for Letters Testimonial, if he shall have laid before the Council the following documents:—

a. A receipt showing that he has lodged, in addition to his registration and special fees, a sum of £21 in the Bank of Ireland, to the credit of the President, and for the use of the College.

b. A certificate that he has passed a preliminary examination, conducted by a board recognised by the General Medical Council, into the curriculum of which the Greek language enters as a compulsory subject.

c. A certificate showing that he has been engaged in the study of his profession for not less than four years.

d. Certificates of attendance during three years on a hospital recognised by the Council, where clinical instruction is given.

e. Certificates of attendance on three courses of lectures on Anatomy and Physiology; three courses of lectures on the Theory and Practice of Surgery; and of the performance of three courses of Dissections, accompanied by demonstrations; also certificates of attendance on two courses of lectures on Chemistry, or one course of lectures on General and one on Practical Chemistry; one course of lectures on Materia Medica; one course of lectures on the Practice of Medicine; one course of lectures on Midwifery; one course of lectures on Medical Jurisprudence; and one course of lectures on Botany.

N.B.—The subjects for examination, and the mode of carrying these out, for a Special Examination, will be the same as those hereinafter laid down for the Stated Examinations, and any rejected candidate will only be entitled to receive back £15 15s. of the fees lodged by him.

STATED EXAMINATIONS.

1st. Stated Examinations shall be held in the months of April, July, and November, commencing on dates of which due notice shall be given beforehand by the Council of the College, and to which *candidates cannot be admitted unless they be registered pupils*, and at which they shall be divided into two classes—Junior and Senior.

2nd. The Junior Class shall produce certificates of having passed a preliminary examination conducted by a board recognised by the General Medical Council, into the curriculum of which the Greek language enters as a compulsory subject; and of having attended three courses of lectures on Anatomy and Physiology; three courses of lectures on Practical Anatomy, with dissections; two courses of lectures on Chemistry; one course of lectures on Materia Medica; one course of lectures on Botany; and one course of lectures on Forensic Medicine.

3rd. This class shall be examined in Anatomy, Histology, Physiology, Materia Medica, and Chemistry.

4th. The fee for this examination shall be £5 5s., in addition to the registration fee of £5 5s.—not to be returned in case of rejection, but to be allowed the candidate in case he presents himself a second time for examination.

5th. The Senior Class shall produce certificates of having attended three courses of lectures on the Theory and Practice of Surgery, one course of lectures on the Practice of Medicine, and one course of lectures on Midwifery; also certificates of attendance on a recognised hospital for three winter and three summer sessions.

6th. This class shall be examined in Surgery, Operative Surgery and Surgical Appliances, Practice of Medicine, Medical Jurisprudence, and Prescriptions.

7th. The fee for the Senior Class Examination shall be £15 15s., returnable to the candidate in case of rejection.

8th. Both of these examinations shall be conducted partly by written and partly by oral questions.

9th. In addition to the foregoing fees, a fee of £1 1s. is to be paid to the Registrar on handing each licentiate his diploma.

10th. Every candidate rejected at any of the Stated Examinations, on applying for re-examination, shall be required to pay to the College, in addition to the regular fees, the sum of £2 2s. to reimburse the College the necessary expense of his re-examination.

This body also grants a diploma in Midwifery, for which the following are the regulations:—

Qualifications of Candidates for the Diploma in Midwifery.—Any Fellow or Licentiate of the College shall be admitted to an examination for the diploma in Midwifery upon laying before the Council the following documents:—*a.* A certificate showing that he has attended one course of lectures on Midwifery and Diseases of Women and Children, delivered by a professor or lecturer in some School of Medicine or Surgery recognised by the Council. *b.* A certificate showing that he has attended, during a period of six months, the practice of a lying-in hospital recognised by the Council; or the practice of a dispensary for lying-in women and children recognised by the Council and devoted to this branch of Surgery alone. *c.* A certificate showing that he has conducted thirty labour cases, at least.

Fees to be paid by Candidates for the Diploma in Midwifery.—The candidate pays £1 6s. for the Midwifery diploma, provided he takes it out within one month from the date of his letters testimonial; after that date the fee will be £2 2s.

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9. THE APOTHECARIES' HALL OF IRELAND.

This body grants a licence to practise, on the following conditions:—

1. Of having passed an examination in Arts previously to entering on professional study.

2. Of being at least twenty-one years of age, and of good moral character.

3. Of pupilage to a qualified apothecary, or of having been otherwise engaged in practical pharmacy for a period of

(a) Candidates who are physicians or surgeons of five years' standing are exempted from the clinical and written portions of the final examination.

twelve months subsequent to having passed the examination in Arts.

4. Of having spent four years in professional study.

5. Of having attended the following courses, viz.:—Chemistry, during one winter session; Anatomy and Physiology, during two winter sessions; Demonstrations and Dissections, during two winter sessions; Botany and Natural History, during one summer session; Practical Chemistry (in a recognised laboratory), during three months; Materia Medica, during three months; Principles and Practice of Medicine and Therapeutics, during one winter session; Midwifery and Diseases of Women and Children, during six months; Practical Midwifery at a recognised hospital (attendance upon twenty cases); Surgery, during one winter session; Forensic Medicine, during one summer session; instruction in the practice of Vaccination.

6. Of having attended, at a recognised hospital or hospitals, the practice of Medicine and clinical lectures on Medicine, during two winter and two summer sessions; also the practice of Surgery and clinical lectures on Surgery, during one winter and one summer session.

7. Of practical study, with care of patients, as apprentice, pupil, assistant, clinical clerk, or dresser, in hospital, dispensary, or with a registered practitioner.

8. Of having performed the operation of vaccination successfully under a recognised vaccinator.

The examination for the licence to practise is divided into two parts:—The first part comprehends Chemistry, Botany, Anatomy, Physiology, Materia Medica, and Pharmacy; the second—Medicine, Surgery, Pathology, Therapeutics, Midwifery, Forensic Medicine, and Hygiene.

The professional examinations will be held quarterly, and will commence on the first and second Mondays in the months of January, April, July, and October.

THE HIGHER QUALIFICATIONS.

Besides the ordinary qualifications available to students who have just finished their curriculum, there are certain higher grades attainable after a certain period. Thus, at the Universities the student first graduates M.B., and after certain years, with or without a special examination, proceeds to the degree of M.D. At the Royal College of Physicians, in the same manner, with or without the Licentiateship, one may proceed to take the Membership of the College; but this is rarely done save by those who desire to practise what is called "pure" Medicine. It is by the rules of most institutions a necessary qualification for one desiring the post of Physician. The reason of this limitation is that the by-laws of the College impose such restrictions on its Members that it is hardly possible for them to practise as general practitioners. Again at the College of Surgeons, those who have obtained the qualification of M.R.C.S.E. may, after certain special study, to which we need not here further refer, present themselves for examination for the Fellowship. This stands in the same relationship to the surgical branch of our profession as does the Membership of the Royal College of Physicians to the purely medical; but, inasmuch as the restrictions are less onerous, it is also possessed by many general practitioners. These, however, are not Student-qualifications, and consequently the rules and regulations relating to them are here omitted.

THE SELECTION OF A SCHOOL.

ENTRANCE SCHOLARSHIPS.

The pupil or his friends having determined in their own minds the body whose qualification is to be sought, and the consequent curriculum to be followed, the next thing is to seek the means of following out this curriculum, and of obtaining the knowledge necessary for the acquisition of the diploma. This is commonly a simple enough matter, for if a student desires to obtain the degree of M.B. Edinburgh, he naturally enters himself as a student in the University. In London it is otherwise. Here we would advise all who desire an ordinary qualification in Medicine and Surgery to look forward to those offered by the Royal Colleges of Physicians and Surgeons. The licence of the Apothecaries' Society is in many ways useful, but it does not possess the same high character as that given by the Royal College of Physicians. The curricula of the English schools are specially adapted to the regulations of these bodies, and hence there is no difficulty in obtaining what the student wants. The difficulty to be solved is, where to get it of the best quality. In other words, the student or his friends have to select one of the eleven metropolitan or of the provincial schools in which to pursue his studies. This, in many instances, is settled simply as a matter of convenience; the youth's residence, or that of some of his friends, may make them select the nearest school, be it great or small. But when neither this nor any other reason is operative, the selection of a school often becomes a somewhat difficult matter. Above all, there is the old difficulty of a large school or a small. The largest schools are St. Bartholomew's, Guy's, and University College; the first two having at the same time the largest hospitals, with the exception, perhaps, of St. Thomas's, in London; but, on the other hand, University College Hospital is one of the smallest. This very effectually deals with the idea that the success of a school exactly corresponds to the size of the hospital with which it is associated. The truth is, that the size of the hospital does not matter greatly. It is quite impossible for any one student to attend upon the whole practice of even a small hospital with advantage. A physician or surgeon finds that the number of beds he can use with advantage to himself and others is very limited; and still more is this the case with the student. Again, as regards class-work, there can be no doubt that with a large body of young men enthusiasm is highly contagious; but so, too, is indifference; and as regards tutorial work there can be no question of the superiority of a small class over a large one. The place to select—for all the recognised hospitals are large enough—is where the teachers are active and enthusiastic, and have got their way to make in the world, whose success must in great measure depend on the success of their school. University College is a good example of what may be done in this way, for the teachers there have by such means raised their numbers to a height which is hardly manageable in so small a hospital.

The following is a list of Entrance Scholarships given at the various London hospitals:—

St. Bartholomew's Hospital.—Two open Scholarships in Science, £100 for one year. Subjects: Physics, Chemistry, Botany, and Zoology. Also £50 for newly entered students in October. Preliminary education.

Charing-cross Hospital.—Two Entrance Scholarships, £30 and £20. Subjects—Compulsory: English, Latin, French or German, Mathematics; Optional (one only may be selected): Chemistry, Mechanics, German or French. The subjects and authors will be the same as those chosen for the London matriculation of the preceding June.

Guy's Hospital.—Two of £100—one in preliminary education, the other in science.

King's College.—Four Warneford Scholarships of £25—two for three years, two for two; Divinity, Classics, Mathematics, History (English), Chemistry, Botany, and Natural Philosophy.

London Hospital.—Two Entrance Science Scholarships, £60 and £40. Two Buxton Scholarships, £30 and £20. Preliminary education.

St. Mary's Hospital.—One Entrance Scholarship, £120; one Exhibition, £20. Natural Science.

St. Thomas's Hospital. — Two (£60 and £40) Entrance Science Scholarships. Subjects the same as for the Preliminary Scientific Examination of the University of London.

Middlesex Hospital.—Two Entrance Scholarships, £25 and £20, tenable for two years.

University College.—Three Entrance Scholarships, £30, £20, and £10, tenable for two years. Preliminary education.

Westminster Hospital.—Four Entrance Scholarships—two of £50 for two years, and two of £10 for one year. Latin, Mathematics, French or German, and Physics and Chemistry.

LONDON HOSPITALS AND MEDICAL SCHOOLS.

ST. BARTHOLOMEW'S HOSPITAL.

MEDICAL AND SURGICAL STAFF.

Consulting Physicians.

Sir G. Burrows, Bart., D.C.L., F.R.S., Dr. Farre, Dr. Harris, Dr. Martin.

Consulting Surgeon—Sir J. Paget, Bart., D.C.L., F.R.S.

Physicians.
Dr. Black.
Dr. Andrew.
Dr. Southey.
Dr. Church.

Assistant-Physicians.
Dr. Gee.
Dr. Duckworth.
Dr. Hensley.
Dr. Brunton, F.R.S.

Physician-Accoucheur.
Dr. Greenhalgh.

Assistant Physician-Accoucheur.
Dr. Godson.

Surgeons.
Mr. Holden.
Mr. Savory, F.R.S.
Mr. Callender, F.R.S.
Mr. Thomas Smith.

Assistant-Surgeons.
Mr. Willett.
Mr Langton.
Mr. Morraut Baker.
Mr. Marsh.

Ophthalmic Surgeons.
Mr. Power.
Mr. Vernon.

Casualty Physicians—Dr. Wickham Legg, Dr. Bridges, Dr. Champneys.
Dental Surgeon—Mr. Coleman.
Administrator of Chloroform—Mr. Mills.
Medical Registrar—Dr. Champneys.
Surgical Registrars—Mr. Butlin, Mr. Macready.

LECTURES.

Botany—Rev. George Henslow.
Chemistry and Practical Chemistry—Dr. Russell.
Clinical Medicine—Dr. Black, Dr. Andrew, Dr. Southey, and Dr. Church.
Clinical Surgery—Mr. Holden, Mr. Savory, Mr. Callender, Mr. Thos. Smith.
Comparative Anatomy—Dr. Moore.
Dental Anatomy and Surgery—Mr. Coleman.
Descriptive and Surgical Anatomy—Mr. T. Smith and Mr. Langton.
Forensic Medicine and Hygiene—Dr. Southey.
General Anatomy and Physiology—Mr. Morrant Baker.
Histology—Dr. Klein.
Materia Medica—Dr. Brunton.
Medicine — Dr. Black and Dr. Andrew.
Mental Diseases—Dr. Claye Shaw.
Midwifery and the Diseases of Women and Children—Dr. Greenhalgh.
Ophthalmic Medicine and Surgery—Mr. Power.
Pathological Anatomy—Dr. Gee.
Surgery—Mr. Savory and Mr. Callender.

DEMONSTRATIONS.

Diseases of the Ear—Mr. Langton.
Diseases of the Eye—Mr. Vernon.
Diseases of the Skin—Mr. Baker.
Mechanical and Natural Philosophy—Mr. Graham.
Morbid Anatomy—Dr. W. Legg.
Orthopædic Surgery—Mr Willett.
Practical Anatomy and Operative Surgery—Mr. Cumberbatch, and Mr. Walsham.
Practical Physiology—Dr. Shuter.
Practical Surgery—Mr. Marsh.

Medical Tutor—Dr. Moore.

This Hospital comprises a service of 710 beds, of which 676 are in the Hospital in Smithfield, and 34 are for convalescent patients at Lauderdale House, Highgate.

SCHOLARSHIPS AND PRIZES.

The following scholarships and prizes are awarded:—Open Scholarships in Science, founded 1873; subjects of examination—Physics, Chemistry, Botany, and Zoology. These scholarships, of the value of £100 each, tenable for one year, will be competed for on September 26 and following days. Preliminary Scientific Exhibition, founded 1873; subjects of examination—Physics, Chemistry, Botany, and Zoology. This Exhibition, of the value of £50, is awarded in October. Lawrence Scholarship and Gold Medal, of the value of £80, founded in 1873 by the family of the late Sir W. Lawrence. Brackenbury Scholarship in Medicine, and Brackenbury Scholarship in Surgery, founded in 1873 by the will of the late Miss Hannah Brackenbury, who left £2000 for this purpose. Senior Scholarship of the value of £50—Anatomy, Physiology, and Chemistry. Junior Scholarships of the value of £50, £30, and £20 are awarded after an examination in the subjects of study of the first year at the end of the summer and winter sessions. The Jeaffreson Exhibition, of the value of £20, and tenable for two years, is awarded at the commencement of each winter session to the student who passes the best examination in the subjects of preliminary education. The Wix Prize is awarded for the best essay on the following subject—"The Life and Works of Dr. Heberden." Hichens Prize: subject of examination—Bishop Butler's Analogy. Bentley Prize, for the best report of surgical cases occurring in the wards of the Hospital during the previous year. It is expected that the reports will comprise the histories, progress, treatment, and results of not less than twelve cases, with observations thereupon. Foster Prize: subject of examination—Practical Anatomy; senior. Treasurer's Prize: subject of examination—Practical Anatomy; junior. The Kirkes Gold Medal: subject of examination—Clinical Medicine.

FEES.

Whole fee for attendance on lectures and hospital practice £110 5s., payable by instalments, or a single payment of £105. Payment in either of these ways entitles to a perpetual ticket.

A College for resident students exists in connexion with the Hospital; Resident Warden, Dr. Norman Moore, from whom students will obtain information respecting rooms in the College, or will be advised regarding residence out of the Hospital.

All communications to be addressed to the Warden of the College, St. Bartholomew's Hospital.

CHARING-CROSS HOSPITAL.

MEDICAL AND SURGICAL STAFF.

Consulting Surgeon—Mr. H. Hancock, F.R.C.S.

Physicians.
Dr. A. J. Pollock.
Dr. A. Silver.
Dr. T. H. Green.

Assistant-Physicians.
Dr. J. Mitchell Bruce.
Dr. J. Pearson Irvine.
Dr. T. Barlow.
Dr. David B. Lees.

Physician Accoucheur.
Dr. J. Watt Black.

Physician for Skin Diseases.
Mr. A. Sangster.

Medical Registrar.
Dr. W. B. Houghton.

Surgeons.
Mr. E. Canton.
Mr. F. Hird.
Mr. R. Barwell.

Assistant-Surgeons.
Mr. E. Bellamy.
Mr. J. Astley Bloxam.
Mr. R. J. Godlee.

Dental Surgeon.
Mr. John Fairbank.

Chloroformists.
Mr. Woodhouse Braine.
Mr. G. H. Bailey.

Surgical Registrar.
Mr. James Cantlie.

LECTURERS AND TEACHERS.

Anatomy—Mr. Edward Bellamy.
Bandaging, etc.—Mr. R. J. Godlee.
Botany—Rev. J. C. Saunders.
Chemistry & Practical Chemistry—Mr. C. W. Heaton; Demonstrator, Mr. T. Bolass.
Clinical Medicine—Dr. Alexander Silver.
Clinical Surgery—Mr. H. Hancock.
Comparative Anatomy—Dr. J. F. Blake.
Demonstrations and Dissections—Mr. James Cantlie.
Dental Surgery — Mr. John Fairbank.
Diseases of Children—Dr. T. Barlow.
Forensic Medicine—Dr. J. Pearson Irvine.
Materia Medica and Therapeutics—Dr. J. Mitchell Bruce.
Mental Diseases — Dr. L. Forbes Winslow.
Morbid Histology—Mr. Jas. Cantlie.
Operative Surgery — Mr. Edward Bellamy.
Pathology and Morbid Anatomy—Dr. T. Henry Green.
Physiology, Theoretical and Practical—Dr. Alexander Silver and Dr. Mitchell Bruce.
Practical Chemistry—Mr. C. W. Heaton; Demonstrator—Mr. A. H. Hooker.
Principles and Practice of Medicine—Dr. A. J. Pollock.
Principles and Practice of Midwifery and Diseases of Women—Dr. J. Watt Black.
Principles and Practice of Surgery—Mr. Edwin Canton.
Public Health — Dr. J. Pearson Irvine, Mr. W. Heaton, and Mr. W. Eassie.
Skin Diseases—Mr. A. Sangster.
Surgical Pathology—Mr. J. Astley Bloxam.

SCHOLARSHIPS, MEDALS, AND PRIZES.

Two Entrance Scholarships, of the value of £30 and £20 respectively, tenable for one year, will be awarded annually in October, after a competitive examination in the following subjects:—Compulsory: English, Latin, French or German, Mathematics. Optional (only one of which may be selected): Chemistry, Mechanics, German or French. The subjects (as regards extent and the authors selected) will be the same as those chosen for the Matriculation Examination of the University of London in the June immediately preceding. Candidates must give notice of their intention to compete on or before Saturday, September 22, 1877. The successful candidates will be required to enter for their medical education at Charing-cross Hospital.

The Llewellyn Scholarship of £25 is open to all matriculated students who have just completed their second academical year. The examination is held at the end of the second summer session, and includes the following subjects:—Descriptive and Surgical Anatomy, Physiology, Materia Medica, Medicine, Surgery, Midwifery.

The Golding Scholarship of £15 is open to all matriculated students who have just completed their first academical year. The examination is held at the end of the first summer session, and includes the following subjects:—Descriptive Anatomy, Physiology, Materia Medica, and Chemistry.

The Pereira Prize of £5 is open to all matriculated students who shall have completed their third academical year. It is awarded to the author of the best Clinical Reports of Cases in the Hospital during the preceding year, Medical and Surgical Cases being selected in alternate years.

Each candidate must produce a certificate of good conduct from the Dean of the Medical School, at the time of giving in his name as a competitor; and the names of the candidates for Scholarships are to be delivered to the Librarian one week before the first day of the examination.

The Governors' Clinical Gold Medal.—The competition for this medal is open to matriculated students who shall have completed, at the end of the current session, their attendance on the Medical and Surgical Practice of the Hospital. Candidates are examined on the subjects of Clinical Lectures delivered during the session, and on Medical and Surgical Cases in the wards of the Hospital.

Silver Medals.—Silver Medals are awarded in all the classes.

Bronze Medals.—Where two sessions' attendance on a course are required, a Bronze Medal is awarded in the junior class, in addition to the Silver one in the senior class.

Certificates of Honour are awarded to both senior and junior students who, not being the most proficient, have yet attained a marked degree of excellence.

ST. GEORGE'S HOSPITAL.

MEDICAL AND SURGICAL STAFF.

Consulting Physicians—Dr. Wilson, Dr. Pitman, Dr. Ogle.
Consulting Surgeons—Mr. Cæsar Hawkins, F.R.S., Mr. Tatum, Mr. Prescott Hewett, F.R.S.

Physicians.
Dr. Barclay.
Dr. Wadham.
Dr. Dickinson.
Dr. Whipham.

Assistant-Physicians.
Dr. Cavafy.
Dr. Watney.

Surgeons.
Mr. Pollock.
Mr. Henry Lee.
Mr. Holmes.
Mr. Rouse.

Assistant-Surgeons.
Mr. Pick.
Mr. Haward.

Obstetric Physician—Dr. Barnes.
Ophthalmic Surgeon—Mr. Brudenell Carter.
Aural Surgeon—Mr. Dalby. *Dental Surgeon*—Mr. Edgelow.

LECTURERS.—WINTER SESSION.

Chemistry and Physics—Dr. Noad.
Clinical Lectures on Diseases of Women—Dr. Barnes.
Clinical Medicine—Drs. Dickinson and Whipham.
Clinical Surgery—Messrs. Pollock and H. Lee.
Descriptive and Surgical Anatomy—Mr. Pick.
Histology—Dr. Herbert Watney.
Morbid Anatomy—Dr. Ewart.
Ophthalmic Surgery—Mr. Brudenell Carter.
Pathology—Dr. Dickinson.
Physiological Chemistry—Dr Ralfe.
Physiology and General Anatomy—Dr. Cavafy.
Principles and Practice of Physic—Dr. Barclay.
Principles and Practice of Surgery—Mr. Holmes and Mr. Rouse.

SUMMER SESSION.

Aural Surgery—Mr. Dalby.
Botany—Dr. Whipham.
Clinical Demonstrations of Diseases of the Skin—Dr. Wadham.
Clinical Medicine—Dr. Wadham.
Clinical Surgery—Mr. Holmes.
Comparative Anatomy—Dr. Brailey.
Dental Surgery—Mr. Edgelow.
Materia Medica—Dr. Dickinson.
Medical Jurisprudence—Dr. Wadham.
Midwifery and Diseases of Women and Children—Dr. Barnes.
Practical Chemistry—Dr. Noad.
Practical Surgery—Mr. Haward.
Psychological Medicine—Dr. Blandford.

EXHIBITIONS AND PRIZES.

"The William Brown Exhibition," of £100 per annum, tenable for two years, to be competed for by perpetual pupils who have recently obtained their diploma. "The William Brown Exhibition," of £40 per annum, tenable for three years, to be competed for by students during their fourth year of study. The Brackenbury Prizes of £35 each in Medicine and Surgery, awarded annually after a competitive examination. The Treasurer's Clinical Prize of £10 10s., the gift of A. Shaw Stewart, Esq., to be competed for annually. Sir Charles Clarke's Prize for good conduct: The interest of £200 Consols, to be awarded annually to the student of the Hospital "who, by reason of his general good conduct during the preceding year, should be considered the most deserving." The Thompson Medal: A silver medal to be awarded annually for the best clinical report of medical and surgical cases observed in the Hospital during the preceding twelve months. Sir Benjamin Brodie's Clinical Prize in Surgery will be awarded to the pupil of the Hospital who shall have delivered to the Surgeons the best report of not more than twelve surgical cases which have occurred in the Hospital during the preceding twelve months. Dr. Acland's Clinical Prize in Medicine will be awarded to the pupil of the Hospital who shall produce the best report of not more than twelve medical cases which have occurred in the Hospital during the preceding twelve months. The Henry Charles Johnson Memorial Prize in Anatomy will be awarded to that pupil who shall, in the judgment of the Medical School Committee, exhibit the greatest proficiency in Practical Anatomy. General Proficiency Prizes: To pupils in their first year, £10 10s.; to pupils in their second year, £10 10s.; to pupils in their third year, £10 10s.

FEES.

Perpetual pupils pay at the time of entry a compounding fee of £105.

Gentlemen are admitted to the hospital practice and lectures required for the licensing bodies on payment of the following fees—viz., £42 for the first year of study, £42 for the second year of study, and £10 10s. for each succeeding year. Pupils may also enter to the hospital practice and lectures separately.

For further particulars apply to Dr. Barclay, Treasurer, or Dr. Wadham, Dean of the School.

GUY'S HOSPITAL.

MEDICAL AND SURGICAL STAFF.

Consulting Physicians—Sir William Gull, Bart., Dr. G. Owen Rees.
Consulting Obstetric Physician—Dr. Henry Oldham.
Consulting Surgeons—Mr. J. Hilton, Mr. E. Cock, Mr. Birkett.

Physicians.
Dr. S. O. Habershon.
Dr. S. Wilks.
Dr. F. W. Pavy.
Dr. W. Moxon.

Assistant-Physicians.
Dr. C. Hilton Fagge.
Dr. P. H. Pye-Smith.
Dr. Frederick Taylor.
Dr. J. F. Goodhart.

Obstetric Physician.
Dr. J. Braxton Hicks.

Assistant Obstetric Physician.
Dr. A. L. Galabin.

Medical Registrar.
Dr. Mahomed.

Curator of the Museum.
Dr. Fagge.

Surgeons.
Mr. J. Cooper Forster.
Mr. Thomas Bryant.
Mr. Arthur Durham.
Mr. H. G. Howse.

Assistant-Surgeons.
Mr. N. Davies-Colley.
Mr. R. Clement Lucas.
Mr. C. H. Golding-Bird.
Mr. W. H. A. Jacobson.

Ophthalmic Surgeons.
Mr. C. Bader.
Mr. C. Higgens, *Asst.*

Dental Surgeons.
Mr. S. J. A. Salter.
Mr. H. Moon, *Asst.*

Aural Surgeon.
Mr. W. Laidlaw Purves.

Surgical Registrar.
Mr. Frederic Durham.

Dean—Dr. F. Taylor.

WINTER COURSES.—LECTURES.

Anatomy, Descriptive and Surgical—Mr. Howse and Mr. Davies-Colley.
Chemistry — Dr. Debus and Dr. Stevenson.
Clinical Medicine—Dr. Habershon, Dr. Wilks, Dr. Pavy, and Dr. Moxon.
Clinical Surgery—Mr. Forster, Mr. Bryant, Mr. Durham, and Mr. Howse.
Clinical Lectures on Midwifery and Diseases of Women—Dr. Braxton Hicks.
Experimental Physics—Prof. A. W. Reinold.
Medicine—Dr. Wilks and Dr. Pavy.
Physiology and General Anatomy—Dr. Pye-Smith.
Surgery — Mr. Bryant and Mr. Arthur Durham.

DEMONSTRATIONS.

Cutaneous Diseases — Dr. Pye-Smith.
Morbid Anatomy—Dr. Fagge and Dr. Goodhart.
Practical Surgery—Mr. Lucas.
Practical Anatomy—Mr. W. H. A. Jacobson, Mr. R. E. Carrington, and Mr. C. J. Symonds.
Practical Physiology—Mr. Golding-Bird.

SUMMER COURSES.—LECTURES.

Botany—Mr. Bettany.
Clinical Medicine—Dr. Fagge, Dr. Pye-Smith, Dr. F. Taylor, and Dr. Goodhart.
Clinical Surgery—Mr. Davies-Colley, Mr. Clement Lucas, Mr. Golding-Bird, and Mr. Jacobson.
Clinical Lectures on Diseases of Women—Dr. A. L. Galabin.
Comparative Anatomy and Zoology—Mr. Jacobson.
Dental Surgery—Mr. Moon.
Hygiene—Dr. F. Taylor.
Materia Medica and Therapeutics—Dr. Moxon.
Medical Jurisprudence—Dr. Alfred S. Taylor.
Mental Diseases—Dr. Savage.
Midwifery and Diseases of Women—Dr. Braxton Hicks.
Ophthalmic Surgery—Mr. Bader.
Pathology—Dr. Fagge.

DEMONSTRATIONS.

Morbid Histology—Mr. Howse.
Practical Chemistry—Dr. Debus.
Operative Surgery—Mr. Lucas.

This Hospital contains 695 beds.

Open Scholarships.—An open Scholarship of the value of £105 in Classics, Mathematics, Modern Languages. An open Scholarship of the value of £105 in Science.

PRIZES.

For First Year's Students.—At the end of the summer session, in Anatomy, Physiology, Chemistry, Materia Medica, Botany, and Comparative Anatomy: Prizes, £50, £25, and £10 10s. (presented by one of the Governors). *For Second Year's Students.*—In the winter session, the Michael Harris Prize of £10 in Anatomy. Summer session, examination in Anatomy and Physiology: The Joseph Hoare Prizes of £25 and £10; the Sands-Cox Scholarship of £15 per annum, tenable for three years—subjects, Physiology and Elementary Physics. *For Third Year's Students.*—Summer session, examination in Medicine, Surgery, Midwifery, and Medical Jurisprudence: Prizes £35 and £20. *For Senior Students.*—The

Treasurer's Gold Medal for Clinical Medicine; the Treasurer's Gold Medal for Clinical Surgery; the Gurney Hoare Prize of £25 for Clinical Medicine and Surgery.

FEES.

The fees for hospital practice and lectures are as follows:—The payment of £105 in one sum on entrance, or in two moieties at the commencement of the first winter and of the following summer session, entitles a student to a perpetual ticket.

Payment may be made by instalments at the commencement of each sessional year, as follows:—First year, £40; second year, £40; third year, £30 (on payment of this instalment the student is entitled to a perpetual ticket). Materials used in practical courses are charged extra.

For further information apply to the Dean, Dr. F. Taylor.

KING'S COLLEGE HOSPITAL.

MEDICAL AND SURGICAL STAFF.

Consulting Physicians—Sir Thos. Watson, Bart., M.D., Dr. George Budd, Dr. Arthur Farre, Dr. W. A. Guy, Dr. W. O. Priestley, Dr. A. B. Garrod.

Physicians.
Dr. George Johnson.
Dr. Lionel S. Beale.
Dr. Alfred B. Duffin.
Dr. William Playfair.
Dr. J. Burney Yeo.

Assistant-Physicians.
Dr. David Ferrier.
Dr. E. B. Baxter.
Dr. John Curnow.
Dr. T. C. Hayes.

Surgeons.
Mr. John Wood.
Mr. Joseph Lister.
Mr. Henry Smith.
Mr. H. Royes Bell.

Assistant-Surgeons.
Mr. William Rose.
Mr. Gerald Yeo.

Dental Surgeon.
Mr. S. Hamilton Cartwright.

Ophthalmic Surgeon—Mr. J. Soelberg Wells.
Aural Surgeon—Dr. Urban Pritchard.
Vaccinator—Mr. R. W. Dunn.
Pathological Registrar—Mr. A. B. Barrow.
Chloroformist—Mr. Charles Moss.
Registrars—Dr. Hebb and Mr. E. Ground.

LECTURES.

Anatomy, Descriptive and Surgical—Dr. John Curnow.
Botany—Mr. Robert Bentley.
Chemistry and Practical Chemistry—Mr. C. L. Bloxam; Mr. W. N. Hartley, Demonstrator; Mr. J. M. Thomson, Assist.-Demonstrator.
Clinical Medicine—Dr. George Johnson.
Clinical Surgery—Mr. John Wood, Mr. Joseph Lister.
Comparative Anatomy—Mr. A. H. Garrod.
Dental Surgery—Mr. S. Hamilton Cartwright.
Forensic Medicine—Dr. D. Ferrier.
Hygiene—Dr. W. A. Guy.
Materia Medica and Therapeutics—Dr. E. B. Baxter.
Principles and Practice of Medicine—Dr. L. S. Beale.
Obstetric Medicine, and the Diseases of Women and Children—Dr. W. Playfair.
Ophthalmology—Dr. J. Soelberg Wells.
Pathological Anatomy—Dr. A. B. Duffin.
Physiology and Practical Physiology—Dr. Gerald F. Yeo.
Psychological Medicine—Dr. Edgar Sheppard.
Principles and Practice of Surgery—Mr. Henry Smith.

Dean of the Faculty—Professor Bentley.
Sub-Dean and Medical Tutor—Mr. F. R. Cross.

University of London Preliminary Scientific Examination.—Special courses of lectures and demonstrations are given during the winter and summer sessions to meet the requirements of the University of London for this examination.

SCHOLARSHIPS AND PRIZES.

Warneford Scholarships: "For the encouragement of the previous education of medical students," two scholarships of £25 per annum for three years, two of £25 per annum for two years, and "For the encouragement of resident medical students," one scholarship of £25 per annum for two years. Medical Scholarships: The following are given every year to matriculated students of this department:—1. One of £40 for two years, open to students of the third and fourth years; 2. One of £30 for one year, open to students of the second year; 3. One of £20 for one year, open to students of the first year. Daniell Scholarship: £20, tenable for two years; is open to every student of the College who has worked in the laboratory for at least six months. Sambrooke Registrarships: Two of £50 every year. Science Exhibition: One annually of £100, for proficiency in Physics, Chemistry, Botany, and Zoology. Leathes Prizes: Bible and Prayer-book annually to two matriculated medical students. Warneford Prizes: £40 is expended annually in the purchase of medals and books as prizes to two matriculated medical students. Class Prizes are awarded annually of the value of £3 in each subject of study. Two Medical Clinical Prizes, one of £3 for the winter session, and the other of £2 for the summer session, and two Surgical Clinical Prizes of the same value, are given annually for attendance at the Hospital. Todd Medical Clinical Prize: This prize was founded in memory of the late Dr. Todd, and is awarded annually. It consists of a bronze medal and books to the value of £4 4s. Tanner Prize: Of the value of £10 in each year, for proficiency in the study of Obstetric Medicine.

FEES.

The fees, amounting to £105, may be paid either in one sum of £100 on matriculation, or in three amounts at the commencement of each winter session. Students are, however recommended to add to the above the fee for attendance on the medical tutor's class for one year—viz., £3 3s.; or in the case of those preparing for the Preliminary Scientific Examination of the University of London, £5 5s.

For further information apply to Professor Bentley, Dean of the Medical Faculty.

LONDON HOSPITAL.

MEDICAL AND SURGICAL STAFF.

Consulting Physician—Dr. Herbert Davies.
Consulting Surgeons—Mr. Luke and Mr. Curling.

Physicians.
Dr. Andrew Clark.
Dr. Ramskill.
Dr. Langdon Down.
Dr. Hughlings-Jackson.
Dr. Sutton.
Dr. Fenwick.

Assistant-Physicians.
Dr. Stephen Mackenzie.
Dr. A. E. Sansom.
Dr. J. Barlow.

Surgeons.
Mr. Hutchinson.
Mr. Maunder.
Mr. Couper.
Mr. Rivington,
Mr. Jas Adams.
Mr. Waren Tay.
Mr. McCarthy.

Assistant-Surgeon.
Mr. Reeves.

Obstetric Physician—Dr. Palfrey.
Surgeon-Dentist—Mr. A. W. Barrett.
Surgeons to the Ophthalmic Department—Mr. James Adams and Mr. Waren Tay.
Surgeon to the Aural Department—Mr. A. Gardiner Brown.
Physician to the Skin Department—Dr. S. Mackenzie.

LECTURES.

Anatomy and Pathology of the Teeth—Mr. A. W. Barrett.
Botany—Mr. John Gilbert Baker.
Chemistry—Dr. C. Meymott Tidy.
Comparative Anatomy—Dr. E. B. Aveling.
Descriptive and Surgical Anatomy—Mr. Walter Rivington.
Diseases of the Throat and Use of the Laryngoscope—Dr. Morrell Mackenzie.
Forensic Medicine—1. Toxicology, Mr. J. E. D. Rodgers; 2. Medical Jurisprudence and Public Health, Dr. C. Meymott Tidy.
Materia Medica and General Therapeutics—Dr. M. Prosser James.
Medicine—Dr. Sutton and Dr. S. Fenwick.
Midwifery and Diseases of Women—Dr. James Palfrey.
Pathology and Demonstrations of Morbid Anatomy—Dr. H. G. Sutton.
Practical Anatomy—Dr. Wilson.
Practical Chemistry—Dr. C. Meymott Tidy.
Practical Histology, and Use of the Microscope—Mr. J. McCarthy.
Physiology and General Anatomy—Mr. J. McCarthy.
Ophthalmic Surgery—Mr. J. Couper.
Special Operative Surgery—Mr. C. F. Maunder.
Surgery—Mr. John Couper.

Secretary to the College Board—Mr. R. Kershaw.

SCHOLARSHIPS AND PRIZES.

Nine scholarships will be offered for competition during the ensuing winter and summer sessions.

Two Entrance Scholarships in Natural Science, of the value of £60 and £40 respectively, will be offered for competition at the end of September. The subjects will be the same as those for the Preliminary Scientific (M.B.) Examinations at the University of London. (See the University Calendar for details.)

The two Buxton Scholarships will be awarded in October to the students who distinguish themselves most in the subjects appointed by the General Council of Medical Education and Registration as the subjects of the preliminary examinations. 1. A scholarship, value £30, to the student placed first in the examination. 2. A scholarship, value £20, to the student placed second in the examination. 3. A scholarship, value £20, will be awarded to the first-year student who shall pass in April, 1878, the best examination in Human Anatomy. 4. A scholarship, value £25, will be awarded to the first-year or second-year student who shall pass at the end of the winter session the best examination in Anatomy, Physiology, and Chemistry. 5. A hospital scholarship, value £20, for proficiency and zeal in Clinical Medicine. 6. A hospital scholarship, value £20, for proficiency and zeal in Clinical Surgery. 7. A hospital scholarship, value £20, for proficiency and zeal in Obstetrics (awarded at the end of June, 1878). A prize of £5 is also awarded to the student who has attended most midwifery cases for the Hospital during the previous twelve months. The Duckworth-Nelson Prize, value £10, will be awarded by competition biennially, and will be open to all students who have not completed their education. The subjects of examination will be Practical Medicine and Surgery. Money prizes, to the value of £60 per annum, are awarded by the House Committee to the most meritorious of the dressers in the out-patient rooms.

The Hospital contains 800 beds, and the number of in-patients last year amounted to nearly 7000.

Owing to the great size of the Hospital, the appointments are necessarily numerous and most valuable. They are all free to full students without additional fee.

The resident appointments consist of five House-Physiciancies, four House-Surgeoncies, and one Accoucheur, each being tenable for six months. There are also two Resident Dressers and two Maternity Assistants, the holders of which appointments are required to have passed the primary examination at the College of Surgeons.

Attached to the Pathological Department of the London Hospital is a laboratory, under the supervision of Dr. Sutton, which contains a large number of microscopic sections, carefully indexed and recorded. This important addition is entirely due to the liberality of the Hospital authorities, and was made a part of the "Grocers' Wing" lately erected.

FEES.

Perpetual fee for attendance on all the lectures with two years' Practical Anatomy, and for attendance on medical and surgical practice, qualifying for examination at most of the medical and surgical boards, £94 10s. if paid in one sum, or £105 in three instalments of £42, £36 15s., and £26 5s., at the commencement of the first, second, and third years respectively; composition fee for gentlemen entering at or before the beginning of their second winter session, their first year having been spent elsewhere, £73 10s.; perpetual fee for lectures alone, £52 10s.; perpetual fee for hospital practice alone, £52 10s. Extra fees: Practical Chemistry (for apparatus, etc.), £2 2s.; subscription to the library (compulsory), £1 1s. The composition fee is payable in two instalments of £42 and £31 10s.

Students in Arts of Universities where residence is required, who may have attended lectures in Anatomy, Physiology, Chemistry, Botany, or Comparative Anatomy, and have obtained signatures for such attendance, fulfilling the requirements of the Examining Boards, may become pupils of the London Hospital, eligible for all hospital prizes and appointments, on payment of the fee of £52 10s. for practice (perpetual) at the Hospital.

Communications addressed to the Secretary, at the London Hospital Medical College, Turner-street, Mile-end, London, E., will receive immediate attention.

ST. MARY'S HOSPITAL.

MEDICAL OFFICERS.

Consulting Medical Officers—Sir James Alderson, M.D., F.R.S., Dr. Chambers, Mr. Lane, Mr. White Cooper.

Physicians.	*Surgeons.*
Dr. Handfield Jones.	Mr. Spencer Smith.
Dr. Sieveking.	Mr. Haynes Walton.
Dr. Broadbent.	Mr. James R. Lane.
Assistant-Physicians.	*Assistant-Surgeons.*
Dr. Cheadle.	Mr. Norton.
Dr. Lawson.	Mr. Edmund Owen.
Dr. Shepherd.	Mr. Herbert W. Page.

Physician-Accoucheur—Dr. Alfred Meadows.
Assistant Physician-Accoucheur—Dr. Wiltshire.
Physicians in charge of the Department for Diseases of the Skin—Dr. Cheadle, Dr. Farquharson.
Surgeon in charge of the Ophthalmic Department—Mr. Haynes Walton.
Surgeon in charge of the Department for Diseases of the Throat—Mr. Norton.
Aural Surgeon—Mr. G. Field.
Surgeon-Dentist—Mr. Howard Hayward.
Instructor in Vaccination—Mr. W. A. Sumner.

LECTURES.—WINTER SESSION.

Anatomy—Mr. Norton.
Clinical Medicine—Dr. Handfield Jones, Dr. Sieveking, and Dr. Broadbent.
Clinical Surgery—Mr Spencer Smith, Mr. Haynes Walton, and Mr. J. R. Lane.
Chemistry and Natural Philosophy—Dr. C. R. A. Wright.
Dental Surgery—Mr. Howard Hayward.
Dissections—Mr. J. G. Garbutt, Demonstrator; Mr. C. D. Adam, Assistant Demonstrator.
Experimental Physiology—Dr. Shepherd.
Medicine—Dr. Chambers and Dr. Broadbent.
Pathology—Dr. Cheadle.
Physiology—Dr. Lawson.
Surgery—Mr. James R. Lane and Mr. Edmund Owen.
Practical Surgery—Mr. Herbert W. Page.

SUMMER SESSION.

Aural Surgery—Mr. G. Field.
Botany—Mr. Helmsley.
Comparative Anatomy—Mr. St. George Mivart.
Diseases of the Skin—Dr. Cheadle.
Medical Jurisprudence—Dr. Randall.
Materia Medica—Dr. Farquharson.
Midwifery—Dr. Meadows and Dr. Wiltshire.
Ophthalmic Surgery—Mr. Haynes Walton.
Practical Chemistry—Dr. C. R. A. Wright.

The Hospital contains 170 beds—68 medical, and 102 surgical. There are special departments for the Diseases of Women and Children, and for Diseases of the Eye, the Ear, the Skin, and the Throat.

SCHOLARSHIPS, PRIZES, ETC.

Three Scholarships in Natural Science, each of a total value of £120, tenable for three years, and an Exhibition in Natural Science, for one year, value £20. One of the Scholarships and the exhibition are awarded by open competitive examination at the commencement of the winter session. For the year 1877 an extra scholarship will be awarded in Natural Science of a total value of £100. A Scholarship in Anatomy, of the annual value of £20 (the holder of which is styled Assistant-Demonstrator, and assists in the teaching of Practical Anatomy), is offered for competition amongst those students who have completed their second winter session; and a Scholarship in Pathology, of the value of £40 (the holder of which is styled Assistant-Curator), for those students who have completed their third winter session. Examinations for prizes are held at the termination of each session in the various classes for students of the first, second, and third year. Two Prosectors are appointed annually, who each receive a certificate and £5 for their services in the dissecting-room.

FEES.

The entrance fee for general students may be paid in instalments by arrangement with the Dean of the School. Students who have kept the two years' course at the University of Cambridge are admitted as perpetual pupils on payment of £57 15s., and those who have kept a portion of the course elsewhere at a proportionate reduction. A fee of £1 1s. is required to be paid to the library and reading-room. Instruction in vaccination can be obtained; fee £1 1s.

Further information may be obtained from Dr. Shepherd, Dean of the School; or from the Registrar, at the Hospital.

MIDDLESEX HOSPITAL.

MEDICAL AND SURGICAL STAFF.

Consulting Physicians—Dr. Francis Hawkins, Dr. A. P. Stewart, Dr. Goodfellow.
Consulting Surgeon—Mr. Shaw.
Consulting Dental Surgeon—Mr. Tomes, F.R.S.

Physicians.	*Surgeons.*
Dr. Henry Thompson.	Mr. Nunn.
Dr. Greenhow, F.R.S.	Mr. Hulke, F.R.S.
Dr. Cayley.	Mr. Lawson.
Assistant-Physicians.	
Dr. Robert King.	*Assistant-Surgeons.*
Dr. G. H. Evans.	Mr. Morris.
Dr. Sidney Coupland.	Mr. Andrew Clark.

Obstetric Physician—Dr. Hall Davis.
Assistant Obstetric Physician—Dr. Arthur Edis.
Ophthalmic Surgeon—Mr. Critchett.
Dental Surgeon—Mr. Turner.
Curator of Museum and Pathologist—Dr. Sidney Coupland.
Registrars—Dr. D. W. Finlay and Dr. R. W. Lyell.
Resident Medical Officer—Mr. Lucas.
Chloroformist—Mr. G. Everitt Norton.

LECTURES.—WINTER SESSION.

Chemistry—Mr. Wm. Foster.
Clinical Lectures on Medicine and Surgery—The Physicians and Surgeons.
Clinical Lectures on Diseases of Women and Children—Dr. J. Hall Davis.
Descriptive and Surgical Anatomy—Mr. Morris.
Pathological Anatomy—Dr. Coupland.
Physiology and General Anatomy—Mr. B. Thompson Lowne.
Practical Demonstrations on Diseases of the Eye—Mr. Critchett.
Practical Surgery—Mr. Lawson, Mr. Morris.
Principles and Practice of Medicine—Dr. Cayley.
Principles and Practice of Surgery—Mr. Hulke.

SUMMER SESSION.

Botany—Mr. Hensman.
Clinical Lectures on Medicine and Surgery—The Physicians and Surgeons.
Clinical Lectures on Diseases of the Eye—Mr. Critchett.
Comparative Anatomy and Zoology—Mr. Hensman.
Materia Medica and Therapeutics—Dr. Thorowgood.
Medical Jurisprudence—Dr. R. King.
Midwifery and Diseases of Women and Children—Dr. J. Hall Davis.
Practical Demonstrations on Diseases of the Skin—Dr. G. H. Evans.
Practical Demonstrations on Diseases of Women and Children—Dr. Arthur Edis.
Practical Demonstrations on Diseases of the Larynx and Ear—Mr. Andrew Clark.
Practical Physiology and Histology—Mr. B. Thompson Lowne.
Practical Chemistry—Mr. Wm. Foster.
Psychological Medicine—Dr. Henry Rayner.
Public Health—Dr. G. H. Evans.

This Hospital contains 305 beds, of which 185 are for surgical and 120 for medical cases. There is a special department for Cancer cases, affording accommodation for thirty-three in-patients, whose period of residence in the Hospital is unlimited. Wards are also appropriated for the reception of cases of Uterine Disease and of Syphilis, and beds are set apart for patients from Diseases of the Eye. There are special out-patient departments for Diseases of the Skin, the Throat, the Eye and Ear.

PRIZES AND SCHOLARSHIPS.

Two Entrance Scholarships of the annual value of £25 and £20, tenable for two years, are afforded for competition at the commencement of the winter session.

Two Broderip Scholarships of tho annual value of £30 and £20, tenable for two years, and a clinical prize of £10 10s., are annually awarded to thoso students who pass the most satisfactory examination at the bedside, and in the post-mortem room.

The Murray Scholarship is open to all general students, and will next be awarded in 1880. Examinations in Medicine, Surgery, and Midwifery.

The Governors' Prize of £21 is awarded annually to the student who shall have most distinguished himself during his three years' curriculum.

FEES.

The fee for attendance on the hospital practice and lectures required by the Colleges of Physicians and Surgeons and the Society of Apothecaries is £90 if paid in advance, or £35 on entrance, £35 at the beginning of the second winter session, £20 at the beginning of the third winter session, and £10 for every additional year's attendance.

Dental students who intend to become Licentiates in Dental Surgery of the Royal College of Surgeons are admitted to attend the requisite courses of lectures and hospital practice on payment of a fee of £42, either in one payment or by instalments of £26 5s. on entrance, and £15 15s. at the beginning of the second winter session.

ST. THOMAS'S HOSPITAL.

MEDICAL AND SURGICAL STAFF.

Honorary Consulting Physicians—Dr. Barker, Dr. J. Risdon Bennett, Dr. Peacock.

Honorary Consulting Surgeons—Mr. F. Le Gros Clark, Mr. Simon, C.B.

Physicians.
Dr. Bristowe.
Dr. Murchison.
Dr. Stone.
Dr. Ord.

Obstetric Physician.
Dr. Gervis.

Assistant-Physicians.
Dr. John Harley.
Dr. Payne.
Dr. Greenfield.

Assistant Obstetric Physician.
Dr. Cory.

Resident Assistant-Physician.
Dr. Starkey.

Surgeons.
Mr. Sydney Jones.
Mr. Croft.
Mr. Mac Cormac.
Mr. Mason.

Ophthalmic Surgeon.
Mr. Liebreich.

Assistant-Surgeons.
Mr. W. W. Wagstaffe.
Mr. A. O. MacKellar.

Dental Surgeon.
Mr. J. W. Elliott.

Assistant Dental Surgeon.
Mr. W. G. Ranger.

Resident Assistant-Surgeon.
Mr. H. H. Clutton

Demonstrator of Morbid Anatomy—Dr. Greenfield.

Analytical Chemist of the Hospital—Dr. Albert J. Bernays.

Curator to the Museum—Mr. C. Stewart.

Apothecary—Mr. Plowman.

Medical Registrar—Mr. Norris.

Surgical Registrar—Mr. C. H. Newby.

LECTURES.—WINTER SESSION.

Chemistry—Dr. Albert J. Bernays.
Demonstrations—The Anatomical Lecturers, Dr. R. W. Reid, and Anatomical Assistants.
Descriptive Anatomy—Mr. Francis Mason and Mr. W. W. Wagstaffe.
General Pathology—Dr. Payne.
Physics and Natural Philosophy—Dr. Stone.
Physiology and General Anatomy—Dr. John Harley.
Demonstrations in Physiology—Dr. T. C. Charles.
Morbid Anatomy and Practical Pathology—Dr. Greenfield.
Practical and Manipulative Surgery—Mr. Croft and Mr. MacKellar.
Special Anatomical and Microscopical Demonstrations—Mr. Rainey.
Surgery—Mr. Sydney Jones and Mr. Mac Cormac.
Theory and Practice of Medicine—Dr. Bristowe and Dr. Ord.

SUMMER SESSION.

Botany—Mr. A. W. Bennett.
Comparative Anatomy—Mr. C. Stewart.
Forensic Medicine—Dr. Payne and Dr. Cory
Materia Medica—Dr. Stone.
Mental Diseases—Dr. William Rhys Williams.
Midwifery—Dr. Gervis.
Ophthalmic Surgery—Mr. Liebreich
Practical and Manipulative Surgery—Mr. Croft and Mr. MacKellar.
Practical Chemistry—Dr. Albert J. Bernays.
Practical Physiology—Dr. Charles.
State Medicine—Dr. A. Carpenter.

PRIZES AND APPOINTMENTS.

Entrance Scholarships of £60 and £40, awarded after an examination in Physics, Chemistry, Botany, and Zoology.

First Year's Prizes.—Winter: The Wm. Tite Scholarship of £30; College Prizes—£20 and £10. Summer Prizes: £15, £10, and £5.

Second Year's Prizes.—Winter: The Musgrove Scholarship of £42, tenable for two years; College Prizes—£20 and £10. Summer Prizes: £15, £10, and £5. The Dresserships and the Clinical and Obstetrical Clerkships are open to students who have passed the primary examinations at the Royal College of Surgeons.

Third Year's Prizes.—Winter: £20, £15, and £10. The Cheselden Medal, awarded after a special examination in Surgical Anatomy and Surgery. The Mead Medal, awarded after a special examination in Practical Medicine and Hygiene. The Solly Medal, with a prize of at least £10 10s. for a collection of surgical reports. The Treasurer's Gold Medal, for general proficiency during the entire course of study. The Grainger Testimonial Prize, of the value of £20, will be awarded biennially to the third or fourth year's students for a physiological essay, to be illustrated by preparations.

FEES.

Gentlemen are informed that the admission fees to practice and to all the lectures may be paid in one of three ways, entitling to unlimited attendance—1st, £100, paid on entrance, entitle a student to unlimited attendance; 2nd, £105 in two moieties, one on entrance and one at beginning of next session; 3rd, by three instalments, of £42 the first year, £42 the second, and £31 10s. the third. Special entries may be made to any course of lectures, or to the hospital practice.

There are special departments for Diseases of the Eye, Diseases of Women and Children, Vaccination, Diseases of the skin, Diseases of the Teeth, and Mental Diseases.

Visits to wards now take place at 2 p.m.

For further information, apply to Dr. Gillespie, Secretary, St. Thomas's Hospital, London, S.E.

UNIVERSITY COLLEGE HOSPITAL.

MEDICAL AND SURGICAL STAFF.

Consulting-Physician.
Dr. Walter H. Walshe.

Physicians.
Sir William Jenner, Bart.
Dr. Reynolds.
Dr. Wilson Fox.
Dr. Sydney Ringer.
Dr. H. Charlton Bastian.

Obstetric Physician.
Dr. Graily Hewitt.

Physician to the Skin Infirmary.
Dr. W. Tilbury Fox.

Assistant Physicians.
Dr. F. T. Roberts.
Dr. W. R. Gowers.
Dr. G. V. Poore.

Assistant Obstetric Physician.
Dr. John Williams.

Consulting-Surgeons.
Mr. Richard Quain.
Mr. J. Eric Erichsen.
Sir Henry Thompson, Bart.

Surgeons.
Mr. Marshall.
Mr. Berkeley Hill.
Mr. Christopher Heath.

Assistant-Surgeons.
Mr. Marcus Beck.
Mr. A. Barker.
Mr. R. J. Godlee (temporary).

Ophthalmic Surgeons.
Mr. Wharton Jones.
Mr. J. F. Streatfeild.

Dental Surgeon.
Mr. G. A. Ibbetson.

Assistant Professors of Clinical Medicine—Dr. F. T. Roberts and Dr. W. R. Gowers.

Assistant-Teachers of Clinical Surgery—Mr. Marcus Beck and Mr. A. Barker.

Assistant-Medical Officer in the Skin Department—Dr. H. R. Crocker.

Surgical Registrar—Mr. A. J. Pepper.

Resident Medical Officer—Mr. W. L. S. Jameson.

LECTURES.—WINTER SESSION.

Chemistry—Dr. Williamson.
Clinical Medicine—Sir W. Jenner, Dr. Reynolds, Dr. W. Fox, Dr. S. S. Ringer, Dr. Roberts, Dr. Gowers.
Clinical Midwifery—Dr. G. Hewitt.
Clinical Surgery—Mr. Erichsen, Mr. Marshall, Sir H. Thompson, Mr. C. Heath, Mr. W. Jones, Mr. Streatfeild.
Histology and Practical Physiology—Dr. B. Sanderson, Mr. Schäfer.
Descriptive Anatomy—Mr. Thane; Demonstrations—Mr. G. D. Thane, Mr. Rickman J. Godlee, Mr. Walter Ottley, Mr. R. S. Miller, Mr. W. Banks, Mr. C. J. Bond, Mr. P. E. Shearman.
Medicine—Dr. J. R. Reynolds.
Physiology and General Anatomy—Dr. B. Sanderson.
Skin Diseases—Dr. T. Fox.
Surgery—Mr. Marshall

SUMMER SESSION.

Botany—Mr. Oliver.
Comparative Anatomy—Mr. E. R.—Lankester.
Dental Surgery—Mr. Ibbetson.
Forensic Medicine—Dr. Maudsley.
Hygiene—Dr. Corfield.
Materia Medica—Dr. Ringer.
Mental Diseases—Dr. Sankey.
Midwifery—Dr. Graily Hewitt.
Morbid Anatomy and Pathology—Dr. H. C. Bastian.
Natural Philosophy—Prof. G. C. Foster.
Ophthalmic Surgery—Mr. W. Jones.
Practical Chemistry—Dr. Williamson.
Practical and Operative Surgery—Mr. B. Hill, Mr. M. Beck, Mr. E. A. Barker.
Practical Pharmacy—Mr. Gerrard.
Skin Diseases—Dr. T. Fox.

SCHOLARSHIPS AND EXHIBITIONS.

The Atkinson-Morley Surgical Scholarship, of £45 per annum, tenable for three years, is awarded every year for proficiency in the theory and practice of Surgery. The Sharpey Physiological Scholarship, of about £70 a year, for proficiency in Biological Science. The Filiter Prize of £30, for proficiency in Pathological Anatomy. Dr. Fellowes' Clinical Medals, one gold and one silver, each winter and summer session, and certificates of honour, for reports and observations on the Medical cases of the Hospital. The Liston Gold Medal, and certificates of honour, for reports and obser-

vations on the Surgical cases in the Hospital. The Alexandra Bruce Gold Medal, for Pathology and Surgery. The Cluff Memorial Prize, awarded every other year for proficiency in Anatomy, Physiology, and Chemistry. Gold and silver medals, as well as certificates of honour, are awarded as class prizes. The Jews' Commemoration Scholarship of £15 a year, tenable for two years, for general proficiency in the Faculty of Arts or of Science, for students of one year's standing, and the Clothworkers' Exhibition for Chemistry and Physics, of £50 a year, tenable for two years, may be held by students who, after obtaining it, enter the Medical Faculty.

ENTRANCE EXHIBITIONS.

Three Entrance Exhibitions, of the respective value of £30, £20, and £10 per annum, tenable for two years, are awarded upon examination to gentlemen who are about to commence their first winter's attendance in a medical school.

FEES.

For the lectures and hospital practice for the licences of the Royal College of Physicians, Society of Apothecaries, and M.R.C.S., first year, £47 16s.; second, £39 8s.; third, £14 7s.; fourth year, £4 4s.; perpetual, £105 15s.; for the hospital practice alone, £27.

Further information and detailed prospectuses may be obtained at the Office of the College.

WESTMINSTER HOSPITAL.

HOSPITAL STAFF.

Consulting Physicians and Surgeons—Dr. Kingston, Dr. Radcliffe, Dr. Basham, Mr. Lynn, Mr. Brooke, Mr. Barnard Holt, Mr. Holthouse.

Physicians.	*Surgeons.*
Dr. Fincham.	Mr. Cowell.
Dr. Sturges.	Mr. Richard Davy.
Dr. Allchin.	Mr. Macnamara.
Assistant-Physicians.	*Assistant-Surgeons.*
Dr. Horatio Donkin.	Mr. T. Cooke.
Dr. De Havilland Hall.	Mr. T. Boud.
Dr. Hughes Bennett.	Mr. Keene.

Obstetric Physician—Dr. Potter.

Assistant Obstetric Physician—Dr. Grigg.

Surgeon in charge of the Ophthalmic Department—Mr. Cowell.

Surgeon in charge of the Skin Department—Mr. Bond.

Surgeon in charge of the Aural Department—Mr. Keene.

Dental Surgeon—Mr. Walker.

Medical Registrar.	*Surgical Registrar.*
Mr. Murrell.	Mr. Robertson.

LECTURERS.

Anatomy—Mr. A. Pearce Gould.
Aural Surgery—Mr. Keene.
Botany—Mr. Worsley-Benison.
Chemistry Dr. Dupré.
Clinical Medicine—Dr. Basham, Dr. Radcliffe, Dr. Fincham, Dr. Sturges, Dr. Allchin.
Clinical Surgery—Mr. Holt, Mr. Holthouse, Mr. Cowell, Mr. Davy, Mr. Macnamara.
Comparative Anatomy—Dr. Carter Blake.
Dental Surgery—Mr. Walker.
Diseases of the Skin—Mr. Bond.
Forensic Medicine and Hygiene—Mr. Bond, Dr. Dupré.
Materia Medica and Therapeutics—Dr. Phillips.
Medicine — Dr. Fincham, Dr. Sturges.
Metallurgy—Dr. Dupré.
Midwifery and Diseases of Women—Dr. Potter.
Natural Philosophy—Mr. Brooke.
Ophthalmic Surgery—Mr. Cowell.
Pathology and Morbid Anatomy—Dr. Allchin.
Physiology—Dr. Maclure.
Practical Chemistry—Dr. Dupré.
Practical Surgery—Mr. Cowell, Mr. Richard Davy.
Practical Physiology and Histology—Dr Allchin.
Psychological Medicine—Dr. Sutherland.
Surgery—Mr. Cowell, Mr. Davy.

Dean of the School—Mr. Cowell. *Sub-Dean and Tutor*—Dr. Allchin.

Tutor—Dr. De Havilland Hall.

DEMONSTRATORS.

Anatomy—Mr. Walter Ottley, M.B.

Morbid Anatomy—Mr. Murrell, Mr. Robertson.
Minor Surgery and Bandaging—*Vacant.*

In addition to the practice of the Hospital, which contains 201 beds, and has just been enlarged and improved, the general students of this school are admitted to the practice of the Royal Westminster Ophthalmic Hospital, and to that of the National Hospital for Epilepsy and Paralysis.

PRIZES.

There are four Entrance Scholarships: the Fence and Houldsworth, value £50 a year each, tenable for two years; and two others, £10 a year each, tenable for two years; an Exhibition in Anatomy, Physiology, and Chemistry for first year's men, a Scholarship of £21 in Anatomy and Physiology for second year's men, the Frederic Bird Prize and Medal, value £15, the Chadwick Prize of the value of £21 for general proficiency, and two Clinical Prizes of the value of £5 5s. each. Prizes and certificates of honour are also awarded to the most meritorious students.

FEES.

The entry fee to lectures and hospital practice required by the College of Physicians and Surgeons and the Society of Apothecaries may be paid in one sum of £84, which is perpetual; in two payments of £45 each, at the commencement of the first two years, also perpetual; or in five payments, amounting to £94 10s., at the commencement of the first five sessions. The fees for Dental Students are £38 17s. in one sum, or £27 10s. and £14 10s. respectively at the commencement of each academic year.

Full particulars as to the preliminary scientific and tutorial classes, the courses of lectures and mode of instruction, will be found in the published Calendar, and any further information may be obtained by personal application to Mr. Cowell, the Dean of the School, or to Dr. Allchin, the Sub-Dean.

PROVINCIAL MEDICAL SCHOOLS.

OXFORD.

There is no complete and perfect School of Medicine in connexion with the University of Oxford, but classes or lectures may be attended.

Professors, etc., at the University Museum.—Regius and Clinical Professor of Medicine—H. W. Acland, M.D., F.R.S. Savilian Professor of Astronomy—Rev. C. Pritchard, M.A., F.R.S. Savilian Professor of Geometry—H. J. S. Smith, M.A., F.R.S. (Keeper of the University Museum). Experimental Physics—R. B. Clifton, M.A., F.R.S. Natural Philosophy: Demonstrators—W. N. Stocker, M.A., Brasenose, Rev. B. Price, M.A., F.R.S. Geology—J. Prestwich, M.A., F.R.S. Mineralogy—N. Story Maskelyne, M.A., F.R.S. Chemistry—W. Odling, M.A., F.R.S; Assistant—W. W. Fisher, M.A. Linacre Professor of Physiology—G. Rolleston, M.D., F.R.S.; Demonstrator—C. Robertson; Assistants—W. H. Jackson, B.A., George Coates, B.A. Zoology—J. O. Westwood, M.A., F.L.S.; Demonstrator at Sanitary Laboratory—W. F. Donkin, M.A. Radcliffe Librarian—H. W. Acland, M.D., F.R.S. Sub-Librarian—John Haines. Lee's Readers (Christchurch): Chemistry—A. G. V. Harcourt, M.A., F.R.S.; Physics—R. E. Baynes, M.A.; Anatomy—J. Barclay Thompson, M.A. Botanic Garden: Professor—M. A. Lawson, M.A.

Students may also be admitted to the practice of the Radcliffe Infirmary.

CAMBRIDGE.

The winter session will commence on October 11. The following is a list of the classes and lectures in the Cambridge University School of Medicine:—

WINTER COURSES.

Anatomy—Professor Humphry and the Demonstrator (Mr. Crighton).
Anatomy and Physiology—Professor Humphry.
Chemistry—Professor Liveing.
Dissections — Professor Humphry and the Demonstrator.
Materia Medica—Professor Latham.
Medicine—Professor Paget.
Physics—Professor Maxwell.
Practical Chemistry — Professor Liveing and Mr. Hicks.
Practical Physiology—Dr. Michael Foster.
Zoology and Comparative Anatomy—Professor Newton.

SUMMER COURSES.

Botany—Professor Babington.
Chemistry and Practical Chemistry—Professor Liveing and Mr. Hicks.
Comparative Anatomy, Dissections—Mr. Bridge.
Human and Comparative Osteology—Professor Humphry.
Human Osteology—Professor Humphry and the Demonstrator.
Pathology—Dr. Bradbury.
Practical Physiology—Dr. Michael Foster.
Practical Histology—The Demonstrator.

ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

This Hospital contains 120 beds.

MEDICAL AND SURGICAL STAFF.

Physicians.	*Surgeons.*
Dr. Paget.	Mr. Lestourgeon.
Dr. Latham.	Dr. Humphry.
Dr. Bradbury.	Mr. Carver.

Fees for attendance upon the practice (medical and surgical), £15 15s. for an unlimited period; £10 10s. for one year; £8 8s. for six months.

THE QUEEN'S COLLEGE, BIRMINGHAM.

WINTER SESSION.

Chemistry—Professor A. C. Bruce.
Demonstrations on Practical Anatomy—Mr. Bennett May and Mr. G. H. Evans.
Descriptive and Surgical Anatomy—Professors Thomas and Jolly.
Medicine—Professor Foster.
Pathology—Professor Sawyer.
Physiology — Professors Norris, Bartleet, and Rickards.
Surgery — Professors Pemberton and Furneaux Jordan.

SUMMER SESSION.

Botany—Professor Hind.
Comparative Anatomy—Professor Savage.
Dental Surgery—Professor Howkins.
Diseases of Women and Children—Professors Berry and R. C. Jordan.
Materia Medica—Professor Mackey.
Forensic Medicine and Toxicology—Professors J. St. S. Wilders and Bruce.
Midwifery—Professors Clay and Bassett.
Ophthalmic Surgery—Professor Solomon.
Practical Chemistry—Professor Bruce.
Operative Surgery—Professors Pemberton and Jordan.

SCHOLARSHIPS AND PRIZES.

The Warden's Prize, of the value of £3 3s., is offered by the Rev. W. H. Poulton to the most proficient student of the first year. The Percy Prize, books of the value of £5 5s., are offered by Dr. Percy, Professor of Metallurgy in the Government School of Mines, to the student attending lectures in German who may pass the best examination in two German works. There must be not less than three competitors. The Ingleby Scholarships.—Two Ingleby Scholarships, founded in memory of the late Dr. Ingleby, formerly Professor of Midwifery in this School, will be awarded annually, after examination in Obstetric Medicine and Surgery and Diseases of Women and Children. These scholarships are open to students who have completed the first two years of their curriculum in this College. Class Prizes.—Medals and certificates of honour are awarded annually in each class after examination.

THE GENERAL AND QUEEN'S HOSPITALS, BIRMINGHAM.

GENERAL HOSPITAL STAFF.

Consulting Surgeon—Mr. D. W. Crompton.

Physicians.
Dr. Bell Fletcher.
Dr. Russell.
Dr. Wade.
Dr. Foster.
Dr. Rickards.

Surgeons.
Mr. Alfred Baker.
Mr. Oliver Pemberton.
Mr. T. H. Bartleet.
Mr. W. P. Goodall.
Mr. Robert Jolly.

Resident Physician and Medical Tutor.
Dr. P. Bindley.

Resident Surgeon and Surgical Tutor.
Mr. Alex. F. Hawkins.

Registrar and Pathologist—Dr. Robert Saundby.

QUEEN'S HOSPITAL STAFF.

Physicians.
Dr. Heslop.
Dr. Sawyer.
Dr. Mackey.
Dr. Carter.

Surgeons.
Mr. West.
Mr. Gamgee.
Mr. Furneaux Jordan.
Mr. J. St. S. Wilders.

House-Physicians.
Mr. Hugh Thomas.
Mr. I. Spofforth.

House-Surgeons.
Mr. Wilkins.
Mr. Cordley Bradford.

Obstetric Surgeon—Mr. John Clay.
Ophthalmic Surgeon—Mr. Priestly Smith.
Pathologist—Mr. Thomas.
Dental Surgeon—Mr. Charles Sims.

CLINICAL PRIZES.

The following prizes will be given annually:—Senior Medical Prizes, for third or fourth year students: First Prize: £5 5s.; Second Prize, £3 3s. Senior Surgical Prizes: First Prize, £5 5s.; Second Prize, £3 3s. Junior Medical Prizes, for second year students: First Prize, £3 3s.; Second Prize, £2 2s. Junior Surgical Prizes: First Prize, £3 3s.; Second Prize, £2 2s. Midwifery Prize, £4 4s.

The examination for all the above-mentioned appointments and prizes will be conducted by the Clinical Board, and will be open for competition to all students registered by the Clinical Board.

BRISTOL SCHOOL OF MEDICINE.

COURSES OF LECTURES.—WINTER SESSION.

Chemistry—Mr. Thomas Coomber.
Descriptive and Surgical Anatomy—Mr. Nelson C. Dobson, and Dr. Henry Waldo.
Medicine—Dr. William H. Spencer.
Physiology—Mr. George F. Atchley and Dr. R. Shingleton Smith.
Principles of Surgery and Practical Surgery—Mr. Robert W. Coe and Mr. Robert W. Tibbits.

SUMMER SESSION.

Botany—Mr. Adolph Leipner.
Comparative Anatomy—Mr. George F. Atchley.
Materia Medica and Therapeutics—Dr. George F. Burder.
Medical Jurisprudence—Mr. Wm. P. Keall.
Midwifery and Diseases of Women—Dr. Joseph G. Swayne.
Pathological Anatomy—Dr. Wm. H. Spencer.
Practical Chemistry—Mr. Thomas Coomber.
Practical Physiology—Mr. Geo. F. Atchley and Dr. R. Shingleton Smith.

BRISTOL ROYAL INFIRMARY.

MEDICAL AND SURGICAL STAFF.

Honorary and Consulting Physicians—Dr. William Budd, Dr. Frederick Brittan, and Dr. Alexander Fairbrother.

Honorary and Consulting Surgeons—Mr. John Harrison, Mr. Thomas Green, and Mr. Augustin Prichard.

Physicians.
Dr. Edward L. Fox.
Dr. William H. Spencer.
Dr. R. Shingleton Smith.
Dr. Henry Waldo.

Surgeons.
Mr. Crosby Leonard.
Mr. Robert W. Tibbits.
Mr. Charles Steele.
Mr. Edmund C. Board.
Mr. Christopher H. Dowson.

Assistant-Physician.
Dr. John E. Shaw.

Assistant-Surgeon.
Mr. Arthur W. Prichard.

House-Surgeon—Mr. Henry M. Chute.
Assistant House-Surgeon—Dr. J. Greig Smith.

This Infirmary was founded in the year 1735, and is one of the largest provincial hospitals in England. It contains 250 beds.

PRIZES.

Suple's Medical Prize, consisting of a gold medal of the value of £5 5s., and about £7 7s. in money, is given annually to the successful candidate in an examination held by the Physicians. The examination comprises reports of cases in the medical wards, and the preparation of morbid specimens illustrative of disease, accompanied, if possible, by microscopic and chemical illustrations, besides written replies to questions in Medicine.

Suple's Surgical Prize corresponds in value and character to the medical one described above. In this case the examination is conducted by the Surgeons, and comprises surgical subjects only.

Clark's Prize.—The interest of £500, bequeathed by the late Henry Clark, Esq., Consulting Surgeon to the Infirmary, will be given annually to the prizeman of his third year at the examination held at the Medical School, provided he has attended his hospital practice at the Bristol Royal Infirmary, and can produce certificates of good moral character.

Pathological Prize.—The Pathological Clerk at the expiration of his term of office will receive a prize of the value of £3 3s. if his duties have been performed to the satisfaction of the Faculty.

FEES.

An entrance fee of £5 5s. to the Infirmary, and subscription of £1 1s. per annum to the Library. Surgeon's pupil, £12 12s. for one year; £21 for two years (at one payment); £26 5s. for three years (at one payment). Dresser (extra fee), £12 12s. for one year; £21 for two years (at one payment); £26 5s. for three years (at one payment). Physician's pupil—For six months, £8; for one year, £15; for eighteen months, £20; perpetual, £25.

The fee for apprenticeship to the House-Surgeon is £315, which includes five years' residence in the Infirmary and all attendance of hospital practice required by the various examining bodies, excepting dressers' fees. House Pupils may also enter for a shorter period, at the rate of £52 10s. per annum to the Infirmary, with a fee of £52 10s. to the House-Surgeon.

BRISTOL GENERAL HOSPITAL.

MEDICAL AND SURGICAL STAFF.

Honorary and Consulting Physician—Dr. Henry E. Fripp.

Honorary and Consulting Surgeons—Mr. Robert W. Coe, Mr. W. Michell Clarke, Dr. Henry Marshall.

Honorary and Consulting Physician-Accoucheur—Dr. Joseph G. Swayne.

Physicians.
Dr. George F. Burder.
Dr. E. Markham Skerritt.
Dr. Joseph B. Siddall.

Surgeons.
Mr. F. Poole Lansdown.
Mr. George F. Atchley.
Mr. Nelson C. Dobson.
Mr. William P. Keall.

Physician-Accoucheur.
Dr. A. E. Aust Lawrence.

House-Surgeon.
Mr. William H. Harsant.

Physician's Assistant.
Mr. William J. Seaward.

Assistant House-Surgeon.
Mr. Arthur F. Parker.

Dentist—Mr. Thomas C. Parson.

SCHOLARSHIPS AND PRIZES.

Lady Haberfield's Prize.—This prize, founded by the late Lady Haberfield, and consisting of the interest of £1000, is awarded annually to the student who exhibits the greatest proficiency.

Sanders Scholarship.—A Scholarship, founded by the late John Nash Sanders, Esq., and consisting of the interest of £500, is awarded annually after examinations in Medicine and Surgery. Two of these scholarships will be available in the ensuing session.

Martyn Memorial Scholarship.—This Scholarship of £20 per annum has been founded by public subscription, in memory of the late Dr. Samuel Martyn, Physician to the Hospital, and will be awarded annually after competitive examinations.

Clarke Scholarship.—A Surgical Scholarship of £15, founded by H. M. Clarke, Esq., of London, is awarded annually to the

most diligent student attending the surgical practice of the Hospital.

FEES.

Medical or Surgical Practice, £6 for six months; £10 for one year; £20 perpetual. Extra fee for Clinical Clerk or Dresser, £5 5s. for six months. Extra fee for Obstetric Clerk, £3 3s. for three months. Library fee, £1 1s. per annum. Resident pupils (including board, lodging, and washing), £100 for the first year, £60 for each subsequent year; or for five years, with apprenticeship to the Hospital, £260.

UNIVERSITY OF DURHAM.—COLLEGE OF MEDICINE, NEWCASTLE-ON-TYNE.

LECTURERS.—WINTER SESSION.

Anatomy—Dr. Armstrong, Mr. Russell.
Chemistry—Professor Marreco.
Medicine—Dr. Philipson.
Mental Diseases—Mr. Wickham.
Physiology—Dr. Hume and Dr. Barron.
Public Health—Mr. H. E. Armstrong.
Surgery—Dr. Heath and Dr. Arnison.

SUMMER SESSION.

Botany—Vacant.
Diseases of Women and Children—Dr. Gibson.
Materia Medica—Mr. McBean.
Medical Jurisprudence—Dr. Page.
Midwifery—Dr. Nesham.
Operative Surgery—Dr. Heath.
Pathological Anatomy—Dr. Gibb and Dr. Bramwell.
Practical Chemistry—Prof Marreco.
Practical Physiology—Dr. MacDiarmid.
Pharmacy—Mr. Proctor.
Therapeutics—Dr. Drummond.

Hospital practice can be attended at the Newcastle Infirmary, which contains 230 beds.

FEES.

Composition fee for all the lectures payable on entering to the first winter session, £52 10s. Perpetual ticket for Pharmacy curriculum, £12 12s. Separate courses of lectures, each £4 4s. The composition fee entitles the holder to attend the lectures on Botany, Chemistry, Materia Medica, and Pharmacy, and to use the Museum of Materia Medica in the Library of the College.

Twelve months' hospital practice, £7 7s.; six months', £5 5s.; three months', £4 4s.; perpetual fee, £17 17s.; or, if paid by instalments, first year £7 7s., second year £6 6s., third year £5 5s. These fees also are payable in advance.

The winter session will open on October 1, 1877.

SCHOLARSHIPS AND MEDALS.

Four Scholarships of £25 a year each, tenable each for four years. Dickinson Memorial Scholarship, £15, tenable for one year, for general proficiency. Tulloch Scholarship, £20, tenable for one year, for Anatomy, Physiology, and Chemistry. Charlton Memorial Scholarship, £35, tenable for one year, for Medicine. Four Resident Dressers, who also act as Physicians' Clinical Clerks, are chosen every six months from the Senior Students. Fee for six months' board and residence £10 10s. Two Assistants in the Pathological Department are chosen every six months.

At the end of each session a Silver Medal and Certificate of Honour will be awarded in each of the required Classes.

R. H. B. Wickham, F.R.C.S. Ed., Medical Superintendent of the Cox Lodge Lunatic Asylum, will deliver a course of lectures on Psychological Medicine, illustrated by cases in the Asylum, to students in their third and fourth years, during the latter half of the winter session.

Further particulars may be obtained of Dr. Luke Armstrong, Registrar, or Dr. Page, Secretary.

NEWCASTLE-UPON-TYNE INFIRMARY.

This Infirmary contains 230 beds. There are special wards for the treatment of Children, Ophthalmic, and Syphilitic Diseases.

MEDICAL AND SURGICAL STAFF.

Physicians.
Dr. Embleton.
Dr. Philopson.
Dr. B. Bramwell.
Dr. Gibson.

Surgeons.
Dr. Heath.
Mr. Russell.
Dr. Arnison.
Dr. Armstrong.

Assistant-Surgeons.
Dr. Hume.
Dr. Page.

Pathologist.
Dr. Bramwell.

Senior House-Surgeon.
Mr. Williamson.

Junior House-Surgeon.
Mr. J. D. Dixon.

FEES.

Fees for hospital practice and clinical lectures:—Twelve months, £7 7s.; six months, £5 5s.; three months, £4 4s. Perpetual fee, £17 17s.; or if paid by instalments—first year £7 7s, second year £6 6s., third year £5 5s.

LIVERPOOL SCHOOL OF MEDICINE.

LECTURERS.

Anatomy—Mr. W. Mitchell Banks.
Botany—Dr. W. Carter.
Chemistry and Toxicology—Dr. J. C. Brown.
Comparative Anatomy—Dr. E. H. Dickinson.
Dental Mechanics—Mr. R. E. Stewart.
Dental Surgery—Mr. J. Snape.
Forensic Medicine—Dr. Ewing Whittle.
Diseases of Children—Dr. R. Gee.
Materia Medica—Dr. J. B. Nevins.
Medicine—Dr. A. T. H. Waters.
Obstetric Medicine and Gynæcology—Mr. A. B. Steele.
Ophthalmic Medicine—Mr. T. Shadford Walker.
Pathological Anatomy—Dr. A. Davidson.
Physiology—Dr. Richard Caton.
Surgery—Mr. Rushton Parker.

DEMONSTRATORS.

Histology and Practical Physiology—Mr. H. Ashby.
Practical Anatomy—(Not filled up for next year.)

ROYAL INFIRMARY.

Consulting Physicians—Dr. Vose, Dr. Turnbull.
Consulting Surgeons—Mr. Long, Mr. Stubbs, Mr. Hakes.

Physicians.
Dr. Waters.
Dr. Glynn.
Dr. Davidson.

Surgeons.
Mr. Bickersteth.
Mr. Harrison.
Mr. Banks.

Resident Medical Officer—Mr. Paul.
Assistant-Surgeon—(Vacant.)
Pathologist—Mr. Parker.
Dental Surgeon—Mr. Snape.
Surgeons to the Lock Hospital—Mr. McCheane, Mr. F. W. Lowndes.

The Infirmary contains nearly 300 beds. There are special wards for the treatment of Uterine and other Diseases of Women.

The Lock Hospital, adjoining the Infirmary, contains sixty beds.

SCHOLARSHIPS AND PRIZES.

Roger Lyon Jones Scholarship.—By the will of the late R. L. Jones, Esq., of Liverpool, the sum of £2000 has been left to the School for the purpose of founding a scholarship, to be named after the donor. This sum will yield about £85 annually, which will be divided, after competitive examination, between two gentlemen, students of Medicine at the School.

Torr Medal.—A gold medal for Anatomy and Physiology, presented by Mr. John Torr, M.P., is awarded to the first student in the second year subjects.

Bligh Medal.—This gold medal, which is presented annually by Dr. John Bligh, Liverpool (also for the encouragement of the study of Anatomy and Physiology), is awarded to the first student in the first year subjects.

FEES.

Composition Fee.—A payment of £47 5s. on entrance or in two equal instalments (one-half on entrance, and the remainder within twelve months), entitles the student to attendance on all the lectures and demonstrations (exclusive of Practical Chemistry) required for the Membership of the Royal College of Surgeons, the Licence of the College of Physicians and the Apothecaries' Society.

Library.—All medical students on registering are required to pay an annual fee of 10s. 6d. to the library and reading-room, or a perpetual fee of £1 1s.

The perpetual Hospital fee (£33 12s.) and the School composition fee for lectures required by the licensing bodies (£47 5s.) amount together to £80 17s. In addition to this must be reckoned Practical Chemistry (£3 3s.), Library fee (£1 1s.), Ophthalmology (£1 1s.), Vaccination fee (£1 1s.), Dissecting-room expenses (roughly estimated at £3 3s.), and a summer course of Practical Anatomy, which, though not absolutely essential, is generally taken (£2 2s.), in all amounting to £11 11s. The total expenses of the education necessary to procure a medical and surgical qualification thus amount to somewhat over £90.

LIVERPOOL ROYAL SOUTHERN HOSPITAL.

Physicians.
Dr. Cameron. | Dr. Carter.

Surgeons.
Dr. Nottingham. | Mr. Hamilton.
Dr. Wollaston.

Senior House-Surgeon—Mr. Owen Gwatkin.

Junior House-Surgeons.
Mr. Wearing. | Mr. Roughton.

Two hundred beds.

Clinical Lectures given by the Physicians and Surgeons during the winter and summer sessions. Clinical Clerkships and Dresserships open to all students. A special ward for Accidents and Diseases of Children. Rooms for a limited number of resident students.

FEES FOR HOSPITAL PRACTICE AND CLINICAL LECTURES.

Perpetual, £26 5s.; one year, £10 10s.; six months, £7 7s.; three months, £4 4s.

The practice of the Hospital is recognised by all the examining bodies.

LIVERPOOL NORTHERN HOSPITAL.

The winter session will commence on Monday, October 1.

MEDICAL AND SURGICAL STAFF.

Physicians.

Dr. Dickinson. | Dr. Caton.

Surgeons.

Mr. Manifold. | Mr. Puzey.

Dr. Campbell.

The Hospital contains 144 beds.

FEES FOR HOSPITAL PRACTICE AND CLINICAL LECTURES.

Perpetual, £26 5s.; one year, £10 10s.; six months, £7 7s.; three months, £4 4s. Students can enter to the medical or surgical practice separately on payment of half the above fees. The Hospital receives one resident pupil, fee £63 per annum. Attendance on the practice of this Hospital qualifies for all the examining boards.

For further particulars apply to the Houre-Surgeon, Mr. Craigmile.

LEEDS SCHOOL OF MEDICINE.

CLASSES AND LECTURES.

Chemistry (at the Yorkshire College of Science) — Professor T. E. Thorpe.
Clinical Medicine — Dr. J. D. Heaton, Dr. T. Clifford Allbutt, and Dr. John Edwin Eddison.
Clinical Surgery — Mr. C. G. Wheelhouse, Mr. T. P. Teale, Mr. T. R. Jessop, and Mr. Edward Atkinson.
Demonstrations of Anatomy — Mr. E. Robinson, Mr. A. F. McGill, and Mr. Robson.
Descriptive Anatomy — Dr. Robert T. Land, Mr. John A. Nunneley, and Mr. Edmund Robinson.
Forensic Medicine — Mr. Thomas Scattergood.
Physiology — Mr. C. J. Wright and Mr. John Horsfall.
Materia Medica — Dr. Thomas Churton.
Medicine — Dr. John D. Heaton, Dr. T. Clifford Allbutt, and Dr. John Edwin Eddison.
Mental Diseases — Dr. Herbert Major.
Midwifery — Mr. W. N. Price, and Dr. James Braithwaite.
Pathology — Mr. A. F. McGill.
Practical Chemistry (at the Yorkshire College of Science) — Professor T. E. Thorpe.
Practical Physiology — Mr. James Walker.
Surgery (including the Practical Course) — Mr. T. R. Jessop, and Mr. Edward Atkinson.

LEEDS GENERAL INFIRMARY.

MEDICAL AND SURGICAL STAFF.

Consulting Physician—Dr. Charles Chadwick.

Consulting Surgeon—Mr. Samuel Hey.

Physicians.	*Surgeons.*
Dr. John Deakin Heaton.	Mr. C. G. Wheelhouse.
Dr. T. Clifford Allbutt.	Mr. T. Pridgin Teale.
Dr. John Edwin Eddison.	Mr. T. R. Jessop.
	Mr. Edward Atkinson.

Surgeons to the Eye and Ear Department.

Mr. John A. Nunneley, Dr. Robert T. Land, Mr. R. P. Oglesby.

SCHOLARSHIPS AND PRIZES.

The Hardwick Scholarship in Clinical Medicine.—Candidates for this prize must be in attendance on the lectures of the Leeds School of Medicine, and must have completed their first year's course there. They must be in registered attendance upon the medical practice of the Hospital, and have served the office of Clinical Clerk, or be holding that office at the time of competition. The prize is given annually for the best set of reports of medical cases in the Hospital during the winter session, subject to such regulations as may be laid down at the commencement of the session. Its value is £10 in money. Should the funds admit, a second prize may be given.

The Surgeons' Clinical Prizes.—Three prizes of the value of £8, £5, and £3 in money will be given annually by the Surgeons of the Hospital, subject to conditions similar to those relating to the Hardwick Prize.

The Thorp Scholarship in Forensic Medicine.—This is a prize of £10 (founded by a former member of Council), awarded at the close of each summer session, subject to such regulations as may be made from time to time, of which due notice will be given. A second prize of £5.

FEES.

The composition fee for attendance upon all the required courses of school lectures is £46 4s., to be paid on entrance; or £24 3s. on entrance, and £24 3s. in twelve months. The fees for the Comparative Anatomy course and for a second course of Practical Chemistry are not included in the composition fee. The entrance fee to the library and reading-room, £1 1s., is paid by all students on joining the School. Instruction in vaccination, as required by the College of Surgeons and by the Poor-law Board, is given by one of the Public Vaccinators—fee £1 1s.; students must attend during a period of six weeks. The fees for attending the medical practice or the surgical practice alone are as follows:—One winter session, £7 7s.; one summer session, £6 6s.; twelve months, £12 12s.; eighteen months, £15 15s.; three years, £21.

The fee of £21 for surgical practice is payable at the commencement of the first winter session, and that for medical practice at the commencement of the second winter session.

OWENS COLLEGE (MANCHESTER ROYAL) SCHOOL OF MEDICINE.(a)

PROFESSORS AND LECTURERS.—WINTER SESSION.

Chemistry—Dr. Henry E. Roscoe.
Clinical Medicine — Dr. William Roberts.
Comparative Anatomy—Mr. W. C. Williamson.
Descriptive and Practical Anatomy —Dr. Morrison Watson.
General Pathology and Morbid Anatomy—Dr. Henry Simpson, Dr. Julius Dreschfeld.
Hospital Instruction — The Physicians and Surgeons to the Royal Infirmary.
Organic Chemistry—Mr. C. Schorlemmer.
Physiology and Histology — Dr. Arthur Gamgee.
Principles and Practice of Medicine —Dr. J. E. Morgan.
Surgery—Mr. Edward Lund.
Practical Surgery — Mr. S. M. Bradley.

SUMMER SESSION.

Botany—Mr. W. C. Williamson.
Materia Medica and Therapeutics — Mr. Alexander Somers, Mr. Daniel John Leech.
Medical Jurisprudence and Public Health—Dr. Arthur Ransome.
Midwifery and Diseases of Women and Children.—Dr. J. Thorburn.
Obstetrics—Dr. John Thorburn.
Ophthalmology—Mr. T. Windsor.
Practical Chemistry—Mr. Henry E. Roscoe.
Practical Morbid Histology — Dr. J. Dreschfeld.
Practical Physiology and Histology —Dr. Arthur Gamgee.

Medical Tutor—Mr. J. Beswick Perrin.

Demonstrator in Anatomy—Mr. A. H. Young, M.B.

Demonstrator in Physiology—Mr. J. Priestley.

Registrar—Mr. J. Holme Nicholson.

Dean of the Medical School—Professor Gamgee, M.D., F.R.S.

EXHIBITIONS, PRIZES, ETC.

A *Turner Scholarship* of £25 for third year's students, a Scholarship of £15 for second year's students, and one of £10 for first year's students. Prizes will also be given for general proficiency.

Platt Physiological Scholarships.—Two Scholarships of £50 each, tenable for two years, one of which is offered annually, are open to the competition of all students of the College who shall have studied Physiology in the College laboratory during one entire session, and whose age on January 1 preceding the examination shall not be under eighteen nor over twenty-five years. The next examination will be held on the 8th and 9th of October, 1877. The Scholarship will be awarded for the best original investigation in Physiology prosecuted in the College laboratory, and on the results of a written examination in Physiology and such subjects connected therewith as shall be prescribed. The Scholarship will not be awarded on the ground of comparative merit only. The candidate elected to the Scholarship will be required to attend during one year of his tenure the practical class in the physiological laboratory of the College, and during the other year the same or some other physiological laboratory in England or on the Continent approved of by the Council and the Senate of the College. If no original investigation shall have been carried on worthy of the Scholarship, the Council may, if they think fit, award one or more exhibitions to the candidate or candidates who shall have been most distinguished in the examination.

Dunville Surgical Prize, value £20.—The Prize will consist of books or surgical instruments at the option of the winner. Candidates must have studied in the Medical Department and the Manchester Royal Infirmary during the winter session of 1875-6, the summer session of 1876, and the winter session of 1876-7, and have attended four courses of lectures, including one, at least, on Surgery. The examination will be conducted by means of written answers to questions on the Principles and Practice of Surgery, including Surgical Anatomy, and, at the option of the examiners, will also include the examination of patients and operations on the dead subject, together with reports of three surgical cases which have occurred in the wards of the Manchester Royal Infirmary during the preceding six months—the reports to comprise the history, progress, treatment, and results (with observations thereon) of these

(a) No return made this year.

cases. The examination will take place soon after the end of the winter session of 1877-78. Notice of intention to compete must be sent to the Registrar in writing on or before March 26, 1878.

Gilchrist Scholarships.—Three of £50 each, tenable for three years, one of which is annually awarded to the candidate who shall stand highest at the Matriculation Examination of the University in London in June, provided that he pass in the honours division, and, failing such, two of £25 each will be given to the two candidates who stand highest in the first division. Further particulars will be found in the "Calendar" and in the prospectus of scholarships, exhibitions, and prizes.

FEES.

A composition fee, which may be paid in one sum of £48, or in two sums of £25 each at the commencement of the first and second years of studentship, admits to the whole of the lectures required to qualify, and to attendance on the class of Practical Anatomy during two winter sessions. Should a student desire to continue his study of Practical Anatomy beyond two sessions, he can do so on payment of extra fees at the rate of £2 2s. for a three months' or £3 3s. for a six months' course.

Extra fees of £1 1s. will be charged for attendance on the Demonstrations in Botany and in Comparative Anatomy; and of £2 2s. for each of the courses of Morbid Histology, Operative Surgery, and the Medical Tutor's Class.

A charge of £1 1s. is also made for the chemicals used in the class of Practical Chemistry.

MANCHESTER ROYAL INFIRMARY.

MEDICAL AND SURGICAL STAFF.

Consulting Physicians—Dr. R. F. Ainsworth, Dr. Frank Renaud, Dr. T. H. Watts.

Physicians.	*Surgeons.*
Dr. M. A. Eason Wilkinson.	Mr. F. A. Heath.
Dr. Henry Browne.	Mr. Edward Lund.
Dr. William Roberts.	Mr. George Bowring.
Dr. Henry Simpson.	Mr. S. M. Bradley.
Dr. John E. Morgan.	
Obstetric Physician.	*Ophthalmic Surgeon.*
Dr. John Thorburn.	Mr. Thomas Windsor.
Assistant-Physicians.	*Assistant-Surgeons.*
Dr. Daniel J. Leech.	Mr. W. Whitehead.
Dr. Julius Dreschfeld.	Mr. J. Hardie.

Dental Surgeon—Mr. G. W. Smith.

Resident Medical Officer—Dr. George Reed.

Medical Supt. of the Royal Lunatic Hospital at Cheadle—Mr. G. W. Mould.

Pathological Registrar—Mr. Thomas Jones.

Registrar—Dr. D. Ross.

Secretary—Mr. B. Brown.

CLINICAL PRIZES.

One Medical and one Surgical Clinical Prize is offered annually for the best reports and commentaries on six medical and on six surgical cases respectively. The cases must be selected from those treated in the Infirmary within the preceding twelve months.

The reports shall be signed with a motto, and transmitted (together with a sealed envelope containing the name and address of the student and the motto chosen by him) to the Chairman of the Medical Committee not later than September 1.

The two Prizes shall be open respectively to the medical and surgical pupils for the current year; they shall be each of the value of £6 6s., and shall consist of books or instruments, at the option of the successful candidates.

STUDENTS' FEES.

Medical Practice.—Three months, £6 6s.; six months, £9 9s.; twelve months, £12 12s.; full period required by the examining boards, £18 18s.

Surgical Practice.—Three months, £9 9s.; six months, £12 12s.; twelve months, £18 18s.; full period required by the examining boards, £31 10s.

Composition Fee.—The fees for the full period required by the examining boards of both medical and surgical practice may be paid by a composition fee of £42 on entrance, or by two instalments of £22 each at an interval of twelve months.

In addition to the practice of the Infirmary, the Monsall Fever Hospital and the Barnes Convalescent Home will also be open, under certain regulations, to students for the purposes of instruction.

SHEFFIELD SCHOOL OF MEDICINE.

LECTURES.—WINTER SESSION.

Anatomy, Descriptive and Surgical—Mr. Skinner, Mr. E. Skinner.
Chemistry—Mr. Allen.
Clinical Surgery—The Surgeon of the Infirmary and Public Hospital and Dispensary.
Clinical Medicine—The Physicians of the Infirmary and Public Hospital and Dispensary.
Dental Mechanics—Mr. G. Mosely.
Physiology—Dr. O'Keefe, Dr. Dyson.
Demonstrations of Anatomy—Dr. E. Thomas, Mr. O. Barber, Mr. S. Snell.
Principles and Practice of Medicine—Dr. Bartolomé, Dr. Banham, Dr. W. R. Thomas.
Principles and Practice of Surgery—Mr. W. F. Favell, Mr. A. Jackson.
Lecturer on Diseases of the Eye—Mr. Snell.

SUMMER SESSION.

Botany—Mr. Birks.
Demonstrations of Pathology and Microscopy—The House-Surgeon (at the Infirmary).
Demonstrations of Operative Surgery—Mr. Favell.
Demonstrations of Practical Histology and Physiology—Dr. Gwynne.
Dental Surgery—Dr. Merryweather.
Materia Medica and Therapeutics—Dr. Young.
Medical Jurisprudence and Toxicology—Mr. Baker, Mr. Harrison.
Midwifery and Diseases of Women—Dr. Hime.
Practical Chemistry—Mr. Allen.
Practical Surgery—The House-Surgeon (at the Infirmary).
Public Medicine—Dr. Drew.

SHEFFIELD GENERAL INFIRMARY.

MEDICAL AND SURGICAL STAFF.

Physicians.	*Surgeons.*
Dr. Bartolomé.	Mr. Barber.
Dr. Law.	Mr. Favell.
Dr. Banham.	Mr. Jackson.

Ophthalmic Surgeon—Mr. Snell.

House-Surgeon—Mr. Laver.

The Infirmary contains 180 beds for in-patients.

FEES.

The fees for perpetual attendance at the Infirmary are £15 15s. for medical, £21 for surgical practice. For twelve months' practice: Medical, £10 10s.; surgical, £6 6s. Six months': Medical, £6 6s.; surgical, £4 4s.

PUBLIC HOSPITAL and DISPENSARY.

Physicians.	*Surgeons.*
Dr. H. J. Branson.	Dr. Keeling.
Dr. Dyson.	Mr. Thorpe.
Dr. W. R. Thomas.	Mr. Pye-Smith.

House-Surgeon.—Mr. Shera.

This Hospital contains 100 beds. The fees are the same as those of the Infirmary. Recognised by the Royal College of Surgeons.

SHEFFIELD HOSPITAL FOR DISEASES OF WOMEN.

MEDICAL OFFICERS.

Dr. Jackson, Dr. Keeling, Dr. Hime, Mr. Woolhouse.

FEES.

Anatomy and Physiology, first course, £6 6s.; second course, £4 4s. Practice of Medicine, first course, £4 4s.; second course, £2 2s. Practice of Surgery, first course, £4 4s.; second course, £2 2s. Chemistry, first course, £4 4s. Midwifery and Diseases of Women, first course, £3 3s. Materia Medica, first course, £3 3s. Medical Jurisprudence, first course, £3 3s. Botany, first course, £3 3s. Practical Chemistry, first course, £3 3s. Practical Physiology, £3 3s. Practical Surgery, £3 3s. These fees include demonstrations.

Perpetual fee for attendance on all the lectures required by the Royal College of Surgeons and the Apothecaries' Hall, £42.

All further information may be obtained on application to the Hon. Secretary, Arthur Jackson, St. James's-row, Sheffield.

SCHOOLS AND HOSPITALS IN SCOTLAND.

UNIVERSITY OF EDINBURGH.—FACULTY OF MEDICINE.

SESSION 1877-78.

Principal—Sir Alexander Grant, Bart., LL.D.

WINTER SESSION.

THE session will be opened on Tuesday, October 30, 1877, at two o'clock, when an address will be delivered by the Principal.

Anatomy—Prof. Turner.
Anatomical Demonstrations—Prof. Turner.
Botany—Prof. Balfour.
Chemistry—Prof. Crum Brown.
Clinical Medicine—Profs. Maclagan, Sanders, and Grainger Stewart. (Prof. Simpson on Diseases of Women.)
Clinical Surgery—Vacant.
General Pathology—Prof. Sanders.
Institutes of Medicine or Physiology—Prof. Rutherford.
Materia Medica—Prof. T. R. Fraser.
Midwifery and Diseases of Women and Children—Prof. Simpson.
Natural History—Prof. Sir C. Wyville Thomson.
Practice of Physic—Prof. Grainger Stewart.
Surgery—Prof. Spence.

WINTER AND SUMMER SESSION.

Anatomical Demonstrations—Prof. Turner.
Bandaging and Surgical Appliances—Prof. Spence.
Operative Surgery—Prof. Spence.
Obstetrical and Gynæcological Operations—Prof. Simpson.
Practical Physiology, including Histology, Chemical Physiology, and Experimental Physiology—Prof. Rutherford.
Practical Anatomy—Prof. Turner.
Practical Chemistry—Prof. Crum Brown.

SUMMER SESSION.

Practical Instruction in Mental Diseases at an Asylum — Prof. Grainger Stewart.
Practical Natural History — Prof. Sir C. Wyville Thomson.
Practical Morbid Anatomy and Pathology—Prof. Sanders.
Practical Botany—Prof. Balfour.
Vegetable Histology—Prof. Balfour.
Tutorial Class of Clinical Medicine in the Wards of the Royal Infirmary by the Clinical Tutor, Mr. Jas. Murdoch Brown.

During the summer session lectures will be given on the following subjects:—

Anatomical Demonstrations—Prof. Turner.
Botany—Prof. Balfour.
Chemistry—Prof. Crum Brown.
Clinical Medicine—Profs. Maclagan, Sanders, Grainger Stewart, and Simpson (Diseases of Women).
Clinical Surgery—Prof. Lister.
Medical Psychology and Mental Diseases—Prof. Grainger Stewart.
Medical Jurisprudence—Prof. Maclagan.
Natural History — Prof. Sir C. Wyville Thomson.
Obstetrical and Gynæcological Operations—Prof. Simpson.

Information relative to matriculation and the curricula of study for degrees, examinations, etc., will be found in the University Calendar, and may be obtained on application to the Secretary at the College.

A list of fees is given in the next column.

During the summer session the following means are afforded for practical instruction:—

The *Dissecting Rooms* are open daily, under the Superintendence of the Professor, assisted by D. J. Cunningham, M.D., J. Symington, M.B., and G. A. Gibson, D.Sc. and M.B.

The *Royal Edinburgh Asylum* is open to members of the class of Medical Psychology exclusively for practical instruction in Mental Diseases by Professor Grainger Stewart and the Physician-Superintendent, Dr. Clouston.

Chemical Laboratories.—The laboratory for instruction in Analytical Chemistry and for chemical investigation, under the superintendence of the Professor, assisted by R. M. Morrison, B.Sc., and G. C. Robinson, is open from ten to four. The Laboratory for Instruction in Practical Chemistry, under the superintendence of the Professor, assisted by A. P. Aitken, M.A., D.Sc.

The *Physiological Laboratory* is open daily for physiological investigation, under the superintendence of the Professor, assisted by William Stirling, M.D., C.M., Sc.D.

The *Physical Laboratory* is open daily from ten to three, under the superintendence of Professor Tait.

The *Medical Jurisprudence Laboratory* is also open daily from ten to three, under the superintendence of the Professor, assisted by J. O. Affleck, M.D.

The practice of Obstetrical and Gynæcological Operations is carried out in the Obstetrical Museum, under the superintendence of the Professor, assisted by David B. Hart, M.B.

The *Natural History Laboratory* is open daily, under the superintendence of the Professor, Sir C. Wyville Thomson, assisted by Isaac Bayley Balfour, Sc.D.

The *Natural History Museum* in the Museum of Science and Art, Chambers-street, is accessible to the students attending the Natural History Class.

The *Royal Botanic Garden*, *Herbarium*, and *Museum* are open daily.

MEDICAL FELLOWSHIPS, SCHOLARSHIPS, BURSARIES, AND PRIZES.

Fellowships.—The Falconer Memorial Fellowship, value £100, tenable for two years. It is for the encouragement of the study of Palæontology and Geology, and is open to graduates in Science or Medicine of the University of not more than three years' standing.

The Syme Surgical Fellowship, value about £100, tenable for two years, open to competition among Bachelors of Medicine of not more than three years' standing, who shall present the best thesis on a surgical subject, giving evidence of original research.

Scholarships.—The Sibbald Scholarship, value about £40, tenable for four years.

Bursaries.—The Abercromby Bursary of £20, tenable for four years, is open to students who have been brought up in Heriot's Hospital during their medical curriculum. The Sibbald Bursaries are open to the sons of duly registered medical men practising, or who may have practised in Scotland, and to the sons of parents who are, or who may have been, householders in Edinburgh. They are of the value of £30 each, tenable for four years, and available for the Faculty either of Arts, Law, Medicine, or Divinity. Four Grierson Bursaries of £20 a year. One Tyndall-Bruce Bursary of £25, tenable for one year, to be competed for by students who have reached the end of their third winter session—subjects of examination to be Materia Medica and Pathology. Competitors for the above bursaries must have studied the subjects of examination at the University of Edinburgh; and these are not to be held along with any other bursary or fellowship.

PRIZES.

The Ettles Medical Prize is awarded annually to the graduate in Medicine whom the Medical Faculty may consider the most distinguished of the year. Value about £40.

The Hope Chemistry Prize, open to all students of the University of not more than twenty-five years of age, who have worked for eight months, or for two summer sessions, in the Chemical Laboratory of the University. Value £100.

A Hope Scholarship, value £30; particulars as to which may be obtained on application to the Professor of Chemistry.

The Neil Arnott Prize, of about £40, is awarded to the candidate who shall pass with the greatest distinction the ordinary examination in Natural Philosophy for the degree of M.A. Candidates must have been medical students of this University during either a summer or a winter session, and the successful candidate must continue a medical student of this University during the winter session. No student can appear for examination after the completion of his third *annus medicus;* no candidate shall be allowed to offer himself more than once.

The Ellis Prize for the best essay "On the Respiration of Plants as distinguished from their Nutrition," is open to students or graduates of five years' standing. Value, proceeds of the sum of £500 accumulated for three years.

The Goodsir Memorial Prize of £60 is awarded triennially for the best essay containing results of original investigations in Anatomy or in Experimental Physiology.

The Medical Faculty Prizes.—Gold medals are given on the day of graduation to Doctors of Medicine whose theses are deemed worthy of that honour.

LECTURESHIP.

The Swiney Lectureship on Geology, value £144, tenable for five years, is open to Doctors of Medicine of the University of Edinburgh. It is in the patronage of the trustees of the British Museum.

MINIMUM COST OF ATTENDING THE MEDICAL CLASSES, WITH THE ORDER OF STUDY.

Whilst there is no authorised order of study, the usual course is given below—Preliminary Examination in Arts to be taken in the month of March or October, before entering medical classes. By order of the General Medical Council, all medical students require to be registered as such within fifteen days after the commencement of the session. Students are recommended to commence their medical studies by attending the summer session.

First Summer Session.—Preliminary examination fee, 10s.; matriculation fee, 10s.; Botany (garden fee, 5s.), £4 4s.; Natural History, £4 4s.; total, £9 8s.

First Winter Session.—Matriculation (for whole year), £1; Anatomy, £4 4s.; Practical Anatomy, £3 3s.; Chemistry, £4 4s.; hospital, £5 5s. (perpetual ticket, £10); total, £17 16s.

Second Summer Session.—Botany or Natural History, if not attended previously; Practical Chemistry, £3 3s.; examination in Botany, Natural History, and Chemistry, in October following,(a) £5 5s.; total, £8 8s.

Second Winter Session.—Matriculation, £1; Institutes of Medicine, £4 4s.; Surgery, £4 4s.; hospital, £5 5s.; examination in Botany, Natural History, and Chemistry, in April, if not previously passed; total, £14 13s.

Third Summer Session.—Practical Pharmacy, £2 2s.; dispensary, £2 2s.; hospital; total, £4 4s.

Third Winter Session.—Matriculation, £1; Materia Medica, £4 4s.; Pathology, £4 4s.; Clinical Surgery, £4 4s.; dispensary, £1 1s.; hospital; examination in Anatomy, Physiology, Materia Medica, Pathology, in April or July, £5 5s.; total, £19 18s.

Fourth Summer Session.—Medical Jurisprudence, £4 4s.; hospital and clinical lectures; total, £4 4s.

Fourth Winter Session.—Matriculation, £1; Practice of Medicine, £4 4s.; Midwifery, £4 4s.; Practical Midwifery, £1 4s.; Clinical Medicine, £4 4s.; Vaccination, £1 1s.; hospital; total, £15 17s.

Fifth Summer Session.—Hospital; final examination for M.B. and C.M., £10 10s.; total minimum expenses for M.B. and C.M., £104 18s.

Only one course of instruction on each subject is here stated, that being the minimum.

Fees for Degrees.—Examination in Botany, Chemistry, chemical testing, and Natural History, £5 5s.; examination in Antomy, Institutes of Medicine, Materia Medica, Pathology, £5 5s.; final examination in Surgery, Midwifery, Practice of Physic, Clinical Medicine, Clinical Surgery, Medical Jurisprudence, and prescriptions, during last summer session, £5 5s.; total fees for M.B. diploma, £15 15s. Additional fee for C.M. diploma, £5 5s.;

(a) For those who have certificates for two summer sessions and one winter session, and who have attended two courses during each of these three sessions.

additional fee for M.D. diploma, £5 5s.; Government stamp-duty (for M.D. only), £10.

Note.—Total fees and stamp for graduating as M.D. only, by regulations for students commencing before February, 1861, £25.

N.B.—The above fees include all charges for the diplomas.

ROYAL INFIRMARY, EDINBURGH.

In this Hospital a portion of the beds is set apart for clinical instruction by the Professors of the University of Edinburgh. Courses of Clinical Medicine and Surgery are also given by the ordinary Physicians and Surgeons. Special instruction is given in the Medical Department on Diseases of Women, Physical Diagnosis, etc., and in the Surgical Department on Diseases of the Eye. Separate wards are devoted to fever, venereal diseases, diseases of women, diseases of the eye; also to cases of incidental delirium or insanity. Post-mortem examinations are conducted in the Anatomical Theatre by the Pathologist, who also gives practical instruction in Pathological Anatomy and Histology.

MEDICAL DEPARTMENT.

Professors of Clinical Medicine—Dr. Maclagan, Dr. Sanders, Dr. Grainger Stewart.

Extra Physicians and Lecturers on the Diseases peculiar to Women—Dr. J. Matthews Duncan, Dr. Alex. R. Simpson.

Ordinary Physicians and Lecturers on Clinical Medicine—Dr. Rutherford Haldane, Dr. George W. Balfour, Dr. T. Grainger Stewart, Dr. Claud Muirhead.

Assistant-Physicians—Dr. John Wyllie, Dr. David J. Brakenridge.

SURGICAL DEPARTMENT.

Consulting Surgeons—Dr. Dunsmure, Dr. J. D. Gillespie.

Professor of Surgery—Mr. Spence.

Ordinary Acting Surgeons—Dr. P. H. Watson, Mr. Thos. Annandale (Lecturers on Clinical Surgery); Dr. Joseph Bell.

Professor of Clinical Surgery—Mr. Lister.

Ophthalmic Surgeons—Mr. Walker, Dr. D. A. Robertson.

Extra Surgeon for Treatment of Ovarian Diseases—Dr. Thomas Keith.

Assistant-Surgeons—Dr. John Duncan, Dr. John Chiene.

Dental Surgeon—Dr. John Smith.

Pathologist—Dr. John Wyllie.

HOSPITAL TICKETS.

Perpetual, in one payment, £10; annual, £5 5s.; half-yearly, £3 3s.; quarterly, £1 11s. 6d. Separate payments for two years entitle the student to a perpetual ticket.

THE SCHOOL OF MEDICINE, EDINBURGH.

On October 1 the Practical Anatomy Rooms and Chemical Laboratories will be opened. On October 30 the inaugural address will be delivered by Dr. John Duncan, at eleven o'clock. On October 31 the Lectures will be commenced.

WINTER SESSION.

Anatomy: Practical Anatomy, Lectures, Anatomical Demonstrations—Dr. P. D. Handyside.

Chemistry: Lectures, Practical Chemistry, Analytical Chemistry—Dr. Stevenson Macadam, Mr. J. Falconer King, and Mr. Ivison Macadam.

Materia Medica and Therapeutics—Dr. Francis W. Moinet.

Surgery—Dr. P. H. Watson, Mr Joseph Bell, Mr. Chiene, Dr. John Duncan.

Midwifery and Diseases of Women and Children — Dr. Matthews Duncan.

Institutes of Medicine or Physiology—Dr. Andrew Smart.

Clinical Medicine (Royal Infirmary)—Drs. Rutherford Haldane, Geo. W. Balfour, and Claud Muirhead. Dr. Matthews Duncan (for Diseases of Women).

Clinical Surgery (Royal Infirmary)—Dr. P. H. Watson & Mr. Annandale.

Medical Jurisprudence and Public Health—Dr. Littlejohn.

Practice of Physic—Dr. Rutherford Haldane and Dr. Claud Muirhead.

Natural History, Zoology, and Comparative Anatomy—Dr. Andrew Wilson.

General Pathology and Pathological Anatomy—Dr. John Wyllie.

Diseases of the Ear — Dr. Kirk Duncanson.

Vaccination (Royal Dispensary)—Dr. Husband.

Diseases of Children—Dr. R. Peel Ritchie.

SUMMER SESSION.

Anatomy: Practical Anatomy, Anatomical Demonstrations—Dr. P. D. Handyside.

Chemistry: Practical Chemistry, Analytical Chemistry—Dr. Stevenson Macadam, Mr. J. Falconer King, and Mr. Ivison Macadam.

Materia Medica and Therapeutics—Dr. Francis W. Moinet and Dr. William Craig.

Midwifery and Diseases of Women and Children—Dr. Keiller, Dr. Angus Macdonald, Dr. Underhill, and Dr. Halliday Croom.

Medical Jurisprudence and Public Health—Dr. Littlejohn.

Clinical Medicine (Royal Infirmary)—Drs. Rutherford Haldane, Geo. W. Balfour, and Claud Muirhead. Dr. Matthews Duncan (for Diseases of Women).

Clinical Surgery (Royal Infirmary)—Dr. P. H. Watson and Mr. Annandale.

Vaccination—Dr. Husband.

Natural History, Zoology, and Comparative Anatomy—Dr. Andrew Wilson.

Diseases of the Ear—Dr. Kirk Duncanson.

Diseases of the Skin—Dr. Allan Jamieson.

Diseases of the Eye—Dr. Argyll Robertson.

Medical Anatomy and Practical Medicine—Dr. Claud Muirhead.

Pathological Histology—Dr. John Wyllie.

Insanity—Dr. J. Batty Tuke.

Syphilology—Dr. Cadell.

Diseases of Children—Dr. R. Peel Ritchie.

Operative and Practical Surgery—Dr. P. H. Watson.

Surgical Appliances and Operative Surgery—Mr. Joseph Bell.

Surgical Anatomy and Operative Surgery—Mr. Chiene.

Practical Surgery—Dr. John Duncan.

The lectures qualify for the University of Edinburgh and the other Universities; the Royal Colleges of Physicians and Surgeons of Edinburgh, London, and Dublin, and the other medical and public Boards.

FEES.

For a first course of lectures, £3 5s.; for a second, £2 4s.; perpetual, £5 5s. To those who have already attended a first course in Edinburgh the perpetual fee is £2 4s. Practical Anatomy (six months' course), £3 3s. Anatomical Demonstrations, £2 2s.; with Practical Anatomy, £1 1s.; perpetual, £4 4s. Practical Chemistry, £3 3s.; Analytical Chemistry, £2 a month, £5 for three months, or £10 for six months. Vaccination, £1 1s. Syphilology, £1 1s. For summer courses of Clinical Surgery and Clinical Medicine, each £2 4s.; Practical Anatomy (including Anatomical Demonstrations), Medical Anatomy, Operative Surgery, Diseases of the Ear, Diseases of the Skin, Insanity, and Diseases of Children, each £2 2s.

The minimum cost of the education in this School of Medicine for the double qualification of Physician and Surgeon from the Royal College of Physicians and Surgeons, including the fees for the joint examination, is £90 4s., which is payable by yearly instalments during the period of study; whilst the minimum cost for the single qualification of either Physician or Surgeon, including the fee for examination, is £80.

UNIVERSITY OF GLASGOW.—FACULTY OF MEDICINE.

LECTURES AND CLASSES.—WINTER SESSION.

Anatomy, Junior; Anatomy, Senior; Practical Anatomy—Prof. A. Thomson and Demonstrators.

Chemistry, Chemical Laboratory—Prof. Ferguson.

Clinical Medicine—Prof. McCall Anderson.

Clinical Surgery — Prof. George Buchanan.

Forensic Medicine—Prof. P. A. Simpson.

Physiology—Prof. McKendrick.

Materia Medica—Prof. Cowan.

Midwifery—Prof. Leishman.

Practice of Physic—Prof. Gairdner.

Surgery—Prof Macleod.

Pathology—The Pathologists of the Infirmaries.

SUMMER SESSION.

Botany, Botanical Demonstrations—Prof. A. Dickson.

Clinical Medicine—Prof. McCall Anderson.

Clinical Surgery — Prof. George Buchanan.

Embryology, and Demonstrations on Anatomy, Elementary Anatomy, Practical Anatomy—Prof. A. Thomson and Demonstrators.

Practice of Medicine—Prof. Gairdner.

Lectures on the Eye—Dr. T. Reid.

Operative Surgery—Prof. Macleod.

Practical Chemistry. Chemical Laboratory—Prof. Ferguson.

Practical Pharmacy—Prof. Cowan.

Practical Physiology—Prof. McKendrick.

Zoology—Prof. Young.

CLASS FEES.

Fee for each course, £3 3s., except lectures on the Eye, for which the fee is £1 1s.

In addition to the University courses, the following Hospitals and Dispensaries afford ample means for practical instruction in the various departments of Medicine and Surgery:—

WESTERN INFIRMARY.

This Hospital contains beds for medical and surgical patients, with wards for skin diseases and for diseases of women.

MEDICAL AND SURGICAL STAFF.

Physicians.	*Surgeons.*
Prof. W. T. Gairdner.	Prof. George H. B. Macleod.
Prof. T. McCall Anderson.	Prof. George Buchanan.
Dr. James Finlayson.	Dr. Alexander Patterson.

Diseases of Women—Prof. W. Leishman.

Dispensary Physicians—Dr. Gavin P. Tennent, Dr. Joseph Coats, and Dr. Gemmell.

Dispensary Surgeons—Dr. James G. Lyon, Mr. D. N. Knox, Dr. Christie, and Dr. Renton.

Pathologist—Dr. Joseph Coats.

Medical Superintendent—Dr. Alexander.

Lady Superintendent—Miss E Clyde.

The hour of visit is 9 a.m.

FEES.

The fees for admission to the practice of this Infirmary are—First year, £10 10s.; second year, £10 10s.; afterwards free. The fees for clinical lectures are included in the foregoing.

GLASGOW ROYAL INFIRMARY SCHOOL OF MEDICINE.

The winter session commences on October 30, and the summer session on May 1. Lectures are delivered on the subjects necessary for qualifying, and extra courses are given on practical subjects now required by examining boards. During summer, lectures on Insanity will be given by Dr. A. Robertson, and the City Parochial Asylum under his charge is free to students of this School.

LECTURES AND DEMONSTRATIONS.

Anatomy—Mr. H. E. Clark.
Chemistry—Dr. John Clark.
Clinical Medicine — Physicians of the Hospital.
Materia Medica—Dr. John Dougall.
Clinical Surgery—Surgeons of the Hospital.
Medicine—Dr. A. Wood Smith.
Physiology—Mr. W. T. Fleming.
Surgery—Dr. H. C. Cameron.

The Royal Infirmary contains 570 beds. Of these 240 are for medical and 320 for surgical cases, with special wards for the treatment of venereal disease in males and diseases of women. Diseases of the ear and throat are specially treated at the outdoor department.

MEDICAL AND SURGICAL STAFF.

Physicians.
Dr. Perry.
Dr. Maclaren.
Dr. Wood Smith.
Dr. Charteris.

Physician for Diseases of Women.
Dr. Stirton.

Surgeons.
Dr. Cameron.
Dr. Morton.
Dr. Macewen.
Dr. E Watson.
Dr. Dunlop.

Dispensary Physicians.
Dr. Mather.
Dr. Lawrie.

Extra Dispensary Physicians.
Dr. J. W. Anderson.
Dr. Weir.
Dr. Dougall.

Dispensary Surgeons.
Mr. Clark.
Dr. Lothian.

Extra Dispensary Surgeons.
Dr. Whitson.
Mr. Fleming.
Dr. Foulis.

Vaccinator.
Dr. Tannahill.

Pathologist.
Dr. Foulis.

Diseases of the Throat.
Dr. Eben Watson.

APPOINTMENTS.

There are five Physicians' and five Surgeons' Assistants, who are boarded and lodged in the Hospital at the rate of £25 per annum, and who perform all the duties of House-Physicians and House-Surgeons. These appointments are held for twelve months—six in the medical, and six in the surgical wards—and are open to those students of the Infirmary who have passed all their examinations except the last, or who have a qualification in Medicine or Surgery.

Clinical Assistants, Dressers, and Dispensary Clerks are selected from the students without any additional fee; and from the large number of accident cases and cases of acute disease received into the wards, these appointments are numerous, and invaluable to the student. Attendance at the Dispensary for the treatment of out-patients, and admission to the Pathological Museum, are also free.

FEES.

For each course of lectures, first session, £2 2s ; second ditto, and perpetual, £1 1s.

The Anatomy Class fees are—first session, £4 4s. ; second ditto, £4 4s.; afterwards, £1 1s. per annum for Practical Anatomy.

HOSPITAL FEE.

The fee for unlimited attendance on the practice of the Infirmary and on the courses of clinical instruction and lectures does not exceed £21.

Further information may be obtained from Dr. Thomas, the Superintendent of the Hospital.

ANDERSON'S COLLEGE, GLASGOW.

LECTURES AND CLASSES.

Anatomy—Dr. Buchanan.
Chemistry—Mr. Dittmar.
Institutes of Medicine or Physiology—Dr. McVail.
Materia Medica—Dr. Mortou.
Medical Jurisprudence (in Summer)—Dr. Alex. Lindsay.
Midwifery (in Summer)—Dr. J. G. Wilson.
Ophthalmic Medicine and Surgery—Dr. Wolfe.
Practice of Medicine—Dr. Charteris.
Surgery—Dr. Dunlop.

FEES.

Fee for each class, £2 2s. ; second session, £1 1s. The fees for all lectures and hospital practice required for a diploma do not exceed £48.

Hospital practice and clinical lectures in the Royal Infirmary, containing 600 beds.

The lectures at Anderson's College qualify for the various licensing boards in the kingdom.

Students may also attend the Maternity Hospital (Physicians-Accoucheur—Drs. J. G. Wilson and Tannahill), Eye Infirmary, Ophthalmic Institution, Dispensary for Skin Diseases, etc.

A syllabus, with full information, may be obtained by applying to Dr. A. M. Buchanan, 149, St. George's-road, Glasgow, Dean of the Medical Faculty.

UNIVERSITY OF ABERDEEN.—FACULTY OF MEDICINE.

LECTURES.—WINTER SESSION.

Anatomy—Professor Struthers.
Chemistry—Professor Brazier.
Institutes of Medicine—(Vacant.)
Medical Logic and Medical Jurisprudence—Professor Ogston.
Midwifery and Diseases of Women and Children—Professor Stephenson.
Practical Anatomy and Demonstrations—Professor Struthers and Demonstrator.
Practice of Medicine—Professor Smith-Shand.
Surgery—Professor Pirrie.
Zoology with Comparative Anatomy—Professor Nicol.

SUMMER SESSION.

Botany—Professor Trail.
Materia Medica—Professor Harvey.
Practical Pharmacy—Professor Harvey and Assistant.
Practical Anatomy and Demonstrations—Professor Struthers and Demonstrator.
Practical Chemistry—Professor Brazier.
Zoology with Comparative Anatomy—Professor Nicol.

The Anatomical Course in summer includes instruction in Histology and in the use of the microscope; and instruction in Osteology for beginners.

FEES.

Matriculation fee (including all dues) for the winter and summer session, £1 ; for the summer session alone, 10s.

Pathological Anatomy, Dr. Rodger, £2 2s. Practical Ophthalmology (in summer), Dr. A. D. Davidson. Dental Surgery (in summer), Mr. Williamson.

The regulations relative to the registration of students of Medicine, and the granting of degrees in Medicine and Surgery, may be had of Professor Brazier, Secretary of the Faculty of Medicine.

Full information regarding the classes and degrees in the Faculties of Arts, Law, and Divinity, and in regard to Bursaries and Scholarships, will be found in the University Calendar, published by Messrs. Wyllie and Son, Union-street, Aberdeen, by post 2s. 2d.

ABERDEEN ROYAL INFIRMARY.

The Aberdeen Royal Infirmary contains about 300 beds.

MEDICAL AND SURGICAL STAFF.

Consulting Physician—Dr. A. Harvey.
Consulting Surgeon—Mr. David Fiddes.

Physicians.
Dr. J. W. F. Smith-Shand.
Dr. R. Beveridge.
Dr. Angus Fraser.

Surgeons.
Mr. W. Pirrie.
Mr. A. Ogston.
Mr. J. O. Will.
Mr. R. J. Garden.

Resident Assistant-Physician.
Mr. William Henry.

Resident Assistant-Surgeon.
Mr. Andrew Norrie.

Ophthalmic Surgeon—Dr. Alex. D. Davidson.
Dental Surgeon—Mr. Williamson.
Chloroformist—Dr. P. B. Smith.
Resident Superintendent and Apothecary—Dr. R. Rattray.
Pathologist and Curator of Museum—Dr. J. Rodger.
Treasurer and Secretary—Mr. W. Carnie.

UNIVERSITY OF ST. ANDREWS.

There is no proper Faculty of Medicine in this University, but it is possible for the student to make an *annus medicus* by attendance on certain of the courses—as Natural History, Professor Nicholson, M.D.; Chemistry, Professor Heddle, M.D.; and Anatomy and Medicine, Professor Pettigrew, M.D.

SCHOOLS AND HOSPITALS IN IRELAND.

UNIVERSITY OF DUBLIN.—SCHOOL OF PHYSIC.

THE School of Physic is under the conjoint superintendence of the University authorities and those of the King and Queen's College of Physicians.

LECTURES AND CLASSES.

Anatomy and Surgery—Dr. Benjamin G. M'Dowel.
Botany—Dr. E. Percival Wright.
Chemistry—Dr. G. Emerson Reynolds.
Comparative Anatomy and Zoology—Dr. Alexander Macalister.
Institutes of Medicine—Dr. J. M. Purser.
Materia Medica and Pharmacy—Dr. Aquilla Smith.
Medical Jurisprudence—Dr. Robert Travers.
Midwifery—Dr. Edward B. Sinclair.
Natural Philosophy—Rev. J. Leslie.
Operative Surgery—Dr. Richard G. Butcher.
Ophthalmic Surgery—Mr. Henry Wilson.
Physic—Dr. William Stokes.
Practice of Medicine—Dr. W. Moore.
Surgery—Dr. William Colles (Trin. Coll., Dr. Edward H. Bennett).
University Anatomist—Dr. Thomas E. Little.

Winter Session, 1877-78.—The winter session commences on October 1. Lectures will commence on November 1. The dissecting-room will be opened on October 1.

SCHOLARSHIPS AND EXHIBITIONS.

Medical Scholarships.—Two medical scholars are elected annually, by the Board of Trinity College, at an examination held at the end of June—subject to conditions stated in the College Calendar. Each scholarship is worth £20 per annum, and is tenable for two years.

Medical Exhibitions.—The Professors of the School of Physic give three exhibitions annually, amounting altogether in value to £40—subject to conditions prescribed by the Professors themselves.

SIR PATRICK DUN'S HOSPITAL.

MEDICAL AND SURGICAL STAFF.

Consulting Physician.—Dr. William Stokes.
Consulting Surgeon.—Dr. W. Colles.

Clinical Physicians.	*Clinical Surgeons.*
Dr. John Malet Purser.	Dr. Benjamin G. M'Dowel.
Dr. William Moore.	Dr. Thomas E. Little.
Dr. Aquilla Smith.	Dr. Edward H. Bennett.
Midwifery Physician.	*Lecturer in Operative Surgery.*
Dr. Edward B. Sinclair.	Dr. Richard G. Butcher.

FEES.

Clinical Lectures and Hospital Attendance.—The payment of £3 3s. to the Hospital entitles any student to attend the clinic of the Hospital for twelve months, and to attend the lectures delivered by Dr. R. G. Butcher, University Lecturer in Operative Surgery. Students who have taken out the degrees of Bachelor in Medicine and Master in Surgery in Trinity College are entitled to attend the Hospital as perpetual free pupils. In addition to the Hospital fee, the payment of a fee of £6 6s. is required for the privilege of attending the clinical lectures. Total fees for hospital and lectures for twelve months, £9 9s.

Practical Midwifery.—Students desirous of entering for twelve months' instruction in Practical Midwifery are required to pay a maternity fee of £3 3s. each. Students of Trinity College are not liable to any other payment for instruction in Practical Midwifery. Other students are required to pay £3 3s. each to the King's Professor for twelve months' practical instruction, in addition to the Hospital maternity fee. Students who have paid the Hospital maternity fee are entitled to attend the demonstrations in Obstetric Surgery given by the King's Professor. Total fees for College Students, £3 3s.; total fees for Externs, £6 6s.

PRIZES.

Clinical Medals.—The Governors of the Hospital award a Silver Clinical Medal in Medicine to the student who shall pass the best examination on the medical cases treated in the Hospital during the year; and a Silver Clinical Medal in Surgery to the student who shall pass the best examination on the surgical cases treated in the Hospital during the year.

QUEEN'S COLLEGE, BELFAST.

The lectures will commence on Tuesday, October 30.

Anatomy and Physiology—Dr. P. Redfern.	Natural Philosophy—Dr. Everett.
Chemistry—Dr. Thomas Andrews.	Practice of Medicine—Dr. James Cuming.
Materia Medica—Dr. J. S. Reid.	Practice of Surgery—Dr A. Gordon.
Medical Jurisprudence—Dr. J. F. Hodges.	Zoology and Botany—Dr. R. O. Cunningham.
Midwifery—Dr. R. F. Dill.	

The demonstrations in Anatomy are delivered by Dr. Anderson. The lectures in Midwifery and in Medical Jurisprudence, and the courses of Botany and Practical Chemistry, and a second course of Experimental Physics, will commence in May.

FEES.

Anatomy and Physiology—First course, £3; each subsequent course, £2. Anatomical Demonstrations and Practical Anatomy—each course, £3. Practical Chemistry, £3. Other medical lectures—first course, £2; each subsequent course, £1.

SCHOLARSHIPS.

Two Medical Scholarships are awarded to the students of each year of the medical course. The examinations commence on October 17.

BELFAST GENERAL HOSPITAL.

FEES.

Clinical Instruction—Perpetual fee, payable in one sum of £10 10s., or two instalments of £5 5s. each on entering for the first and second years. Hospital fee, 10s. 6d. each session.

BELFAST LYING-IN HOSPITAL.

Fee for the session, £3 3s.

QUEEN'S COLLEGE, GALWAY.—FACULTY OF MEDICINE.

LECTURERS.

Anatomy and Physiology, and Practical Anatomy—Dr. J. Cleland.	Medical Jurisprudence—Dr J.P.Pye.
Botany and Zoology—Dr. A. G. Melville.	Midwifery and Diseases of Women and Children—Dr. R. J. Kinkead.
Chemistry—Dr. T. H. Rowney.	Natural Philosophy—Dr. A. H. Curtis.
Logic and Mental Philosophy—Dr. T. W. Moffett.	Practice of Medicine — Dr. N. Colahan.
Materia Medica—Dr. J. P. Pye.	Practice of Surgery—Dr. J. V. Brown.

The County Galway Infirmary, Town, and Fever Hospitals are in the immediate vicinity of the Queen's College.

SCHOLARSHIPS AND EXHIBITIONS.

Eight scholarships of the value of £25 each, and exhibitions varying in value from £12 to £16, are appropriated to students pursuing the course for the degree of M.D.

FEES.

Anatomy and Physiology, £3 first session; afterwards £2. Practical Anatomy, £3; Practical Chemistry, £3; Operative Surgery, £3; other classes, £1 for each course extending over one term only, £2 for each course extending over more than one term, and £1 for each re-attendance on the same.

For further information, application may be made to Professor Curtis, M.A., LL.D., Registrar.

QUEEN'S COLLEGE, CORK.—FACULTY OF MEDICINE.

LECTURERS.

Anatomy and Physiology—Dr. J. J. Charles.	Practical Anatomy—The Professor, assisted by Demonstrators.
Chemistry and Practical Chemistry—Dr. Maxwell Simpson.	Practice of Medicine—Dr. D. C. O'Connor.
Materia Medica—Dr. M. O'Keefe.	Practice of Surgery—Dr. W. K. Tauner.
Midwifery—Dr. J. R. Harvey.	Zoology and Botany—Mr. Robert Harkness.
Natural Philosophy — Mr. John England.	

SCHOLARSHIPS.

Eight scholarships are awarded to students in Medicine, if qualified. Two junior scholarships of £25 each to students commencing their first, second, third, and fourth years. Clinical Medicine and Surgery at the North and South Infirmaries, and Clinical Midwifery at the Lying-in Hospital.

THE ADELAIDE HOSPITAL, PETER-STREET, DUBLIN.

MEDICAL AND SURGICAL STAFF.

Physicians.	*Surgeons.*
Dr. Henry H. Head.	Dr. Albert J. Walsh.
Dr. James Little.	Dr. John K. Barton.
	Mr. Benjamin Wills Richardson.
Obstetric Physician.	*Ophthalmic Surgeon.*
Dr. Richd. Purefoy.	Dr. Richard Rainsford.
Assistant-Physician.	*Assistant-Surgeon.*
Dr. Walter G. Smith.	Mr. Montgomery A. Ward.

Further particulars can be obtained from Mr. Richardson, 22, Ely-place, or any other member of the medical staff.

ST. VINCENT'S HOSPITAL, DUBLIN.

HOSPITAL STAFF.

Physicians.	*Surgeons.*
Dr. Francis J. B. Quinlan.	Dr. Edward D. Mapother.
Dr. Robert Cryan.	Mr. William H. O'Leary, M.P.

Gynæcologist—Dr J. A. Byrne.
Surgeon-Dentist—Mr. William J. Doherty.
Apothecary—Mr C. T. Boland.

FEES.

Winter and summer session, £12 12s.; separately, £8 8s. and £5 5s.

Further particulars may be learned on application to the Secretary, or at the Hospital during the hours of attendance.

DR. STEEVENS' HOSPITAL AND MEDICAL COLLEGE, DUBLIN.

MEDICAL AND SURGICAL STAFF.

Visiting Physician—Dr. W. M. Burke.
Visiting Surgeons—Mr. S. G. Wilmot and Mr. C Fleming.

Physicians.	*Surgeons.*
Dr. H. Freke.	Mr. W. Colles.
Dr. T. W. Grimshaw.	Mr. E. Hamilton.
	Mr. R. M'Donnell.
Physician-Accoucheur.	*Resident Surgeon.*
Dr. James Isdell.	Dr. H. J. Tweedy.

Surgeon-Dentist—Mr. J. A Baker.
Surgeon-Oculist—Mr. Henry R. Swanzy.

LECTURERS.

Anatomy—Dr. Bookey, Dr. Warren, Mr. Fox, Mr. Johnston, and Dr. McVittie.
Anatomy and Physiology—Mr. E. Hamilton.
Surgery—Mr. W. Colles.
Chemistry—Mr. McHugh.
Botany—Vacant.
Materia Medica—Dr. T. W. Grimshaw.
Medical Jurisprudence—Dr. H. J. Tweedy.
Medicine—Dr. H. Freke.
Midwifery—Dr. James Isdell.
Curator of the Museum—Dr. Henry J. Tweedy.

FEES.

Hospital Practice, nine months, £12 12s.; ditto, six months, £8 8s. Practical Anatomy, £5 5s. Lectures, each course, £3 3s.

Further particulars may be learned from any of the Professors; from the Resident Surgeon at the Hospital; or from Dr. Edward Hamilton, Hon. Sec., 120, Stephen's-green West.

JERVIS-STREET HOSPITAL, DUBLIN.

MEDICAL AND SURGICAL STAFF.

Physicians.

Dr. Stephen M. MacSwiney. | Dr. William Martin.

Surgeons.

Mr. M. Harry Stapleton. | Mr. Austin Meldon.
Dr. J. Stannus Hughes. | Mr. James Edward Kelly.
Mr. J. K. Forrest. | Mr. M. J. Kilgarriff.
Dr. E. W. Collins.

This Hospital is most central in situation, and in the immediate vicinity of the Catholic University and Carmichael Medical Schools. From its proximity to the quays and principal factories it presents unrivalled opportunities to the students of seeing every form of surgical injury. An extensive Dispensary for out-door patients is attached to the Hospital, at which the students are allowed to perform minor operations, under the guidance of the Surgeon on duty, and are rendered familiar with the details of dispensary practice.

Instruction is given by the Physician and Surgeon on duty on alternate mornings, between nine and eleven o'clock, at the bedside, when the nature, progress, and treatment of each case are explained. Two clinical lectures are delivered each week on the most important cases under treatment, when pathological specimens are exhibited. Surgical instruments and appliances of all kinds are constantly made the subject of special instruction.

Surgical Operations are performed on Saturday mornings, at ten o'clock, except in cases of emergency, when due notice is given, if possible.

Practical Pharmacy is taught under the superintendence of the Apothecary.

Resident Pupils and Dressers are selected from among the most attentive of the advanced students, without payment of any additional fee. Two Interns are appointed each half-year, and are provided with apartments, etc., free of expense. Special Certificates are given to the Resident Pupils and Dressers who have performed their respective duties to the satisfaction of the Physicians and Surgeons.

Certificates of attendance are recognised by all the licensing bodies and examining boards in the United Kingdom.

CARMICHAEL SCHOOL OF MEDICINE, DUBLIN,

In immediate proximity to the Richmond, Whitworth, and Hardwicke Hospitals, North Brunswick-street, Dublin.

LECTURERS.

Anatomy—Dr. Christopher Gunn, Mr. Wm. M. A. Wright.
Botany—Mr. E. B. Blakeley.
Chemistry—Dr. C. R. C. Tichborne.
Institutes of Medicine & Pathology—Dr. S. Woodhouse.
Materia Medica—Dr. G. F. Duffey.
Midwifery—Mr. W. B. Jennings.
Medical Jurisprudence—Mr. H. A. Auchinleck.
Ophthalmic and Aural Surgery—Dr. C. E. Fitzgerald.
Physiology—Dr. R. J. Harvey.
Practice of Medicine—Dr. S. Gordon, Dr. J. W. Moore.
Surgery—Dr. A. H. Corley.

The School will open for Dissections on Monday, October 1, and the Lectures will begin on Thursday, November 1.

Prizes to the value of £64 on the foundation of the late Richard Carmichael, Esq., and the Mayne Scholarship, value £15, are awarded annually.

For further particulars apply to the Registrar, Dr. Harvey, at the School, or at 7, Upper Merrion-street, Dublin.

MEATH HOSPITAL AND COUNTY DUBLIN INFIRMARY.

MEDICAL AND SURGICAL STAFF.

Physicians.

Dr. Arthur Wynne Foot. | Dr. John William Moore.

Surgeons.

Mr. George H. Porter. | Mr. Rawdon Macnamara.
Mr. James H. Wharton. | Mr. R. Perrié White.
Mr. Philip Crampton Smyly. | Mr. Lambert H. Ormsby.

The ensuing winter session will commence on October 1, and the course of clinical lectures on the first Monday in November.

Clinical lectures, of which four will be delivered weekly, and instructions in Medicine and Surgery, will be given on alternate days.

The Physicians and Surgeons on duty will visit the Hospital at 9 a.m., so as to allow the members of the class to be in attendance at their respective Schools of Medicine at 11 a.m.

The Hospital, which contains 120 beds for the reception of medical and surgical cases, and to which an extensive dispensary (open daily), lending library, and physical laboratory are attached, is within a few minutes' walk of the University, the College of Surgeons, and the Ledwich School of Medicine.

An additional ward has been erected for the reception of children, in which the pupils will have an opportunity of studying that highly important subject—infantile disease.

Certificates of attendance at this Hospital are recognised by all the universities, colleges, and licensing bodies in the United Kingdom.

Prizes will be given at the termination of the winter course to the best answerers in their respective classes.

The office of Resident Pupil is open to pupils as well as apprentices.

Further information may be obtained on application to Lambert H. Ormsby, Esq., Hon. Sec., 12, Lower Fitzwilliam-street; or at the Hospital.

CATHOLIC UNIVERSITY SCHOOL OF MEDICINE, CECILIA-STREET, DUBLIN.

LECTURES AND CLASSES.

Anatomy and Physiology — Dr. Hayden and Dr. Cryan.
Anatomical Demonstrations — The Professors of Anatomy and Physiology.
Botany—Dr. Sigerson.
Chemistry—Dr. Campbell.
Dissections—Dr. Hayes, Dr. Nixon, Dr. Coppinger, Dr. Kilgarriff, and Mr. Carroll.
Medical Jurisprudence—Dr. MacSwiney.
Materia Medica—Dr. Quinlan.
Natural Physiology—The Rev. Dr. Molloy.
Pathology—Dr. Lyons.
Practical Chemistry—Dr. Campbell.
Theory and Practice of Medicine—Dr. Lyons.
Theory and Practice of Midwifery—Dr. Byrne
Theory and Practice of Surgery—Mr. Tyrrell.
Ophthalmology—Dr. Hayes.

PRIZES AND EXHIBITIONS.

At the termination of the winter session, public examinations will be held, when, in addition to prizes in each class, the University Gold Medal, value £7, will be awarded for the subjects mentioned in the School prospectuses.

At the termination of the summer session, the University Exhibition, value £20, will be awarded, in addition to the usual prizes in each class.

FEES.

For each course £3 3s., excepting Dissections and Practical Chemistry, which are £5 5s. A reduction of one-sixth is made to perpetual pupils paying the entire of their fees in advance, or in two instalments at the commencement of the first and second years of their course. Parents and guardians are recommended to forward all fees directly, by cheque or order, to the Registrar, Dr. Hayes, 29, Westland-row, or at the School.

Further particulars may be learned from any of the Professors; from the Medical Registrar, Dr. Hayes, 29, Westland-row; or on application at the School.

CITY OF DUBLIN HOSPITAL, UPPER BAGGOT-STREET.(a)

MATER MISERICORDIÆ HOSPITAL, ECCLES-STREET, DUBLIN.

MEDICAL AND SURGICAL STAFF.

Physicians.

Dr. John Hughes.
Dr. Thomas Hayden.
Dr. Christopher J. Nixon.

Assistant-Physician.

Dr. Christopher Gunn.

Surgeons.

Mr. Francis R. Cruise.
Mr. Henry J. Tyrrell.
Mr Patrick J. Hayes.

Assistant-Surgeon.

Mr. Charles Coppinger.

This Hospital contains 210 beds, including fifty beds for fever and other contagious diseases.

Certificates of attendance upon this Hospital are recognised by all the licensing bodies in the United Kingdom.

PRIZES.

Two clinical prizes (the "Leonard Prizes") of £15 each, one medical and one surgical, will be given at the end of the

(a) No return made for the last two years.

winter session, in accordance with the directions contained in the will of the late Mark Leonard, Esq., for the best report of not less than twenty cases for each prize; the cases reported to be those occurring in the Hospital during the winter session.

Fee for nine months, £12 12s.; six winter months, £8 8s.; three summer months, £5 5s.

Further particulars may be learned by application to Dr. Nixon, Secretary to the Medical Board, 32, Upper Merrion-street, or to any of the other medical officers.

MERCERS' HOSPITAL, WILLIAM-STREET, DUBLIN.

STAFF.

Physicians—Dr. T. P. Mason and Dr. George F. Duffey.
Surgeons—Mr. E. Ledwich, Mr. E. S. O'Grady, and Mr. B. F. M'Dowell.

This Hospital, one of the first founded in Dublin, is situated in a central position, and is in close proximity to the Schools of the Royal College of Surgeons' Catholic University and the Ledwich.

ROYAL COLLEGE OF SURGEONS IN IRELAND. SCHOOL OF SURGERY.

LECTURES.—WINTER SESSION.

Anatomy and Physiology — Dr. Mapother.
Descriptive Anatomy—Dr. Bevan and Mr. Thornley Stoker.
Midwifery—Dr. Roe.
Surgery—Mr. J. Stannus Hughes and Mr. Stokes.
Practice of Medicine—Dr. James Little.
Chemistry—Dr. Cameron.

SUMMER SESSION.

Materia Medica—Mr. Macnamara.
Medical Jurisprudence—Dr. Davy.
Botany—Dr. Minchin.
Practical Chemistry—Dr. Cameron.
Midwifery—Dr. Roe.
Hygiene—Dr. Cameron.
Ophthalmic and Aural Surgery—Mr. Swanzy.

A public course of lectures on Comparative Anatomy will be delivered by the Professor of Anatomy and Physiology, at the commencement of the session, and additional lectures on the same subject will be delivered during the winter.

The dissections are under the direction of the Professor of Anatomy, assisted by the demonstrators—Dr. Stoney, Dr. Ormsby, Dr. Wheeler, Dr. Wm. Stoker, Dr. Peele, Dr. Franks, Dr. Legge Roe, and Mr. Knott,—who will daily attend to give instruction and to assist the students.

The fee for each course of lectures is £3 3s., excepting Descriptive Anatomy, which is £8 8s., Practical Chemistry, which is £5 5s., and Ophthalmic and Aural Surgery and Hygiene, which are free.

A composition fee of £56 17s. 6d. is taken as payment in full for all lectures and dissections required for the diploma in Surgery.

A Junior Exhibition of £15, a Senior Exhibition of £25, and Honorary Certificates will be awarded at the end of each winter session.

LEDWICH SCHOOL OF ANATOMY, MEDICINE, AND SURGERY, PETER-STREET, DUBLIN.

COURSES OF LECTURES.

Anatomy, Physiology & Pathology, etc.—Mr. E. Ledwich, Mr. T. P. Mason, and, Mr. J. E. Kelly.
Botany—Dr. McNab.
Forensic Medicine and Hygiene—Dr. R. Travers.
Surgical and Descriptive Anatomy, Demonstrations, and Dissections—Mr. Mason, Mr. Ledwich, Mr. Glanville, Mr. Robinson, and Mr. Porter.
Materia Medica and Therapeutics—Dr. M'Dowel.
Midwifery and Diseases of Women and Children—Dr. S. A. Mason.
Theory of Chemistry, Practical Chemistry, & Natural Philosophy—Dr. Griffiths.
Theory and Practice of Medicine—Dr. Foot.
Theory and Practice of Surgery—Mr. Wharton and Mr. Barton.

The fee for each of the above courses will be £3 3s.

A course of operations to be performed by the students, under the superintendence of the lecturers (subjects, etc., included), £5 5s.

Further information may be obtained from any of the lecturers, or from Mr. Edward Ledwich, Secretary, 7, Harcourt-street, Dublin.

RICHMOND, WHITWORTH, AND HARDWICKE HOSPITALS.

MEDICAL AND SURGICAL STAFF.

Consulting Physician.—Sir D. J. Corrigan, Bart.

Physicians.
Dr. J. T. Banks.
Dr. B. G. M'Dowel.
Dr. S. Gordon.
Dr. R. D. Lyons.

Surgeons.
Mr. William Stokes.
Mr. William Thomson.
Mr. W. Thornley Stoker.
Mr. A. Corley.

Assistant Physician—Dr. Reuben J. Harvey.
Ophthalmic Surgeon—Dr. Charles E. Fitzgerald.
Resident Surgeon—Mr. R. J. Martyn.

Clinical instruction will commence on October 1. These Hospitals contain 312 beds—110 for surgical cases, 82 for medical cases, and 120 for fever and other epidemic diseases. Premiums will be awarded in Clinical Medicine and Surgery. The Richmond Institution for the Insane, containing over 1000 patients, adjoins these Hospitals.

FEES.

For the winter and summer session (nine months), £12 12s.; for the six winter months, £8 8s.; for the three summer months, £5 5s. Resident clinical clerks, £21 for the winter session, £15 5s. for the summer session, including certificate of attendance.

Application to be made to Dr. Gordon, 13, Hume-street, or to Mr. Stokes, 5, Merrion-square North, Dublin.

EDUCATIONAL VACCINATING STATIONS.

In order to provide for the granting of those special certificates of proficiency in vaccination which are required to be part of the medical qualification for entering into contracts for the performance of Public Vaccination, or for acting as deputy to a contractor, the following arrangements are made:—

1. The Vaccinating Stations enumerated in the subjoined list are opened under certain specified conditions, for the purposes of teaching and examination.

2. The Public Vaccinators officiating at the stations are authorised to give the required certificates of proficiency in vaccination to persons whom they have sufficiently instructed therein; and

3. The Public Vaccinators whose names in the subjoined list are printed in italic letters are also authorised to give such certificates, after satisfactory examination, to persons whom they have not themselves instructed:—

London.—Principal Station, Surrey Chapel, Blackfriars-road: *Mr. James Furness Marson*, who attends on Tuesday and Thursday, at 1 p.m. North-west Stations—Marylebone General Dispensary, 77, Welbeck-street: Mr. William A. Sumner, on Tuesday, at 2 p.m.; Hall of the Working Men's Christian Association, Omega-place, Alpha-road: Mr. Wm. A. Sumner, on Wednesday, at 10 a.m. West Station—9, St. George's-road, Pimlico, S.W.: Mr. Edward Lowe Webb, on Thursday, at 10 a.m. East Station—Eastern Dispensary, Leman-street: Mr. Charles T. Blaekman, on Wednesday, at 11 a.m. North Station — Tottenham-court Chapel, Tottenham-court-road: Mr. William Edwin Grindley Pearse, on Monday and Wednesday, at 1 p.m. South-west Station—2, Regent-place, Horseferry-road: Mr. Wm. Edwin Grindley Pearse, on Tuesday, at 2 p.m. Strand Station—14, Russell-street, Covent-garden: Mr. Robert William Dunn, on Thursday, at 11 a.m.

Birmingham.—St. John's Wesleyan Chapel, Inge-street, Hurst-street, on Monday; the Assembly Rooms, 103, Constitution-hill, opposite Bond-street, on Tuesday; St. Mark's School-rooms, St. Mark's-street, on Wednesday; and "The British Workman" Reading Rooms, Sherborne-street, near Grosvenor-street, on Thursday: *Dr. Edmund Robinson*, at 11 o'clock on the days before mentioned.

Bristol.—The Public Vaccination Station, Peter-street: *Dr. Henry A. P. Robertson*, on Wednesday, at 10 a.m.

Exeter.—Odd Fellows' Hall, Bamfyld-street: *Mr. Charles H. Roper*, on Thursday, at 3 p.m.

Leeds.—Heed-street: *Mr. Frederick Holmes*, on Tuesday, at 2.30 p.m.

Liverpool.—4, Oldham-street: *Mr. Arthur Browne Steele*, on Thursday, at 2 p.m.

Manchester.—72, Rochdale-road: *Mr. Ellis Southern Guest*, on Monday, at 2 p.m.

Newcastle-on-Tyne.—The Central Vaccination Station, 21, Nun-street: *Mr. John Hawthorn*, on Wednesday, at 3 p.m.

Sheffield.—The Public Vaccination Station, Townhead-street: *Mr. William Skinner*, on Tuesday, at 3 p.m.

Edinburgh.—The Royal Dispensary: *Dr. William Husband*, on Wednesday and Saturday, at 12. The New Town Dispensary: Dr. James O. Affleck, on Tuesday and Friday, at 12.

Glasgow.—The Hall of the Faculty of Physicians and Surgeons: *Dr. Hugh Thomson*, on Monday, at 12. The Royal Infirmary: Dr. Robert Dunlop Tannahill, on Monday and Thursday, at 12.

THE STUDENT BEGINNING TO WORK.

TO ENTERING STUDENTS.

THERE should be present to the mind of each gentleman who commences his studies with the coming Session the rapid advances which the medical profession has made within the last few years. For these advances—in the power of alleviating human suffering and in social position—teach the all-important lesson that the watchwords have been hard work, a firm integrity, and a strict honour, and that without these no one entering the profession can hope to succeed.

Within even a few years the conditions under which men commence their studies have changed. Prelimiuary examinations have been instituted, the old system of "apprenticeship" is practically gone, and new methods of teaching and new methods of examination have been introduced. Minor changes spring up year by year, and these, almost equally with the greater, teach us that the student in the midst of so many vicissitudes has need of particular, as well as of general advice. We can only dwell on a few particular points, and the general advice which we shall give will be of little value unless we can persuade each of our readers to copy the example of their predecessors, who have done much to increase the honour of the profession, and to emulate their doings. It is all-important that a young student should remember that—at first, at any rate, consciously or unconsciously—he will tread in the wake of examples. Happily, in the medical profession he can have uo difficulty in finding lights worthy of pursuing. Not only does the roll of medical celebrities yield examples, but there are those practisiug in the most remote places whose conduct and skill are fitted to teach everyone who cares to consider the highest lessons. There are hundreds of medical practitioners who will tell us that they learnt in the days of their pupilage, from their first teacher in some far-away country district, that success in the profession could not be attained without hard work and integrity, and that their sense of duty was first instilled into them by a country doctor.

But the great majority of those whom we especially address come to their medical school "fresh from school or college," and are iu almost complete ignorance of the new life and studies so soon to be theirs. Various feelings work within them, which we cannot even enumerate, much less analyse: one thanks fate that he is no longer to be under school-boy rule; another is lost in the enthusiasm which has been excited by dreams of months or perhaps years; a third burns with hope of winning renown, and sees fields of future fame before him; while but few remember that they will have difficulties to surmount, temptatious to overcome, aud disappointments to endure,—otherwise, however humble their expectations, they cannot succeed in the race that is for them to run. It would be unfortunate were there not difficulties, for, if properly encountered, they will strengthen the mind of the young student, and bring to the front his best intellectual powers. He should, therefore, above all things remember that he has difficulties before him, and that on the way in which he meets them and takes advantage of them depends his whole making. This should be one of his constant thoughts, and should pervade and temper the other and many various emotions which must always arise in the minds of young men starting on a new life. In the "pupilage days," students came to their school with some knowledge of what we have written,—they had experienced a taste of the difficulties as well as of the joys of the profession; but now most euter on their studies complete novices, unless perchance a relative in the professiou has initiated them into some of its secrets, and in oft-told tales in the surgery or the library taught them something of the pleasures and troubles of a medical student's career. Those entering the profession may find satisfaction—as we do—in the fact that many come year by year into our students' ranks who have had such opportunities, for it shows better than all arguments that there is in the study and in the practice of medicine a source of pleasure, often, in point of fact, greatest where pecuniary success is least. These gentlemen do not miss the loss of pupilage, for to all intents and purposes they have had its advantages. Of the advantages and disadvantages of apprenticeship we here say nothing; but we do not hesitate to say that the former were considerable, and it is our duty to ask those who have neither directly nor indirectly experienced them to acquire for themselves such advantages as far as is possible during the years of studentship. The passing of preliminary examinations, the introduction of which has done so much good, and will do still more, cannot yield these advantages. For "pupilage" did not mean, except in times very far back, the dispensing of mixtures for five years—a downright waste of valuable time,—but instruction in the minor branches of general practice, and an introduction into the "ways of people"—a study of human nature, of its strength and its weaknesses—and the groundwork of a knowledge of life which is so essential for the successful treatment of the sick. A student may have passed the best of preliminary examinations; he may have gone beyond these, and have graduated in some one of our universities; yet, while we welcome him all the more on that account, we ask him never to forget that though the training through which he has passed will be of exceeding value to him, the apprentice of former years had advantages which he has not had, and such as no amount of classics, no amount of mathematics—in fact, no amount of book knowledge—can of themselves yield. It seems to us all-important that every student should, from the very outset of his career, be firmly convinced that, for his own good and the good of his patients, he must cultivate a familiarity with human nature as well as with human ills. The student will learn this iu the out-patients' room of his hospital better than in the hospital wards; and no one, unless he has attained this valuable species of experience, which the "apprentice" acquired before entering his medical school, should deem himself fit to practise the profession of medicine.

But no matter what his previous circumstances, the first-year's man has a fixed line of study drawn out for him. As far as within him lies he should follow the programme given to him; nor should he be depressed by the vastness of the programme, nor by the novelty of his surroundings. He has teachers whose method of teaching is strange; the subjects are new, or almost so, and the terms used are vague and unmeaning in his ears, and not a little tantalising. He has become one of a company gathered from all poiuts of the compass, and which by its very variety discourages him. Everything is strange; friends are far away, and the first-year's man is for awhile in an unknown world. It is during this time that much good or much ill may be done him; and, as often happens, if he cannot secure other advice, he should take that which his teachers are always ready to give him, and set at once to work with those subjects which are best for him. There are, unfortunately, in every school of medicine a few men who seize on the new comers and attempt to dissuade them of the usefulness of this or that course of study recommended by the school authorities. Against these mischievous advisers let each new student be on his guard; he will not fail in a little while to find fellow-students who will initiate him into a more sensible view of things. His way is plain: those who have gained their position as teachers by hard work have determined certain methods of study as best suited for the medical student; do the opinions of the grumbling and disappointed deserve consideration in face of the deliberate determination of those best qualified to judge?

Every man who contemplates entering a school of medicine in the coming session should fairly make up his mind to be

diligent in his attendance on lectures above all things. His diligence in this respect will save him time and labour—and, what is more, keep him level with the work of each session. Every lecture missed means something lost. It is frequently the case that students become backsliders as regards lectures because some particular teacher does not impress them favourably; and, no doubt, it is irksome enough to listen day by day to one whose style we cannot appreciate. But remissness in one class leads to neglect of others; and the student who is careless of one soon becomes notorious by his neglect of all, and he thus brings about, even though he pass his "examinations," a source of regret which will exist throughout his whole life. The weakest-minded of students laughs at his teachers; the earnest worker strengthens his powers day by day by attention to them, and finds in all—in varying degree, of course—a constant well of information. "Once a student, always a student," must be treasured words among those who are to practise medicine; and the greatest amongst us are great because they act up to them.

We earnestly recommend each student also to take notes of his lectures, and to study them in the quiet of his own room. Thus will he master what his teacher has said. It is no loss of time to transcribe the notes, for frequent repetition is an absolute gain to one entering on a new course of study. The student should compare his notes with his text-book, and "things" omitted in the one or the other become more prominent and more fixed in the mind when thus observed, because of the omission. We would remind each individual that the science and practice of medicine are making such rapid strides that text-books can scarcely bear pace with them, and that from lectures alone can he acquire what is most recent in each branch of study.

From the very outset of his student-life the medical student should remember that he must acquire a fair all-round knowledge of his profession. It is the fact that of late years certain men have commenced their studies rather with the intention of attaining a particular excellence in some one special department than a general knowledge of medicine, and have persuaded themselves that their powers were of a particular and special kind. Such men, under the influence of this delusion, have studied only subjects which they deemed as bearing on their especial case. Against this suicidal and ridiculous practice let students and the advisers of students set themselves. A man is not fit to be a physician, surgeon, or obstetrician unless he has mastered by careful study all the main principles of medicine, and has acquainted himself with its general practice. A specialist is an ephemeral and mushroom growth unless he has mastered the groundwork of medicine; and the student must not devote himself to any particular line of study. He must keep predilections in abeyance until the ordinary years of studentship have passed. There is, unfortunately, too much need of warning in these respects. The medical wards, for example, are neglected for the surgical; and first-year's men, who are better away from both, are too apt to imitate some of their seniors, who persuade themselves that they are acquiring a sound knowledge of their profession by regular attendance in the operating-theatre. One man likes chemistry, another anatomy, another physiology, and, favouring his choice, thinks the others can wait. But nothing can "wait" for the medical student, and in every branch of study laid down he must steadily work. He can make no greater mistake than to fancy at the outset of his career that his line is this, that, or the other. A thousand circumstances crop up to defeat him, and, remembering this, he should labour to fit himself for all-round practice, no matter what may be his ultimate lot. Specialists have failed because clever general practitioners have detected their ignorance on points outside their speciality; and we are afraid that even the "apothecaries" of fifty years ago would have confounded many of those who see in the ills of their patients nothing but their own especial diseases.

In hospital work students often find enticements which lead them away from their legitimate work; but, speaking generally, the hospital is no place for a student until he has passed his anatomical and chemical examinations. Nevertheless, even the first-year's man may find profit there during hours which he cannot otherwise turn to account. The student's days are but few, and from the first bedside teaching may be turned to practical account. In the out-patients' room the young student will never be objectionable, and in it he has opportunities of good work which in after years he will fully appreciate; and he will find numerous examples of senior students who to the very last apply themselves with increasing advantage to out-patient practice. He knows that he sees "life" there; that his future life will in great part be similar to the out-patient prescriber. It is in the out-patient room that the student can best appreciate the difficulties under which the most able labour in their treatment of disease and in its diagnosis. We most earnestly recommend the student to remember throughout the whole of his career at his school that what seems mere routine in the examination and treatment of out-patients is not routine, and that "rapidity" of examination means in most cases thorough training and the power of arriving at diagnosis with ease as a result of a wide experience.

The relationship which will exist between each new student and his seniors is of the utmost importance. His seniors include all about his school from the second-year's man to the most ancient on the medical staff. We look back, and most certainly the retrospect persuades us that the student who, while not sacrificing his independence as one sent forth to make for himself a line, and to use his own individual methods of thought and reasoning under proper guidance, never forgets that he is a student, and that to his teachers, good and bad, a certain respect is owing, in the end accomplishes the most. Fortunately, however, there is little need for us to say much on this point, for there is nothing more gratifying, and nothing more encouraging to all connected with the medical profession, than the marked consideration which the medical students of this country pay to their various teachers; and it may be added, equal encouragement is to be found in the kindly treatment which teachers manifest towards students. It is the student's business to make himself acquainted with his various teachers; it is the teacher's business to make himself a friend of the student: and when each one attempts to bring about a freedom of intercourse, and at the same time remembers what is owing to, and what is due from, their respective positions, the happiest results must issue. The gentlemen who begin their studies with the coming session will find themselves differently affected by their different teachers; but in the conflict of these natural feelings, let them above all things be persuaded that those to whom their training has been entrusted will labour to their utmost to pilot them safely to the haven they seek.

The teachers of a medical school do much to make it famous, but their labours are scarcely rewarded unless they are abetted by steadiness in work on the part of their students, and an earnest desire to benefit by the teaching. The strong current of gentlemanly feeling which runs full and free amongst the new students of the present day cannot fail to impress on their minds that the reward which their teachers most value is evidence of improvement in the student's knowledge, and an appreciation of their attempts to improve him. Every first-year's man should remember that the opportunities of familiar intercourse with the staff of his school depend almost entirely on his own efforts, and we have no hesitation in saying that he who sets before him the duty we have attempted to impress, and works up to it, will quickly

attract the notice of all, and become in his relationship with his teachers quite as much a friend as a pupil. Arrogance can never accomplish this, no matter how far backed by brain-power; but perseverance and a sense of responsibility, with gratitude for all done, can not only accomplish it, but is the surest way to professional success. The line of conduct which each new man ought to follow is, indeed, best defined by an appeal to his highest and best emotions. Far distant friends are watching, perhaps anxiously, his progress—so too, it may be, are friends who have made sacrifices to set him on the road to an honourable career, and possibly to fame. Scarcely one of the gentlemen who are to enrol their names in the coming session can say that no such sacrifices have been made. The student should treasure the recollection of these, and encourage emotions of gratitude within him—for nothing is more calculated to ennoble the mind of a young man than the remembrance of sacrifices made for him, and a continual appreciation of these sacrifices. We expect, indeed, from all candidates for admission into our profession the attributes of gentlemen. They must come with an earnest desire to support and advance the honour of the profession, and be anxious to increase its power of doing good to human kind. We decline altogether to discuss the monetary question as it concerns the medical man, simply because we are of opinion that higher motives than those which money can yield influence the majority of students. And even when pecuniary success comes, the medical man will not be satisfied, and will not be appreciated by his medical brethren, unless he has laboured for those things which yield moral and intellectual profit and satisfaction. Men labouring in remote country districts (and many of those whom we address may with happiness thus labour) have achieved such results, and pecuniary success has had no share in them. Let the student from the very moment of his decision to embrace the medical profession impress on his mind that, whether his lot be in town or country, at home or abroad, duty claims, and success depends upon, hard work in his student-career and the steady observance of those rules which all gentlemen obey, though the rules be unwritten. There is indeed an unwritten law in the medical profession, an acquaintance with which the best of students will quickly acquire. And they must acquire it, if honour be their aim, by a patient industry and a constant regard of the opinions of the best of those with whom they are thrown in contact. All we have written, we hope, indicates this:—That new men ought to understand the grave responsibilities they are undertaking. We shall think ourselves fortunate if we can persuade all to regard these responsibilities, and to keep them. A first-year's man who is conscious of these things can scarcely go wrong. He cannot fail to remember that he owes a duty to himself, to his medical school, to distant friends, and to suffering humanity; and, remembering these things, he will not long have a soul which cannot rise above pounds, shillings, and pence considerations. With money he may be enriched in after-life, and deservedly enriched; but whether enriched or not, he in his after-life will never have reason to regret that duty from the onset of his career was uppermost in his mind. The profession of medicine gives happiness not by riches alone, and often apart from them. In itself it commands the exercise of the highest emotions. Each first-year's man has a duty before him, and unless he labour to perform that duty his reward should be small. Each one should remember that posterity will praise him not for acquired wealth, but for the power he exercised in alleviating pain and curing disease, and that his own generation will value him by the light of the work he does, and not by the wealth he gains,—and this, no matter whether his lot casts him in the greatest of our cities or in the most remote of country districts.

THE STUDENT'S FIRST WINTER SESSION.

Let us suppose, then, that the young student comes to his medical studies with a good sound English education, and some little knowledge of Physics and Chemistry; his attention during the first winter will be mainly devoted to Chemistry, Anatomy, and Physiology. In Chemistry, he will find an enormous advantage in the little knowledge he brings with him; and it would greatly assist teachers of Chemistry in fulfilling their duty to be able to address gentlemen whose knowledge extended to the most important facts relating to Inorganic Chemistry, for then the time of the medical student could be directed mainly to Organic Chemistry, the part which is to be of most use to him in after-life: whereas, as matters now stand, he rarely reaches those studies, and still more rarely masters them. We would very strongly, therefore, endeavour to impress on the minds of those about to become students of Medicine the importance of acquiring some knowledge of Chemistry, and still more of Botany, before entering a medical school. In most public schools nowadays both of these subjects are taught, and every effort ought to be made to encourage the practice. Be that, however, as it may, let the student work hard to master the science of Chemistry during this his first year, for each succeeding session brings its own work with it.

Turning next to Anatomy, the first thing to which a student directs his attention is the "bones," and these should be mastered as soon as possible. This is, as a rule, not very difficult; he will have plenty of aid from his fellow-students. A thorough knowledge of the bones is invaluable, and carries with it much knowledge of the soft parts. Each groove, ridge, foramen, and channel has its own story, and the knowledge of how each is occupied must be constantly exercised in after-life. The next step should be a thorough study of the joints and ligaments; but this varies a good deal in different schools. In some—and perhaps this is the best plan—after the joints and ligaments, the student is sent at once to the study of muscles, as to origin, insertion, course, shape, composition, and mode of action. And these three subjects may be said to be the foundation of all surgical knowledge. In other schools, however, the student is at once turned into the dissecting-room to study all parts—muscles, nerves, vessels, fasciæ—as they are laid bare. This plan, too, has its excellencies; but on the whole, it is better, if there is material for the purpose, to acquire a knowledge of the bones, ligaments, and muscles before attempting the more difficult concrete Anatomy. But whatever plan be adopted, let the knowledge acquired be real—a knowledge not of the memory, but of the understanding; for at the basis of Surgery, and of much of Medicine also, lies a sound knowledge of Anatomy. This leads us to point out another thing the student should do early—that is, to acquire some knowledge of the relative positions of the different viscera, and their external indications. This is best acquired in the post-mortem-room, which from the first the student should frequent. What of dissecting? The student should take to it as early as may be possible. He should endeavour, it is true, to master everything laid bare, but if he only acquire a manual dexterity, that at least is something.

And now as regards Physiology. Here we are almost reduced to despair. The absurd existing regulations compel a man to enter on the study of the very highest branches of Chemistry, in the shape of Physiological Chemistry, on the same day on which he begins to study its rudiments; to study the minute structure of a part or organ with whose shape or outward appearance he is altogether unacquainted. We can only tell him to do his best, and to learn as much as he can by means of his eyes; he must trust more to his ears another session.

Finally, as regards Hospital Practice, the sooner the young

student begins to study what is, after all, to be the great business of his life, the better; but it should be begun with reason. Students should not be let loose like an undisciplined crowd of star-gazers; there should be rule in everything. In some hospitals the preposterous system of introducing the raw student into the medical wards did at one time prevail, and Sir Astley Cooper used to congratulate his class on having left the study of Medicine for the higher walk of Surgery. The sooner the young man understands that time spent in the medical wards at this period of his career is wasted, the better for him. Let him instead go at once to the surgical out-patient room; here he can *see* something. He can learn what an ulcer is, and how to dress it; what to do for a bad wound or bruise; that in many cases it is necessary to use a knife. He will see how different kinds of bandages are put on, and the different dodges, if one may say so, necessary to bandage different parts properly. In short, it is here that the student can best spend his time, thence proceeding in due course to the surgery of the wards. On the other hand, we would anxiously warn the young student against the physician's out-patient department. Here he will do no good, and he may be much harmed by it. He sees a gentleman busy prescribing for a crowd of patients, and he sees them rapidly disposed of; but he does not see the years of study and hard work which have enabled the physician to make in a few minutes a trenchant diagnosis. Vast numbers of these patients suffer from the same kind of illness: they are subject to the same influences—close, ill-smelling houses in foul alleys; a want of light and air; improper or badly cooked food, partaken of at improper times; and, above all, the only solace they have for so much squalor and discomfort —that which ever tends to perpetuate this—too much beer and gin. But we are diverging from our subject. Let, however, the young student avoid such studies until he is better qualified to appreciate them, and let him stick to those things he can see for himself in the surgical section.

In due time comes the First Summer Session. This is commonly devoted to the study of Botany, Materia Medica, and Practical Chemistry. About these we have a word to say, especially as regards the first. Botany and its uselessness is a favourite subject of declamation with some; but with these we can in nowise agree. Like other studies, it might well be excluded from the medical curriculum, but it certainly ought not to be excluded from the scheme of medical education. Botany is far best and easiest learnt at school; of all branches of natural science it is that which requires fewest appliances. Its material is everywhere; and, rightly taught and rightly learned, it is a source of unfailing delight. Hunting for plants is quite as exciting as hunting anything else. Let Botany be taught and studied, then, but let it be out of the curriculum; or, if in it—as needs must be sometimes —let the student acquire the principles here, and apply them for himself in the fields and lanes. Materia Medica, too, has come in for much abuse; but was it so when men went through an apprenticeship? Then they imbibed Materia Medica, as it were, insensibly; by constant handling they knew the colour, smell, taste, relative weight, and a hundred other things concerning drugs. But that system has passed away, and something must take its place if men are to live by their profession. Therapeutics, again, which some men would substitute, should be taught at a later period of the student's course of study. Fortunately, we are all agreed on the necessity for practical Chemistry, but that should really take the shape of the analysis of vegetable and animal solids and fluids, not of simple solutions.

SECOND WINTER SESSION AND FIRST EXAMINATION.

With the Second Winter comes the near approach of the First Professional Examination. At the Royal College of Surgeons, whither nearly all students flock, the subjects are Anatomy and Physiology, not separately, but conjointly. This arrangement is unfortunate, for it leads the student to the study of Anatomy at the expense of Physiology, the idea having got abroad that it is the more important subject of the two. As a consequence, we believe we are right in saying that the majority of those plucked are so in Physiology. We mention this because it is in this winter that a competent knowledge of Physiology is to be acquired, and the student should pay at least as much attention to it as to Anatomy. But there is another thing the student should also look after—that is, the art of passing an examination. It is not enough that a student should have a full knowledge of his subjects: that knowledge should be methodised, and so formulated as to be at hand when wanted. There is nothing does this so well as class examinations, which are now held almost everywhere; but the student should also accustom himself to note-taking and to writing answers to questions, such as those set at the College, and regularly published in our columns. This will give him that ease and accuracy of expression so essential for passing a good written examination. There should be no "shots" at answering questions, no beating about the bush; with an examiner everything should be straightforward, simple, and unmistakable. Finally—a little thing—when sitting down to an examination, read over your paper carefully, and see what question you can best answer; write down that answer first on one piece of paper; take the next one that suits you, and do likewise; and so on, gradually attacking the more difficult, until you finish. In this way you are left with plenty of time on your hands, whereas, did you hesitate and bungle over the first difficulty, you might be unable to finish the writing out of the answers to those questions with which you were best acquainted.

By the time the student has passed his First Examination he should be out of leading-strings, and able, with the advice of his teachers, to employ his time to good advantage. He has passed beyond the class we have meanwhile specially in view.

DEGREES IN SCIENCE IN THE DEPARTMENT OF PUBLIC HEALTH.

UNIVERSITY OF EDINBURGH.

In consequence of the great demand which now exists for Medical Officers of Health, and the importance to the public of some means of ascertaining that members of the medical profession have specially studied the subject of Public Health, Science Degrees in the Department of Public Health have been instituted by the University of Edinburgh under the following conditions:—

1. Candidates for graduation in Science in the Department of Public Health must be graduates in Medicine of a British University, or of such foreign or colonial Universities as may be specially recognised by the University Court.

2. Candidates who have not passed an *annus medicus* in the University of Edinburgh must, before presenting themselves for examination, have attended as matriculated students in the University at least two courses of instruction, scientific or professional, bearing on the subjects of the examinations.

3. There are two examinations for the degree of Bachelor of Science in the Department of Public Health. Candidates who have passed the first examination may proceed to the second, immediately or at any subsequent Medical or Science examination.

4. Candidates must produce evidence that, either during their medical studies or subsequently, they have attended a course of lectures in which instruction was given on Public Health, and that they have studied Analytical Chemistry practically for three months with a recognised teacher.

5. The examinations are written, oral, and practical, and are conducted by University examiners selected by the University Court.

6. The subjects of the examinations for the degree of

Bachelor of Science in the Department of Public Health are as follows:—

FIRST EXAMINATION.

1. *Chemistry.*—Analysis of air, detection of gaseous emanations and other impurities in the atmosphere; analysis of waters for domestic use, and determination of the nature and amount of their mineral and organic constituents; detection, chemical and microscopical, of adulterations in articles of food and drink, and in drugs: practical examination, including at least two analytical researches.

2. *Physics.*—Hydraulics and hydrostatics, in reference to water-supply, drainage, and sewerage; pneumatics, in reference to warming and ventilation; meteorology, and methods of making meteorological observations; mensuration in reference to the plans and sections of public and private buildings, mines, waterworks, and sewers.

3. *Sanitary Law.*—Knowledge of the leading sanitary Acts of Parliament.

4. *Vital Statistics.*—Knowledge of statistical methods and data in reference to population, births, marriages, and deaths.

Examination.—First day: Chemistry and Physics. Second day: Sanitary Law and Vital Statistics.

An oral examination and an examination in practical chemistry in the laboratory will take place a few days after the written examination.

SECOND EXAMINATION.

1. *Medicine.*—Origin, nature, and propagation of epidemic and contagious diseases; prevention of contagion and infection; endemic diseases and the geographical distribution of disease; insalubrious trades; overcrowding; epizootics, including pathological changes.

2. *Practical Sanitation.*—Duties of a Health Officer in reference to water-supply; insalubrious dwellings and public buildings; removal and disposal of sewage and other refuse and impurities; cemeteries; nuisances from manufactories, etc.: bad or insufficient supplies of food; outbreaks of zymotic diseases; quarantine; disinfectants and deodorisers; construction of permanent and temporary hospitals.

The written examinations will take place on October 19 and 20, 1877, and April 1 and 2, 1878, at eleven o'clock each day. Candidates who intend to present themselves for examination in October are required to lodge with the Clerk of the University proof of their being eligible, and to pay the fee on or before October 1; and for the examination in April on or before March 1.

DOCTOR OF SCIENCE.

Bachelors of Science in the Department of Public Health may, after the lapse of one year, proceed to the degree of Doctor in the same department on producing evidence that they have been engaged in practical sanitation since they received the degree of Bachelor of Science, and on presenting a thesis on some subject embraced in the Department of Public Health. Every such thesis must be certified by the candidate to have been composed by himself, and must be approved of by the examiners.

Candidates for the degree of D.Sc. must lodge their theses with the Dean of the Medical Faculty on or before January 31 in the year in which they propose to graduate. No thesis will be approved which does not contain either the results of original observations on some subject embraced in the examination for B.Sc., or else a full digest and critical exposition of the opinions and researches of others on the subject selected by the candidate, accompanied by precise references to the publications quoted, so that due verification may be facilitated.

The fees for the degrees in Science in the Department of Public Health shall be—For the first B.Sc. in Public Health examination, £5 5s.; for the second B.Sc. in Public Health examination, £5 5s.; for the degree of D.Sc. in Public Health, £5 5s.

The following are recommended as books to be studied in preparation for the above examinations:—E. Parkes' "Practical Hygiene"; George Wilson's "Handbook of Hygiene"; Edwd. Smith's "Manual for Public Officers of Health" and "Handbook for Inspectors of Nuisances"; Michael, Corfield, and Wanklyn's "Manual of Public Health," edited by F. Hart; Baldwin Latham's "Sanitary Engineering"; Henry Law's "Rudiments of Civil Engineering"; George Monro's "The Public Health (Scotland) Act"; Alexander Buchan's "Introductory Text-book of Meteorology."

UNIVERSITY OF CAMBRIDGE.

EXAMINATION IN STATE MEDICINE.

An examination in so much of State Medicine as is comprised in the functions of Officers of Health will be held in Cambridge, beginning on the first Tuesday in October, 1877.

Any person whose name is on the Medical Register of the United Kingdom may present himself for this examination provided he is twenty-four years of age. The examination will be in two parts.

Part I. will comprise:—Physics and Chemistry. The principles of Chemistry, and methods of analysis with especial reference to analyses of air and water. Application of the microscope. The laws of heat, and the principles of pneumatics, hydrostatics, and hydraulics, with especial reference to ventilation, water-supply, drainage, construction of dwellings, and sanitary engineering in general.

Part II. will comprise:—Laws of the realm relating to public health. Sanitary statistics. Origin, propagation, pathology, and prevention of epidemic and infectious diseases. Effects of overcrowding, vitiated air, impure water, and bad or insufficient food. Unhealthy occupations, and the diseases to which they give rise. Water-supply and drainage in reference to health. Nuisances injurious to health. Distribution of diseases within the United Kingdom, and effects of soil, season, and climate.

Candidates may present themselves for either part separately, or for both together, at their option; but the result of the examination in the case of any candidate will not be published until he has passed to the satisfaction of the examiners in both parts. Every candidate will be required to pay a fee of £1 4s. before admission to each part of the examination. Every candidate who has passed both parts of the examination to the satisfaction of the examiners will receive a certificate testifying to his competent knowledge of what is required for the duties of an Officer of Health.

All applications for admission to this examination, or for information respecting it, should be addressed to Professor Liveing, Cambridge.

Candidates who desire to present themselves for examination in October next must send in their applications and transmit the fees on or before September 18.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

GENERAL REGULATIONS.

Candidates shall be already on the Medical Register, and be entered there as possessing a qualification in Medicine. Candidates shall not, in the meantime, be required to attend any special courses of instruction; but their attention is directed particularly to courses of lectures on State Medicine, and to the practice of Analytical Chemistry. Candidates shall be subjected to two examinations. Such examinations may be taken simultaneously, or with an interval not exceeding twelve months. The examinations shall be written, oral, and practical. The examinations shall be held in the Physicians' Hall, or elsewhere if found more convenient. Rejected candidates shall not be admitted for re-examination till after the expiry of six months. Fees will not be returned, except in the case mentioned in the paragraph relating to fees given below.

EXAMINATIONS.

I. The First Examination shall embrace—1. Physics: Especially pneumatics, hydrostatics, hydraulics, and engineering in relation to sanitary operations, including a knowledge of architectural and other plans, sections, etc. 2. Chemistry: Especially analysis of air, water, food, including the biology of putrefaction and allied processes. 3. Meteorology: Including climate, topographical and seasonal influences in relation to health and disease.

II. The Second Examination shall embrace—1. Epidemiology and Endemiology: Including the corresponding departments in the diseases of animals and plants; contagious diseases; diseases of periods of life, professions, trades, seasons, and climates. 2. Practical Hygiene: Duties of a health officer; food; water-supply; sewerage and drainage; construction of hospitals, public buildings, dwellings; manufactories; cemeteries; nuisances. 3. Sanitary Law and Vital Statistics.

Meetings for both examinations shall be held annually in April and October. The first examination shall be held on the second Tuesday of the month, and shall occupy two days;

the second examination on the immediately succeeding Thursday of the same week, and shall occupy two days. Candidates may enter for both examinations in the same week, or for one only. The examinations must be passed in their order, first and second. Candidates must appear for the second examination not later than twelve months after having passed the first. A candidate remitted at his second examination will be allowed to come up again after a further period of six months; but if he then fail to pass, he will be required again to undergo the first as well as the second examination before obtaining the certificate.

FEES.

No one shall be recognised as a candidate till he has paid the fee for the first examination. The fees for examinations must be paid at least a week before the day of examination. The whole charges by the College for the certificate amount to £10 10s. The fee for the first examination is £3 3s.; the fee for the second examination is £3 3s.; the fee payable before receiving the certificate is £4 4s. Candidates forfeit the fee for the examination which they have been unsuccessful in passing. If a candidate who has offered himself for both examinations fail to pass the first, he shall not be allowed to present himself for the second, and his fee for the second shall be returned to him.

DENTAL SURGERY.

REGULATIONS RELATING TO THE DIPLOMA IN DENTAL SURGERY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

EDUCATION.

CANDIDATES are required to produce the following certificates:—

1. Of being twenty-one years of age.
2. Of having been engaged during four years in the acquirement of professional knowledge.
3. Of having attended, at a school or schools recognised by this College, not less than one of each of the following courses of lectures, delivered by lecturers recognised by this College, namely:—Anatomy, Physiology, Surgery, Medicine, Chemistry, and Materia Medica.
4. Of having attended a second winter course of lectures on Anatomy, or a course of not less than twenty lectures on the Anatomy of the Head and Neck, delivered by lecturers recognised by this College.
5. Of having performed dissections at a recognised school during not less than nine months.
6. Of having completed a course of chemical manipulation, under the superintendence of a teacher or lecturer recognised by this College.
7. Of having attended, at a recognised hospital or hospitals in the United Kingdom, the practice of Surgery and clinical lectures on Surgery during two winter sessions.
8. Of having attended, at a recognised school, two courses of lectures upon each of the following subjects, viz.:—Dental Anatomy and Physiology (human and comparative), Dental Surgery, Dental Mechanics, and one course of lectures on Metallurgy, by lecturers recognised by this College.
9. Of having been engaged, during a period of not less than three years, in acquiring a practical familiarity with the details of Mechanical Dentistry, under the instruction of a competent practitioner.
10. Of having attended at a recognised dental hospital, or in the dental department of a recognised general hospital, the practice of Dental Surgery during the period of two years.

N.B.—The students of the London schools are required to register the above certificates at this College; and special returns will be required from the provincial schools.

[*Note.*—All candidates who shall commence their professional education on or after October 1, 1877, will, in addition to the certificates enumerated in the foregoing clauses, be required to produce a certificate of having, prior to such commencement, passed the preliminary examination in general knowledge for the diploma of Member of the College, or an examination recognised as equivalent to that examination.]

Candidates who were in practice as dentists, or who had commenced their education as dentists prior to September, 1859—the date of the Charter—and who are unable to produce the certificates required by the foregoing regulations, shall furnish the Board of Examiners with a certificate of moral and professional character, signed by two members of this College, together with answers to the following inquiries:—Name, age, and professional address. If in practice as a dentist, the date of the commencement thereof. Whether member or licentiate of any College of Physicians or Surgeons of the United Kingdom; and, if so, of what College. Whether graduate of any University in the United Kingdom; and, if so, of what University; and whether graduate in Arts or Medicine. The date or dates of any such diploma, licence, or degree. Whether member of any learned or scientific society; and, if so, of what. Whether his practice as a dentist is carried on in connexion with any other business; and, if so, with what business. Whether since September, 1859, he has employed advertisements or public notices of any kind in connexion with the practice of his profession. The particulars of professional education, medical or special. The Board of Examiners will determine whether the evidence of character and education produced by a candidate be such as to entitle him to examination.

N.B.—In the case of candidates in practice or educated in Scotland or Ireland, the certificate of moral and professional character may be signed by two Licentiates of the Royal College of Surgeons of Edinburgh, or of the Faculty of Physicians and Surgeons of Glasgow, or of the Royal College of Surgeons in Ireland, as the case may be.

EXAMINATION.

The examination is partly written and partly oral. The written examination comprises general Anatomy and Physiology, and general Pathology and Surgery, with especial reference to the practice of the dental profession. The oral practical examination comprises the several subjects included in the curriculum of professional education, and is conducted by the use of preparations, casts, drawings, etc. Members of the College, in the written examination, will only have to answer those questions set by the section of the Board consisting of persons skilled in Dental Surgery; and in the oral examination will be examined only by that section. A candidate whose qualifications shall be found insufficient will be referred back to his studies, and will not be admitted to re-examination within the period of six months, unless the Board shall otherwise determine. Examinations will be held in January and June. The fee for the diploma is £10 10s., over and above any stamp duty.

[*Note.*—A ticket of admission to the museum, to the library, and to the College lectures will be presented to each candidate on his obtaining the diploma.]

LONDON SCHOOL OF DENTAL SURGERY AND DENTAL HOSPITAL OF LONDON.

The winter session will commence on Monday, October 1.

HOSPITAL STAFF.

Dental Surgeons.	*Assistant Dental Surgeons.*
Mr. Fox.	Mr. Moon.
Mr. Medwin.	Mr. A. Gibbings.
Mr. Gregson.	Mr. D Hepburn.
Mr. Coleman.	Mr. R Woodhouse.
Mr. H. Harding.	Mr. Bartlett.
Mr. Hill.	Mr. S. J. Hutchinson.

House-Surgeon—Mr. Laurence Read.
Dean—Mr. T. F. K. Underwood.

COURSES OF LECTURES.

Dental Anatomy and Physiology—Mr. C. S. Tomes.	Mechanical Dentistry—Mr. J. S. Turner.
Dental Surgery and Pathology—Mr. S. H. Cartwright.	Metallurgy—Mr. G. H. Makins.

On every day during the lecture session the Surgeons of the day will, if practicable, give demonstrations, especially intended for the junior pupils, of the operations performed in Dental Surgery.

The Dean will attend at the Hospital from five to six o'clock in the afternoons, from September 24 till October 6 inclusive; and on Wednesday mornings from half-past nine to half-past ten o'clock.

THE NATIONAL DENTAL HOSPITAL AND COLLEGE.

HOSPITAL STAFF.

Dental Surgeons.	*Assistant Dental Surgeons.*
Mr. James Stocken.	Mr. F. Henri Weiss.
Mr. Oakley Coles.	Mr. W. Taylor Smith.
Mr. G. Williams.	Mr. Thomas Gaddes.
Mr. A. F. Canton.	Mr. L. Stevens.
Mr. H. T. K. Kempton.	
Mr. Harry Rose.	

LECTURERS.

Dental Anatomy and Physiology—Mr. Thomas Gaddes.
Dental Mechanics—Mr. G. Williams.
Dental Surgery and Pathology—Mr. Oakley Coles.
Dental Metallurgy—

SUPPLEMENTAL LECTURERS.

Dental Materia Medica—Mr. James Stocken.
Elements of Histology—Mr. Thomas Gaddes.
Demonstrator of Dental Mechanics—Mr Harry Rose.
Deformities of the Mouth—Mr. Oakley Coles.
Arts and Literature—Rev. H. R. Belcher, M.A.

Special arrangements for the education of dental students are made at Charing-cross and Middlesex Hospitals.

PHARMACEUTICAL CHEMISTRY.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN. SCHOOL OF PHARMACY.

THE session will commence on October 1, 1877, and extend to July 31, 1878.

Lectures on Chemistry and Pharmacy will be delivered by Professor Redwood on Monday, Tuesday, and Wednesday mornings at nine o'clock, commencing on Monday, October 1. The course consists of sixty lectures, comprising an exposition of the leading principles and doctrines of the science of Chemistry, and of those branches of allied physical science, the applications of which are involved in the highest qualifications required for the practice of Pharmacy. There will be two of these courses during the session—the course which commences in October and ends in February being repeated in the following five months. Each course will be complete in itself, and will include a description of all the most important chemical and Galenical preparations used in medicine, which will be fully illustrated with experiments, diagrams, and specimens.

Lectures on Botany and Materia Medica by Professor Bentley, on Thursday, Friday, and Saturday mornings at nine o'clock, commencing Friday, October 5. During the session two courses of lectures will be delivered, each consisting of sixty lectures. The first course, extending from October to the end of February, will comprise Botany and Materia Medica, with especial reference to Structural Botany, and the use of the microscope in distinguishing the various drugs; and the second course, which commences in March and extends to the end of July, will also comprise Botany and Materia Medica, with especial reference to Systematic and Practical Botany. Each course will be complete in itself, although each will have a definite object in view. The portion of the second course on Systematic and Practical Botany, consisting of twenty lectures, commences in May and ends in July. Separate entries may be made for this portion.

The Laboratories for the study of Practical Chemistry will be opened on Monday, October 1, at 10 a.m., under the direction of Professor Attfield. The Laboratories are fitted up with every convenience for the study of the principles of Chemistry by personal experiment. They are specially designed for the study of Pharmacy, but are also well adapted for the acquirement of a knowledge of Chemistry in its application to manufactures, analysis, and original research. There is no general class for simultaneous instruction, each student following an independent course of study always determined by his previous knowledge; pupils can therefore enter for any period at any date. A complete course of instruction, including the higher branches of Quantitative Analysis, occupies ten full months, and dates from the day of entry to that day twelvemonth. The Laboratories are open from ten o'clock in the morning until five in the afternoon daily, except on Saturdays, when they are closed at two o'clock. Vacation months, August and September.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC,

23, 24, and 25, Queen's-square, Bloomsbury.

The Hospital contains 90 beds, of which 15 (contained in the In Memoriam Wing) are allotted to patients able to contribute a portion of the bare cost of their maintenance whilst in the Hospital; the County Convalescent Branch, at Finchley, 25 beds. The Physicians attend every Monday, Tuesday, Wednesday, and Friday, at half-past two o'clock. In- and out-patients' electrical room and general practice at that hour.

Physicians—Drs. Ramskill, Radcliffe, Hughlings-Jackson, Buzzard.
Physician for Out-patients—Dr. Charlton Bastian.
Assistant-Physicians—Drs. Maclure, Gowers.
Surgeon—W. Adams, F.R.C.S.
Resident Medical Officer and Registrar—H. R. O. Sankey, M.R.C.S.

Medical practitioners and students will be admitted on showing their

SPECIAL INSTRUCTION.

SCHOOLS AND OTHER PLACES OF GENERAL AND SPECIAL INSTRUCTION.

BESIDES the regular Schools with their various departments, there are many other institutions—devoted, some of them, to special purposes—where students and practitioners may acquire a sound knowledge of various subjects which hardly enter into the ordinary curriculum. We have already indicated that in the plan of studies the student may avail himself of a year at the beginning or at the end for such purposes. If at the beginning, we could not do better than advise him to take a session at the Royal School of Mines, studying especially Chemistry and Natural History, the value of which we have already inculcated. If he takes the year at the end, then such special studies as Eye Diseases, Skin Diseases, Lunacy, Diseases of Women and Children, may well engage his attention. These may, as a rule, be studied in connexion with his school; or, if a wider field is desired, in some one or other of the following institutions:—

Preliminary.

ROYAL SCHOOL OF MINES.

Department of Science and Art.

During the twenty-seventh session, 1877-78, which will commence on October 1, the following courses of lectures and practical demonstrations will be given:—

Applied Mechanics—Mr. Goodeve.
Chemistry—Dr. E. Frankland.
Geology—Mr. John W. Judd.
Metallurgy—Dr. John Percy.
Mechanical Drawing—Rev J. Edgar.
Mineralogy and Mining—Mr. Warington W. Smyth.
Natural History—Professor T. H. Huxley.
Physics—Mr. Frederick Guthrie.

The lecture fees for students desirous of becoming Associates are £30 in one sum, on entrance, or two annual payments of £20, exclusive of the laboratories. Tickets to separate courses of lectures are issued at £3 and £4 each. Officers in the Queen's service, her Majesty's Consuls, Acting Mining Agents and Managers, may obtain tickets at reduced prices. Science teachers are also admitted to the lectures at reduced fees. For a prospectus and information apply to the Registrar, Royal School of Mines, Jermyn-street, London, S.W.

SOUTH LONDON SCHOOL OF CHEMISTRY AND PHARMACY,

325, Kennington-road, and Central Public Laboratory, Kennington-cross, S.E.

Director—Dr. Muter.

Daily lectures in Classics, Chemistry, Physics, Botany, Materia Medica, and Pharmacy. Laboratory open for Practical Chemistry from ten till five. Special instruction for Medical Officers of Health in Water, Air, Gas, and Food Analysis. For fees, etc., apply to W. Baxter, Secretary, Laboratory, Kennington-cross, S.E.

THE HARTLEY INSTITUTION, SOUTHAMPTON.

In the department of preliminary medical education, which is recognised by the Royal College of Surgeons and Physicians, students are prepared for the regular curriculum of the medical schools, one winter and two summer sessions thus passed counting towards the four years' professional study required of all candidates for a diploma. Students in this department also receive instruction in dressing, taking notes of cases, etc., at the Southampton Royal Infirmary. For further information address the Principal.

LONDON SCHOOL OF MEDICINE FOR WOMEN,

30, Henrietta-street, Brunswick-square, W.C.

LECTURERS.

Anatomy—Mr. Reeves, London Hospital.
Physiology—Mr. Schäfer, University College.
Chemistry—Mr. Heaton, F.C.S., Charing-cross Hospital.
Botany—Dr. P. H. Stokoe, Guy's Hospital.
Materia Medica—Dr. Sturges, Westminster Hospital, and Dr. H. Donkin, Westminster Hospital.
Practice of Medicine—Dr. King Chambers, St. Mary's Hospital, and Mrs. Garrett Anderson, M.D.
Midwifery and Diseases of Women—Dr. Ford Anderson and Dr. Elizabeth Blackwell.
Forensic Medicine—Dr. Dupré, F.C.S., Westminster Hospital.
Clinical Medicine—Dr. O'Connor, Royal Free Hospital, and Dr. Cockle, Royal Free Hospital.
Surgery—Mr. Cowell, Westminster Hospital.
Clinical Surgery—Mr. F. J. Gant, Royal Free Hospital, and Mr. W. Rose, Royal Free Hospital.
Ophthalmic Surgery—Mr. Critchett, Royal Ophthalmic Hospital, and Mr. James Adams, London Hospital.
Pathology—Dr. Bastian, F.R.S., University College, and Dr. Cheadle, St. Mary's Hospital.
Mental Pathology—Dr. Sankey, University College.
Comparative Anatomy—Dr. Muric, Middlesex Hospital.

Dean of the School—Mr. A. T. Norton, St. Mary's Hospital.

The Winter Session of 1877-78 will commence on October 1, and will comprise classes in Anatomy, Physiology, Chemistry, and Practical Anatomy, with Demonstrations. Clinical instruction will be given at the Royal Free Hospital, and will include lectures on Clinical Medicine, Clinical Surgery, and Hospital attendance. Dressers, Clinical Clerks,

and a Pathological Registrar will be selected from the students after competition.

Fees for non-clinical lectures £30, or £40 the first year, £30 the second, and £15 the third. Fees for clinical instruction and lectures for four years £45, or £20 the first year, £15 the second year, and £15 the third, the fourth being free. Apply for information to the Dean.

DOWNING COLLEGE, CAMBRIDGE.

Every alternate year an election to a Fellowship takes place, the holder of which must be engaged in the active pursuit of the studies of Law or Medicine. These Fellowships are of the annual value of £200, and are tenable for twelve years. They are not vacated by marriage, and the Fellows are not required to reside. Foundation Scholarships of £50 per annum (in some cases with rooms and commons) are offered annually for distinction in Natural Science, tenable until the B.A. degree, and in cases of special merit for three years longer. Minor Scholarships of £60 per annum tenable for two years, are offered each year for competition before entrance, and one or more of these is awarded for proficiency in Natural Science.

UNIVERSITY OF DURHAM COLLEGE OF PHYSICAL SCIENCE, NEWCASTLE-ON-TYNE.

The College has taken over the laboratories, lecture-room, etc., of the College of Medicine, and provides the full courses in Chemistry required by the licensing boards. A chair of Natural History in connexion with the College has been established, and the course qualifies for the F.R.C.S. Eng.

LONDON.

General Hospitals.

GREAT NORTHERN HOSPITAL,
Caledonian-road.

Physicians—Dr. Leared, Dr. Cholmeley, Dr. Crucknell, Dr. R. Bridges, Dr. Cook.
Obstetric Physician—Dr. Gustavus C. P. Murray.
Diseases of the Eye—Mr. B. T. Lowne.
Surgeons—Mr. Gay, Mr. W. Adams, Mr. T Carr Jackson, Mr. W. H. Cripps, W. Spencer Watson.
Aural Surgeon—Mr. A. E. Cumberbatch.
Dental Surgeon—Mr. C. J. Fox.
Chloroformist—Mr. G. Eastes. House-Surgeon—Mr. T. H. Gillam.
Junior Resident Medical Officer—Mr. W. L. Batson.
Dispenser—Mr. J. W. Burgess.
Registrar of Out-Patients—Mr. F. Adams.

SEAMEN'S HOSPITAL (late *Dreadnought*), GREENWICH, S.E.

Consulting Physicians—Drs. George Budd and Stephen H. Ward.
Visiting Physicians—Dr. Chas. H. Ralfe, Mr. Harry Leach, M.R.C.P.L.
Surgeon—Mr. W. Johnson Smith.
Visiting Surgeon—Mr. N. Davies-Colley.
House-Physician—Dr. H. H. Murphy
House-Surgeon—Mr. F. Shann, B.A. Cantab.
Secretary—Mr. Henry C. Burdett.

Special Hospitals.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON. (Number of beds, 245.)

Consulting Physicians—Dr C. J. B. Williams, Dr. W. H. Walshe, Dr. Richard P. Cotton, and Dr. Richard Quain.
Consulting Surgeon—Prof. John Marshall
Physicians—Dr. Jas. E Pollock, Dr. E. Symes Thompson, Dr. C. Theodore Williams, Dr. R. Douglas Powell, and Dr John Tatham.
Assistant-Physicians—Dr Reginald E. Thompson, Dr I. Burney Yeo, Dr. Fredk. T. Roberts, Dr. T. H. Green, and Dr. J. Mitchell Bruce.
Dental Surgeon—Mr. W. Penny Bartlett.
Resident Medical Officer—Dr. W. T. Law.

The clinical practice of this Hospital is open to students of Medicine and practitioners. Fee for three months, £3 3s.; six months, £5 5s.; perpetual, £10 10s.

A course of clinical instruction in Auscultation will be given by the medical officers.

Certificates of attendance on the medical practice of this Hospital are recognised by the University of London, the Apothecaries' Society, and by the Army, Navy, and Indian Boards.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park. Office—24, Finsbury-circus, E.C.

Consulting Physicians—Dr. T. B. Peacock, Dr. J. R. Bennett, and Dr. E. L. Birkett.
Consulting Surgeon—Mr. J. Hilton.
Physicians—Dr. S. H. Ward, Dr. J. Andrew, Dr. J. C. Thorowgood, Dr. A. B. Shepherd.
Assistant-Physicians—Dr. Eustace Smith, Dr. J. B. Berkart, Dr. G. H. Evans, and Dr. J. M. Fothergill.
Resident Medical Officer—Mr. Ernest O. Bark.

The Hospital affords accommodation for 164 in-patients. Information respecting medical instruction at the Hospital may be obtained on application to the Physicians.

THE HOSPITAL FOR SICK CHILDREN,
48 and 49, Great Ormond-street, W.C., and Cromwell House, Highgate.

Consulting Physician—Dr. West.
Physicians—Dr. Dickinson, Dr. Gee, and Dr. W. B. Cheadle.
Assistant-Physicians—Dr. R. J. Lee, Dr. O. Sturges, Dr. Thos. Barlow, Dr. D. S. Lees, Dr. Bridges.
Surgeon—Mr. Thomas Smith.
Assistant-Surgeons—Mr. Howard Marsh, Mr. J. W. Haward, and Mr. Edmund Owen.
Surgeon-Dentist—Mr. Alex. Cartwright.
Secretary—Samuel Whitford.

166 beds. In-patients, 1876, 1274. Out-patients attending, 9149. The practice of the Hospital, in both in- and out-patient departments, is open at nine every morning.

BELGRAVE HOSPITAL FOR CHILDREN,
1, Cumberland-street, and 72, Winchester-street, Eccleston square, S.W.
Twenty beds.
President—His Grace the Duke of Westminster.
HONORARY MEDICAL STAFF.
Physicians—Dr. Farquharson and Dr. Hope.
Surgeons—Mr. Thos. P. Pick and Mr. Stirling.
House-Surgeon—Mr. Drewitt.

New patients last year—in, 103; out, 1014. Pupils will be admitted to the practice of the Hospital upon producing a certificate of being duly registered as medical students, and on such other conditions as the Committee may from time to time direct.

EVELINA HOSPITAL FOR SICK CHILDREN,
Southwark-bridge-road.

Founded in 1869 by the Baron F. de Rothschild.—100 beds.
Consulting Physician—Dr. W. S. Playfair.
Consulting Surgeon—Mr. Prescott C. Hewett.
Physicians — Dr. E. Buchanan Baxter and Dr. Fredk. Taylor.
Physicians to Out-Patients — Dr. T. Crawford Hayes and Dr. Jas. Goodhart.
Surgeons—Mr. W. Morrant Baker and Mr. H. G. Howse.
Surgeon to Out-Patients—Mr. R. Clement Lucas.
House-Surgeon—Mr. W. E. Paley.
Secretary—Mr. Frank Livesay.

ST. LUKE'S HOSPITAL FOR LUNATICS,
Old-street, E.C.

Physicians—Dr. Henry Monro and Dr. William Wood.
Surgeon—Mr. Alfred Willett.
Resident Medical Superintendent—Dr. George Mickley.

There are two resident Clinical Assistants, whose appointments are tenable for six months. The Visiting Physicians are also allowed by the Committee to take pupils. Patients admitted gratuitously, or on payment according to their circumstances. For information address the Secretary, H. Crespin, Esq.

VICTORIA HOSPITAL FOR CHILDREN,
Gough House, Queen's-road, Chelsea, and Churchfields, Margate.

This Hospital contains seventy beds—viz., sixty at Gough House and ten at Margate,—and has a large Out-patient Department of over 400 weekly. The Physicians attend daily at 9 a.m., and on Mondays and Thursdays at noon. The Surgeons attend at 10 a.m., except on Wednesday and Saturday. The Surgeon-Dentist attends on Saturday at 9.30 a.m.

Physicians—Dr. Julian Evans and Dr. T. Ridge Jones.
Assistant-Physicians—Dr. Grigg, Dr. Pearson Irvine, Dr. W. H. Allchin, and Dr. Albert Venn.
Surgeon—Mr. George Cowell.
Assistant-Surgeons—Mr. Fisher and Mr. F. Churchill
Dental-Surgeon—Mr. Risdon.
House-Surgeon and Registrar—Mr. G. R. Trewman.
Secretary—Captain Blount, R.N.

EAST LONDON HOSPITAL FOR CHILDREN.
This institution contains thirty-six beds.

Physicians—Dr. Barnes, Dr. Andrew Clark, Dr. Eustace Smith, and Dr. Horatio B. Donkin.
Assistant-Physicians—Dr. Warner and Dr. Crocker.
Surgeons—Mr. B. Shillitoe, Mr. A. Cæsar, and Mr. H. A. Reeves.
Assistant-Surgeon—Mr. R. W. Parker.
House-Surgeons—Mr. Frederick H. Spooner and Mr. J. Cæsar.
Secretary—Ashton Warner.

LONDON FEVER HOSPITAL, ISLINGTON.
260 beds.

Consulting Surgeon—Mr. W. S. Savory, F.R.C.S.
Consulting Physicians — Dr. A. Tweedie and Dr. C. Murchison.
Physicians—Dr. Broadbent and Dr. Cayley.
Resident Medical Officer—Mr. Shirley F. Murphy.
Secretary—Mr. Charles Finn.

BRITISH LYING-IN HOSPITAL,
Endell-street, St. Giles's, W.C.

Consulting Physician—Dr. Priestley.
Consulting Surgeon—T. Spencer Wells, F.R.C.S.
Physicians—Dr. Heywood Smith, Dr. Arthur Edis, and Dr. Fancourt Barnes.
Matron—Miss Freeman.
Secretary—Mr. Vincent Yardley.

ROYAL LONDON OPHTHALMIC HOSPITAL,
Blomfield-street, Moorfields, E.C.—Founded 1804.—100 beds.

Consulting Physician—Dr. F. J. Farre.
Consulting Surgeons—Mr. J. Dixon, Mr. G. Critchett, and Mr. W. Bowman, F.R.S.
Surgeons—Messrs. Wordsworth, Streatfeild, J. W. Hulke, G. Lawson, J. Hutchinson, J. Couper, Waren Tay, James Adams, and Dr. J. Soelberg Wells.
House-Surgeons—Messrs. R. M. Gunn, and G. H. Burnham.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL,
King William-street, Charing-cross.

The Hospital contains thirteen wards with forty-two beds, and the patients (10,000 new cases annually) are seen daily at one, and operations performed at two. The following are the days of attendance of the Surgical Staff:—Monday and Friday, Mr. Power. Monday, Tuesday, and Friday, Mr. Rouse. Wednesday, Thursday, and Saturday, Mr. Cowell.

The practice of the Hospital is open to students. Fees—for six months £3 3s.; perpetual, £5 5s.

Secretary—Mr. Geo. C. Farrant.

HOSPITAL FOR DISEASES OF THE SKIN,
52, Stamford-street, Blackfriars.

Surgeons—Mr. Jonathan Hutchinson and Mr. Waren Tay. Assistant-Surgeons—Mr. Wyndham Cottle and Mr. Edward Nettleship.

THE BRITISH HOSPITAL FOR DISEASES OF THE SKIN,
West Branch, Great Marlborough-street, W.; East Branch, Finsbury-square, E.C.; and South Branch, Newington-butts, S.E.

Surgeons—Mr. Balmanno Squire and Mr. George Gaskoin.

ST. PETER'S HOSPITAL FOR STONE AND GENITO-URINARY DISEASES.
54, Berners-street, W.

The practice is free to hospital students.
Surgeons—Mr. Walter J. Coulson and Mr. W. F. Teevan.
Assistant-Surgeon—Mr. F. R. Heycock.

HOSPITAL FOR DISEASES OF THE THROAT,
Golden-square, W.

Consulting Physician—Dr. Billing, M.D.
Consulting Surgeon—Sir W. Fergusson, Bart.
Physicians—Dr. Morrell-Mackenzie, Dr. Semple, Dr. Prosser James, Dr. W. MacNeill Whistler.
Surgeon—Mr. Edward Woakes.
Emergency Surgeon—Mr. W. R. H. Stewart.

ROYAL INFIRMARY FOR CHILDREN AND WOMEN.
Waterloo-bridge-road.—Instituted 1816.

Consulting Physicians—Dr. Samuel Wilks and Dr. John Williams.
Consulting Surgeon—Mr. J. Cooper Forster.
Physicians—Dr. G. V. Poore, Dr. Wm. Park, Dr. George Roper, and Dr. W. S. Greenfield.
Surgeon—Mr. Edwin Canton.
Surgeon-Dentist—Mr. R. M. Drury.
Resident Medical Officer — Mr. Edmund Overman Day.
Secretary—Mr. William Champion

Advanced students in Medicine, and such practitioners as may desire it, are permitted to attend the practice of this Hospital gratis. If a certificate signifying such attendance be required, the sum of £5 5s. must be paid to the Physicians aud Surgeons in ordinary conjointly.

PROVINCIAL.

NORFOLK AND NORWICH HOSPITAL.
120 beds.

One year's attendance recognised by Examining Boards. Fees: for the Physicians' practice, £10 10s.; for the Surgeons' practice—one year, £20; two years, £30; perpetual, £40. Pupils resident and non-resident.
Physicians—Dr. Copeman, Dr. Eade, Dr. Bateman.
Honorary Consulting Surgeon—Mr. Nichols.
Surgeons—Mr. Firth, Mr. Cadge, Mr. Crosse.
Assistant-Surgeons—Mr. Williams, Dr. Beverley.
Resident Medical Officer—Mr. Charles Firth.

WEST RIDING LUNATIC ASYLUM, WAKEFIELD.

Dr. Herbert Major, the Medical Director of the West Riding Lunatic Asylum, lectures on Mental Diseases during the summer session. The systematic lectures are given at the School, and the clinical lectures at the Asylum, which now accommodates over 1400 patients. It is needless to point out how great and unusual an advantage is here presented to those inclined to make themselves conversant with the improvement made of late years in the treatment and management of the insane.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.
(A Clinical and Training Institution for Gentlemen intended for the Medical Profession.)

Medical Officers—Dr. Millington, Dr. Totherick, Mr. Vincent Jackson, Mr. J. O'B. Kough, Mr. C. A. Newnham.
House-Surgeon—Wm. Gillibrand, L.K.Q.C.P.I., M.R.C.S., L.S.A. Lond.
Surgeon's Assistant—George Herbert Rowe, Esq.
House-Physician—T. M. Pinnell, M.B., M.R.P.S.
Physician's Assistant and Pathologist—John S. Joule, Esq.

This Hospital contains 210 beds; large male and female accident wards; wards for cases of burn; general medical and surgical wards: a ward for diseases peculiar to women; a children's ward, and a detached fever wing; also a commodious semi-detached out-patient department. To the general wards a clinical-room is attached, in which the analysis and microscopic inspection of the urine are conducted, also ophthalmoscopic and laryngoscopic examinations. Instruction is given in Chemistry, in Natural Philosophy, and in the Anatomy of the Dry Bones, Ligaments, Viscera, and Topographical Anatomy. The course of Practical Surgery includes the use of surgical apparatus, the performance of surgical operations, and the demonstration of Morbid Surgical Anatomy. In the Hospital the pupils are required to attend daily in the casualty-room, in the out-patient department, and in the wards, the instruction afforded being of a practical nature, including bandaging, the application of splints, tooth-drawing, and every kind of elementary professional detail, likewise how to observe and examine patients. The art of dispensing, the preparation of drugs, and of pharmaceutical compounds, can also be learnt in the Hospital Dispensary and Laboratory. Operations are performed every Thursday at eleven o'clock, and practitioners are admitted. The practice of the Hospital is recognised by all the examining boards.

Fees for hospital practice—For one year, £10 10s.; perpetual, £21. Some members of the honorary staff receive resident pupils. For further particulars apply to Mr. Vincent Jackson (Honorary Secretary to the Medical Committee), 46, Darlington-street, Wolverhampton.

GLASGOW ROYAL ASYLUM, GARTNAVEL.

The Asylum contains nearly 600 patients, including all classes. Clinical instruction is given, and in summer Dr. Yellowlees, Physician-Superintendent, lectures on Mental Diseases at the University; fee, £2 2s.

ROYAL DISPENSARY, EDINBURGH.

Consulting Physician—Professor Sanders.
Consulting Surgeon—Professor Spence.
Consulting Physicians-Accoucheur—Dr. Keiller and Dr. J. Matthews Duncan.
Medical Officers—Dr. Linton, Dr. W. Husband, Dr. James Andrew, Dr. D. Wilson, Dr. R. P. Ritchie, Dr. F. W. Moinet, Dr. A. J. Sinclair, and Dr. W. Gordon.
Midwifery Department—Dr. Andrew and Dr. Moinet.
Vaccination—Dr. Husband.
Apothecary—Mr. R. Urquhart.
Secretary to Medical Officers—Dr. Andrew.

ROYAL HOSPITAL FOR SICK CHILDREN, MEADOWSIDE HOUSE, EDINBURGH.

Consulting Physicians—Professor Sir Robert Christison, Bart., Drs. Charles Wilson, Graham Weir, and Matthews Duncan.
Consulting Surgeon—Professor Spence.
Pathologist—Professor Sanders.
Ordinary Physicians—Drs. Ritchie, Linton, Dunsmure, and Angus Macdonald.
Extra Physicians—Drs. Andrew and Cumming.
Assistant-Physician—Dr. Cuthill.
Surgeon-Dentist—Dr. Smith.
Ophthalmic Surgeon—Dr. Argyll Robertson.
Resident Physician—Dr. J. M. Chapman.
Honorary Secretary—Mr. John Henry, 20, St. Andrew-square.
Hon. Treasurer—R. S. Wyld, 19, Inverleith-row.

Fees: To Hospital, three months, £1 1s.; to Dispensary Department, three months, £1 1s.

GLASGOW EYE INFIRMARY,
Berkeley-street, and 76, Charlotte-street.

Consulting Surgeon—Dr. George Buchanan.
Surgeons—Drs. Thomas Reid, Thos. S. Meighan.
Assistant-Surgeons—Drs. Henry E. Clark and J. Crawford Renton.
Resident Clerk—Mr. W. J. Shaw.
Secretary—George Black, 88, West Regent-street.

Hour of visit, 1 p.m. Sixty-four beds. Student's fee for six months, attendance, £2 2s.; or for one year's attendance, £3 3s. To those attending, or who have attended, the lectures on the Eye in Glasgow University, £1 1s. for six months; or £1 11s. 6d. for twelve months.

GLASGOW DISPENSARY FOR DISEASES OF THE EAR,
241, Buchanan-street.

A course of lectures and clinical instruction are given to the students attending the Dispensary during the months of May, June, and July. Average number of cases treated, 800 annually.
Surgeon and Lecturer—Dr. James Patterson Cassells.

ST. MARK'S OPHTHALMIC HOSPITAL AND DISPENSARY FOR DISEASES OF THE EYE AND EAR.

Attending Surgeons—Richard Rainsford, M.B., M.Ch., F.R.C.S.I., and John B. Story, M.B., B.Ch.

Instruction is given daily from ten to twelve o'clock, and operations performed on Wednesdays and Saturdays at eleven o'clock. Fee for three months' attendance, £3 3s.

Special courses on the Ophthalmoscope and the Anomalies of Refraction and Accommodation are held from time to time.

ROTUNDA HOSPITALS, DUBLIN.

Master—Dr. Lombe Atthill.
Assistant-Physicians—Dr. R. D. Purefoy and Dr. Wm. Smyly.
Pathologist—Dr. G. F. Duffey.

This institution consists of two distinct Hospitals—namely, the Lying-in Hospital, into which 1200 labour cases are on an average admitted annually, and the Auxiliary Hospital, set apart for the reception and treatment of patients suffering from the various forms of uterine and ovarian disease; about 500 patients are received into this Hospital during each year.

There is also a large Extern Maternity in connexion with the Hospital, and a Dispensary for Diseases Peculiar to Women, which is open daily.

Pupils are admitted to the practice of all these departments.

Accommodation is provided for a number of Extern Pupils.

Applications to be made to the Master or Assistant-Physicians, at the Hospitals, Rutland-square, Dublin.

THE INTRODUCTORIES.

THE following are the days and hours of the various Introductory Lectures, with the names of the respective lecturers:—

Hospital.	Date.	Lecturer.	Hour.
St. Bartholomew's	Mon. Oct. 1	None.	
Charing-cross	„	Mr. Astley Bloxam	4 p.m.
St. George's	„	Mr. Pick	4 p.m.
Guy's	„	None.	
King's College	„	Mr. Lister	4 p.m.
London	„	None.	
St. Mary's	„	Mr. H. Page	3.30 p.m.
Middlesex	„	Mr. A. Hensman	3 p.m.
St. Thomas's	„	Mr. Wagstaffe	4 p.m.
University College	„	Dr. John Williams	3 p.m.
Westminster	„	Dr. Grigg	3 pm.

THE PUBLIC SERVICES.

ARMY MEDICAL DEPARTMENT, WHITEHALL-YARD.

SCHEDULE OF QUALIFICATIONS

Necessary for Candidates desirous of obtaining Commissions in the Army Medical Department, with extracts from the Regulations prescribed by the Royal Warrant of April 28, 1876 (*Clause* 58, *Army Circulars*, 1876), *by which the Pay, Promotion, and Retirement of Medical Officers are regulated and determined.*

(I.)—1. Every candidate desirous of presenting himself to compete for a commission in the Army Medical Department must be twenty-one years of age and not over thirty-two years at the date of commencement of the competitive examination. He must produce an extract from the registrar of his birth, or, in default, a declaration, made before a magistrate by one of his parents or guardians, giving his exact age. He must also produce a recommendation from some person of standing in society—not a member of his own family—to the effect that he is of regular and steady habits, and likely in *every* respect to prove creditable to the Department if a commission be granted; and also a certificate of moral character from the parochial clergyman, if possible.

2. The candidate must sign a declaration upon honour that both his parents are of unmixed European blood, and that he labours under no mental or constitutional disease, nor has any hereditary tendency thereto, nor any imperfection or disability that can interfere with the efficient discharge of the duties of a Medical Officer in any climate; also that he does not hold, and has never held, any commission or appointment in the public services. His physical fitness will be determined by a Board of Medical Officers, who are required to certify that the candidate's vision is sufficiently good to enable him to perform any surgical operation without the aid of glasses. A moderate degree of myopia will not be considered a disqualification, provided it does not necessitate the use of glasses during the performance of operations, and that no organic disease of the eyes exists. The Board must also certify that he is free from organic or other disease, and from constitutional weakness, or tendency thereto, or other disability of any kind likely to unfit him for military service in any climate.

3. Certificates of age, registration of diplomas, etc., and of character, must accompany the declaration when signed and returned.

4. Candidates will be examined by the Examining Board in the following compulsory subjects, and the highest number of marks attainable will be distributed as follows:—*a*. Anatomy and Physiology, 1000 marks; *b*. Surgery, 1000; *c*. Medicine, including Therapeutics, the Diseases of Women and Children, 1000; *d*. Chemistry and Pharmacy, and a practical knowledge of drugs, 100 marks. N.B.—The examination in Medicine and Surgery will be in part practical, and will include operations on the dead body, the application of surgical apparatus, and the examination of medical and surgical patients at the bedside. The eligibility of each candidate for the Army Medical Service will be determined by the result of the examinations in these subjects only. Examinations will also be held in the following voluntary subjects, for which the maximum number of marks will be—French and German (150 each), 300 marks; Natural Sciences, 300 marks. The knowledge of modern languages being considered of great importance, all intending competitors are urged to qualify in French and German. The natural sciences will include Comparative Anatomy, Zoology, Natural Philosophy, Physical Geography, and Botany with special reference to Materia Medica. The number of marks gained in both the voluntary subjects will be added to the total number of marks obtained by those who shall have been found qualified for admission, and whose position on the list of successful competitors will thus be improved in proportion to their knowledge of modern languages and natural sciences.

5. After passing this examination, every candidate will be required to attend one entire course of practical instruction at the Army Medical School on—(1) Hygiene; (2) Clinical and Military Medicine; (3) Clinical and Military Surgery; (4) Pathology of Diseases and Injuries incident to Military Service.

The following extracts from the Royal Warrant of April 28, 1876 (Clause 58, Army Circulars, 1876), are republished for the information of candidates for commissions in the Army Medical Department:—

1. The ranks and rates of pay of the officers of the Army Medical Department shall be as follows:—Daily pay: Surgeon-General £2, after twenty-five years' service £2 5s., after thirty years' service £2 7s., after thirty-five years' service £2 10s.; Deputy Surgeon-General £1 10s., after twenty-five years' service £1 12s., after thirty years' service £1 15s., after thirty-five years' service £1 17s.; Surgeon-Major, on appointment £1, after five years' service as such £1 5s.; Surgeon, on appointment £250 a year, after ten years' service 17s. 6d. daily. Charge pay: The Principal Medical Officer of an army in the field consisting of 10,000 men and upwards, £1 daily; of 5000 men and upwards, 15s. daily; of less than 5000, 10s. daily. Or the Principal Medical Officer of a colony where the number of commissioned officers and enlisted men is 1500 and upwards, 5s. daily.

2. The pay of officers shall be issued monthly in arrear.

3. The relative rank of the officers of the Army Medical Department shall be as follows:—(1.) A Surgeon-General shall rank as Major-General, according to the date of his commission. (2.) A Deputy Surgeon-General shall rank as Colonel, according to the date of his commission. (3.) A Surgeon-Major shall rank as Major, according to the date of his commission: after twenty years' full-pay service as Surgeon and Surgeon-Major, he shall rank as Lieutenant-Colonel, but junior of the latter rank. (4.) A Surgeon shall rank as Lieutenant, according to the date of his commission; and, after six years' full-pay service, as Captain, according to the date of the completion of such service.

4. The relative rank of these officers shall regulate choice of quarters, rates of lodging-money, servants, fuel and light, or allowances in their stead, detention and prize-money, as well as allowances granted on account of wounds or injuries received in action, and pensions and allowances to widows and families.

5. Forage shall be granted to officers of the Army Medical Department for such number of horses as are necessarily kept by them for duty.

6. Admission to the Army Medical Department shall be by public competition.

7. Every candidate for appointment to the Army Medical Department shall possess two diplomas or licences, one to practise Medicine, and the other Surgery, in Great Britain or Ireland, and be registered under the Medical Act in force at the time of his appointment.

8. A successful candidate, who, having passed through a course of instruction at the Army Medical School at Netley, in Military Medicine, Surgery, Hygiene, and Pathology, shall have proved, after examination, that he possesses a competent knowledge of those subjects, shall receive a commission as Surgeon for a limited period of ten years' service on full pay. From the date of joining at Netley, and up to that of passing his final examination, a candidate shall receive 5s. a day.

9. On the completion of ten years' commissioned service, unless the Surgeon be specially selected for further employment in the Medical Department of our Army, or if he be unwilling to continue to serve therein, his services shall be dispensed with, and he shall be entitled to receive, in lieu of all pension or retirement, pension for wounds excepted, the sum of £1000.

10. A Surgeon of less than ten years' service, disqualified for duty by ill-health, certified by a Board of Medical Officers to have been contracted in and by the Service, may, at the discretion of our Secretary of State for War, be granted half-pay at a rate not exceeding 8s. a day if he have served five years or more, or 6s. a day if he have served less than five years, for a period not exceeding six months at one time.

11. At the expiration of that period of six months, if the Surgeon be able to resume his duties, he shall be entitled to complete his term of ten years' service. If he be unable to resume duty, as certified by a Board of Medical Officers, he shall be allowed, if he have not served five years, a further period of six months, without half-pay; at the expiration of which period, if still unable to resume duty, his services shall be dispensed with.

12. If the Surgeon have served five years on full pay, and be unable to resume duty as certified by a Board of Medical Officers, his services shall be dispensed with, and he shall be entitled to receive, in lieu of all further pension or pay, pension for wounds excepted, a gratuity at one of the following rates, viz.:—If he shall have completed nine years' full-pay

service, £800; eight years' full-pay service, £700; seven years' full-pay service, £600; six years' full-pay service, £500; five years' full-pay service, £400.

13. If a Surgeon be unable to complete his ten years' service from any cause other than wounds or ill-health, certified by a Board of Medical Officers to have been caused in and by the service, or reduction of establishment, he shall be allowed not more than six months' leave without pay, after which, if unable to resume duty, his services shall be at once dispensed with, and he shall have no further claim on the Department.

14. If the services of an officer be temporarily dispensed with in consequence of a reduction of establishment, he shall be granted the rates of half-pay fixed by Article 10 until there be an opportunity of re-employing him, or if he have served five years, he may retire from the service with a gratuity according to the rates specified in Article 12.

15. Every year it shall be competent for our Commander-in-Chief, on the recommendation of the Director-General of the Army Medical Department, to select, with the approval of our Secretary of State, a number of Surgeons not exceeding six, who shall be retained in the service, and shall be promoted after twelve years' service on full pay to the rank of Surgeon-Major.

16. All promotion from the rank of Surgeon-Major to that of Deputy Surgeon-General, and from the rank of Deputy Surgeon-General to that of Surgeon-General, shall be given for ability and merit upon the selection or our Commander-in-Chief, with the approval of our Secretary of State; and the grounds of such selection shall be stated to us in writing, and recorded in the Department. In all such cases the amount of foreign service shall be expressly stated.

17. A Medical Officer retiring after full-pay service of twenty-five years and upwards, may, if recommended for the same by the head of his department, receive a step of honorary rank, but without any consequent increase of half-pay.

18. Good-service pensions shall be awarded to the most meritorious officers of the Army Medical Department, under such regulations as shall be from time to time determined by us, with the advice of our Secretary of State.

19. Six of the most meritorious officers of the Army Medical Department shall be named our Honorary Physicians, and six our Honorary Surgeons.

20. Medical Officers shall have a right to retire on half-pay after twenty years' service. Medical Officers of the rank of Surgeon-Major or Surgeon shall be placed on the retired list at the age of fifty-five, and all Surgeons-General and Deputy Surgeons-General at the age of sixty years.

21. Our Secretary of State may, when he shall deem it fit, employ Medical Officers on the half-pay list in special situations, at such rates of pay, in addition to half-pay, as he shall from time to time determine; but such officers shall vacate their appointments on attaining the age of sixty-five years.

22. A Medical Officer who, having voluntarily resigned his commission, has subsequently been permitted to re-enter the Department, shall not, except under very special circumstances to be approved by our Secretary of State, be allowed to reckon his former service.

SERVICE ON THE WEST COAST OF AFRICA.

23. Service of Medical Officers upon the West Coast of Africa shall be voluntary.

24. Each year or portion of a year shall be allowed to reckon double towards retirement or towards the gratuities fixed by Articles 9 and 12, but not towards increased pay, provided that the officer shall serve at least twelve months on the West Coast of Africa.

25. For each year's service on the Coast, a Medical Officer shall be entitled to a year's leave at home, and for every additional period beyond a year he shall have an equivalent extension of leave.

26. Officers who may volunteer for service on the West Coast of Africa shall receive double pay while actually serving on the Coast.

NON-EFFECTIVE PAY.

27. A Medical Officer of more than ten years' service placed on half-pay by reduction of establishment, or on the report of a Medical Board in consequence of wounds or ill-health caused in and by the discharge of his duties, or on account of age (under Article 20), shall be entitled to half-pay in accordance with the following scale:—Daily pay: Surgeon-General, after thirty years' service, £1 17s. 6d.; after twenty-five years' service, £1 13s. 6d.; after twenty years' service, £1 10s. Deputy Surgeon-General, after thirty years' service, £1 5s. 6d.; after twenty-five years' service, £1 2s. 6d.; after twenty years' service, £1 1s. Surgeon-Major, after twenty-five years' service, £1; after twenty years' service, 16s. 6d.; after fifteen years' service, 13s. 6d.; after twelve years' service, 11s. Surgeon, after ten years' service, 10s.

28. The rate of half-pay awarded to officers retiring for their own convenience, after twenty years' service on full pay, under Article 20, shall not exceed one-half of their full pay at the time of retirement.

29. Every Medical Officer who shall retire after a service upon full pay of twenty-five years, shall be granted a rate of half-pay equal to seven-tenths of the daily pay he may have been in receipt of when thus retiring on half-pay, provided he shall have served three years in his rank, or shall have served abroad for ten years in all ranks, or for five years with an army in the field. An officer of twenty-five years' full-pay service, whose service falls within neither of these conditions, shall be entitled to only seven-tenths of the daily pay he was in receipt of prior to his last promotion.

30. A Medical Officer of twenty years' full-pay service, placed temporarily on half-pay on account of ill-health, may, however, be allowed to retire on permanent half-pay, at the rates fixed by Article 27, if after one year on half-pay he shall be reported by a Medical Board to be permanently unfit for further service.

31. In all matters not specially provided for in our present Warrant, the officers of the Medical Department of our Army shall be subject to the general regulations for the departments of our Army.

N.B.—The rates of pay, including allowances, while serving in India, will range from 317 rupees (£31 14s.) to 433 rupees (£43 6s.) per month, according to length of service.

DECLARATION.

Recommended by _____, I _____ _____ years of age on _____ last (*vide* accompanying Certificate), a Candidate for a commission in the Medical Department of the Army, do hereby engage for general service, under the conditions detailed in the Schedule of Qualifications, and attest my readiness to proceed on duty abroad whenever required to do so.

I declare upon my honour—(1st) That both my parents are of unmixed European blood; (2nd) that I am not at present suffering from, nor have I any tendency to, any form of disease or mental and bodily infirmity, nor have I any hereditary tendency or predisposition to mental or constitutional disease, or labour under any imperfection or disability that can or is likely to interfere with the efficient discharge of the duties of a Medical Officer in any climate; (3rd) that I will fully reveal to the Medical Board, when physically examined, all circumstances within my knowledge that concern my past and present health; (4th) that I do not now hold, nor have I ever held, any commission or appointment in the public services (if the contrary, specify here).

N.B.—A mis-statement by a candidate will invalidate any subsequent appointment, and cause forfeiture of all privileges for services rendered.

I forward the Certificate of Registration under the Medical Act, showing that I possess the following Degrees, Diplomas, and other Qualifications in Medicine and Surgery, which I will produce when called up for examination, viz.:—

Medicine _____

Surgery _____

I also possess a degree in Arts } _____
(or, if others, state particulars) }

I wish to be examined in the voluntary subjects, viz.:—

French, _____. German, _____. Natural Sciences, _____

Date, _____. Signature, _____

Address, _____

[When this Declaration is returned, it must be accompanied by an extract from the Register of Birth (not of Baptism), or in default a Declaration made by one of the parents or guardians before a magistrate, giving the exact age, also the Certificate of Registration under Medical Act, etc., and by a recommendation from some person of standing in society, not a member of the candidate's family, to the effect that he is of regular and steady habits, and likely in every respect to prove creditable to the Department, if an appointment be granted, as well as a Certificate of moral character from the parochial clergyman, if possible. Any omission of the particulars set forth will render this application void.]

TO BE FILLED IN BY THE EXAMINING MEDICAL OFFICERS AT THE ARMY MEDICAL DEPARTMENT.

The Diplomas and Qualifications produced by _____ have been examined and are found to be in accordance with regulations.

General health _____

Hearing _____

Vision _____

Opinion of Medical Board as to fitness _____

Date _____

ARMY MEDICAL SCHOOL.

President of the Senate.—Sir William M. Muir, K.C.B., M.D., Director-General of the Army Medical Department.

Members of the Senate.—Surgeon-General Sir Joseph Fayrer, M.D., K.C.B., C.S.I., Physician to the Council of India; Sir Alexander Armstrong, M.D., K.C.B., F.R.S.; The Principal Medical Officer, Royal Victoria Hospital (*ex officio*); and the Professors of the Army Medical School.

Professors.—Surgeon-General T. Longmore, C.B., half-pay, Professor of Military Surgery; Inspectors-General W. C. Maclean, M.D., C.B., Professor of Military Medicine; William Aitken, half-pay, M.D., F.R.S., Professor of Pathology: Surgeon-Major F. S. B. F. De Chaumont, M.D., Professor of Military Hygiene: Deputy Inspector-General J. W. Macdonald, M.D., F.R.S., R.N., Professor of Naval Hygiene.

Assistant-Professors.—Surgeons-Major J. H. Porter, W. M. Webb, F. H. Welch, F.R.C.S.; Surgeon J. L. Notter, M.D.; and Surgeon-Major J. P. H. Boileau, M.D.

Candidates for commissions in the Army and Navy and in the Queen's Indian Service proceed to Netley after passing the examination in London. At Netley they attend the medical and surgical practice of the Royal Victoria Hospital, and learn the system and arrangements of naval and military hospitals. During four months they attend the lectures given by the Professors and Assistant-Professors, and go through a course of practical instruction in the hygienic laboratory and microscopical room.

INDIAN MEDICAL SERVICE.

The regulations relating to the Indian Medical Service may be said to be identical with the Queen's. The rules as to service are now, however, different.

The candidate for the Indian Medical Service may be either married or unmarried, and must not exceed twenty-eight years of age. After passing the final examination, pay is granted at the rate of 10s. a day. Indian pay and allowances only come into force after landing in India.

NAVAL MEDICAL DEPARTMENT, ADMIRALTY.

QUALIFICATIONS AND REGULATIONS FOR THE EXAMINATION OF CANDIDATES FOR COMMISSIONS IN THE MEDICAL SERVICE OF THE ROYAL NAVY.

The Lords Commissioners of the Admiralty are pleased to direct that the following regulations, relative to the examination of candidates for the appointment of Surgeon in the Royal Navy, shall in future be adopted:—

1. Every candidate desirous of presenting himself for admission to the Naval Medical Service must be not under twenty-one nor over twenty-eight years of age. He must produce a certificate from the District Registrar, in which the date of birth is stated; or, if this cannot be obtained, an affidavit from one of the parents or other near relative, who can attest the date of birth, will be accepted. He must also produce a certificate of moral character, signed by a clergyman or a magistrate to whom he has been for some years personally known, or by the president or senior professor of the college at which he was educated.

2. He must be free from organic disease, and will be required to make a declaration that he labours under no mental or constitutional disease or weakness, nor any other imperfection or disability that can interfere with the most efficient discharge of the duties of a Medical Officer in any climate. His physical fitness will be determined by a Board of Medical Officers, who are to certify that his vision comes up to the required standard, which will be ascertained by the use of Snellen's test-types. He must also attest his readiness to engage for general service, and to proceed on foreign service when required to do so.

3. He must be registered under the Medical Act in force at the time of his appointment as licensed to practise Medicine and Surgery in Great Britain or Ireland.

4. Certificates of registration, character, and age must accompany the schedule when filled up and returned.

5. Candidates will be examined by the Examining Board in the following subjects:—Anatomy and Physiology; Surgery; Medicine, including Therapeutics and the Diseases of Women and Children; Chemistry and Pharmacy, and a practical knowledge of drugs. (The examination in Medicine and Surgery will be in part practical, and will include operations on the dead body, the application of surgical apparatus, and the examination of medical and surgical patients at the bedside.) The eligibility of each candidate for the Naval Medical Service will be determined by the result of the examinations in these subjects only. Candidates who desire it will be examined in Comparative Anatomy, Zoology, Natural Philosophy, Physical Geography, and Botany with special reference to Materia Medica, also in French and German; and the number of marks gained in these subjects will be added to the total number of marks obtained in the obligatory part of the examination by candidates who shall have been found qualified for admission, and whose position on the list of successful competitors will thus be improved in proportion to their knowledge of these branches of science.

6. After passing this examination, every candidate will be required to attend one entire course of practical instruction in the Medical School at Netley on—(1) Hygiene, (2) Clinical and Naval and Military Medicine, (3) Clinical and Naval and Military Surgery, (4) Pathology of Diseases and Injuries incident to Naval and Military Service.

7. At its conclusion the candidate will be required to pass an examination on the subjects taught in the school. If he give satisfactory evidence of being qualified for the practical duties of a Naval Medical Officer, he will be eligible for a commission as Surgeon.

8. During the period of his residence at the Netley Medical School each candidate will receive an allowance of 5s. per diem with quarters, or 7s. per diem without quarters, to cover all costs of maintenance; and he will be required to provide himself with uniform (viz., the Regulation undress uniform of a Surgeon, but without the sword).

9. All candidates will be required while at Netley to conform to such rules of discipline as the Senate may from time to time enact.

10. After completing three years' full-pay service, Surgeons will be allowed to be examined for the rank of Staff Surgeon; but no Surgeon can be promoted to the rank of Staff Surgeon until he shall have served five years, two of which must have been in a ship actually employed at sea.

RANK, PAY, AND POSITION OF NAVAL MEDICAL OFFICERS.

1. Promotion to the rank of Fleet Surgeon is open to officers for distinguished or special service, although twenty years on full pay may not have been completed; such Fleet Surgeons will have 16s. a day half-pay.

2. Fleet Surgeons rank with Commanders, according to date of commission.

3. The whole time served on full pay as a Surgeon to be allowed to Staff Surgeons to qualify for the rank of Fleet Surgeon, provided the examination for Staff Surgeon is passed before the officer completes ten years' service, otherwise only ten years served as Surgeon will be allowed to count.

4. Fleet Surgeons are appointed to the flag-ships of commanders-in-chief on foreign stations, with an allowance of 5s. a day in addition to their established pay.

5. The hospital allowances for Naval Medical Officers at home and abroad, in lieu of provisions, for themselves and servants, and for fuel and light, are as follows:—Inspectors General of Hospitals, £85 at home, £130 abroad; Deputy Inspectors-General, £65 at home, £112 abroad; Fleet-Surgeons and Staff-Surgeons, £53 at home, £112 abroad; Surgeons, £39 at home, £108 abroad. In cases where Medical Officers draw provisions or fuel from public stores, they will be charged for the same at cost price.

6. The travelling allowances, extra pay, lodging money, and compensation for losses are fixed for Naval Medical Officers according to their relative rank in the service.

7. Medical Officers have cabins according to their relative rank in the service.

8. The full and half-pay of Naval Medical Officers is in accordance with the following scale:—

Full-pay: Surgeon—Under five years' service (except during the session at Netley) [see Regulations], 11s.; under eight years' service, 12s. 6d.; under eleven years' service, 14s.; under fourteen years' service, provided he passed his examination for Staff Surgeon while under ten years' service, 15s. 6d.; above fourteen years' service, ditto, 17s. Staff Surgeon—On promotion, or under fourteen years' service, 18s.; ditto, or under seventeen years' service, £1; and for each additional year of service 1s. a day more until the maximum is reached—namely, £1 2s. Fleet Surgeon—On promotion, or under twenty years' service, £1 3s.; ditto, or above twenty years' service, £1. 4s.; and for each additional year of service 1s. a day more until the maximum is reached—namely, £1 10s. Deputy Inspector-General of Hospitals and Fleets—On promotion, or under twenty-two years' service, £1 11s.; ditto, or above twenty-two years'

service, £1 12s.; and for each additional year of service 1s. a day more until the maximum is reached—namely, £1 18s. Inspector-General of Hospitals and Fleets—On promotion, or under twenty-five years' service, £2 5s.; ditto, or above twenty-five years' service, £2 6s.; and for each additional year of service 1s. a day more until the maximum is reached—namely, £2 10s. Half-pay: Surgeon—Under five years' service, 6s.; under eight years' service, 8s.; under eleven years' service, 10s.; above eleven years' service, provided he passed his examination for Staff Surgeon while under ten years' service, 17s. Staff Surgeon—On promotion, or under fourteen years' service, 11s.; ditto, or under seventeen years' service, 13s.; ditto, or above seventeen years' service, 14s. Fleet Surgeon—On promotion, or under twenty years' service, 16s.; ditto, or above twenty years' service, 16s. 6d.; and for each additional year of service 6d. a day more until the maximum is reached—namely, 18s. 6d. Deputy Inspector-General of Hospitals and Fleets—On promotion, or under twenty-two years' service, £1 1s.; ditto, or above twenty-two years' service, £1 2s.; and for each additional year of service 1s. a day more until the maximum is reached—namely £1 7s. Inspector-General of Hospitals and Fleets—On promotion, or under twenty-five years' service, £1 11s.; ditto, or above twenty-five years' service, £1 12s.; and for each additional year of service 1s. a day more until the maximum is reached—namely, £1 18s.

9. Retirement is provided for according to age and service, under special regulations.

DECLARATION.

Recommended by_____, I _____, _____ years of age in _____ last (*vide* accompanying Certificate), a candidate for appointment as a Medical Officer in the Royal Navy, do hereby engage for general service, and attest my readiness to proceed on duty abroad whenever required to do so.

I declare that I labour under no mental or constitutional disease or weakness, nor any other imperfection or disability which can interfere with the most efficient discharge of the duties of a Medical Officer in any climate.

Signature, _____

Date, _____

Place of residence, _____

SCHEDULE OF QUALIFICATIONS.

I have in my possession the following Degrees, Diplomas, and other Qualifications in Medicine, Surgery, and in Arts:—

I wish to be examined in the following voluntary subjects, viz.:—

Signature, _____

CIRCULAR No. 12, C.W.

Admiralty, March 6, 1875.

(*Medical Officers of the Navy.*)

My Lords Commissioners of the Admiralty having had under their consideration the position of the Medical Officers of the Navy, are pleased, under the authority of her Majesty's Order in Council of February 4, 1875, to establish the following regulations:—

1. Surgeons on entry to have the same relative rank as Paymasters, Chief Engineers, and Naval Instructors—namely, to rank with Lieutenants under eight years' seniority, and to wear uniform corresponding to such relative rank.

2. Staff Surgeons to be denominated "Fleet Surgeons," and Staff Surgeons second-class simply "Staff Surgeons"; the distinction in rank between these two grades to be denoted by a small difference in the uniform of the Staff Surgeon, who instead of three stripes of gold lace round the sleeve of the coat, which the Fleet Surgeon will wear, will wear two stripes of gold lace, with a stripe of narrow gold braid between them.

3. Inspectors-General to be compulsorily retired at the age of sixty; to be allowed £2 per day, provided they shall have completed the period of service now required to entitle them to the maximum half-pay of their rank; should they not have completed such period of service, they will be retired at the rate of half, or retired pay, specified in the Order in Council of February 22, 1870.

4. Deputy Inspectors-General to be compulsorily retired at sixty; if in the first six of their rank, to be allowed 33s., others 30s. per diem, provided that they shall have completed the period of service now required to entitle them to the maximum half-pay of their rank; should they not have completed such period of service, they will be retired at the rate of half, or retired pay, specified in the Order of Council of February 22, 1870.

5. Fleet Surgeons and Staff Surgeons to be placed on the same scale of retirement as chaplains and naval instructors, secretaries and paymasters; that is, the maximum to be £450 per year instead of £400.

6. Fleet Surgeons to have the option of retiring after twenty years' full-pay service in all ranks at 15s. per day, and after twenty-five years' full-pay service 21s., subject in each case to their Lordships' approval; but of those now on the list, not more than ten to retire under this clause in each year (the Officers having the option according to seniority) unless their Lordships should approve (with the consent of the Treasury) of a larger number so retiring. Applications from Officers wishing to retire under this clause should be lodged at the Admiralty before November 30 in each year, in order that they may be dealt with, according to seniority, before the end of the year.

7. All Medical Officers hereafter entered to have the option of so retiring, subject to the approval of their Lordships in each case. By command of their Lordships,

ROBERT HALL.

To all Commanders-in-Chief, Captains, Commanders, and Commanding Officers of Her Majesty's Ships and Vessels.

TERMS OF SUBSCRIPTION.

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Seven lines (60 words)	£0	4	6
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Whole page	5	0	0

Births, Marriages, and Deaths are inserted Free of Charge.

THE MEDICAL TIMES AND GAZETTE *is published on Friday morning, Advertisements must therefore be sent to the Publishing Office not later than One o'clock on Thursday.*

Medical Times and Gazette.

SATURDAY, SEPTEMBER 8, 1877.

THE WEEK.

TOPICS OF THE DAY.

THE amount of recklessness exhibited by the uneducated classes in times of epidemic disease is so great, that the most unimpeachable testimony scarcely suffices to carry conviction. The following is a case in point. Dr. Collier, Medical Officer of Health to the Fulham District Board of Works, at the meeting of that Board held last week, reported that during the past month twenty-four cases of small-pox had occurred in the district. Fourteen of the cases were reported from one street, viz., Rectory-place Walham-green, where the outbreak had been so serious that a public-house there had to be entirely closed, and many other houses also, scarcely a house being free from it. He attributed the spread of the disease in this instance to the fact that he was not informed of its first outbreak until a fortnight after it had occurred. He went there immediately, and found a woman, who had been the first person attacked, just recovering, and sitting in her own room amongst a number of neighbours, who had called to congratulate her on her convalescence. The woman was then in a

most dangerous condition for spreading the disease, and the consequence was that tho infection was conveyed to the houses of her visitors, aud shortly afterwards four deaths occurred. Several members commented on the medical officer's report, and one stated that he knew of a woman just recovering from the complaint who was going about selling milk; whilst another member mentioned the case of a woman going into a public-house, with her veil down to conceal the pustules of the disease, which were just appearing. Dr. Collier further reported that he had collected a large amount of hearsay evidence, but he could not get eye-witnesses to come forward. His report was ultimately referred to a committee.

The Committee of the British Association for investigating the circulation of underground water in the new red and permian rocks has been reappointed, and the inquiry extended to the oolites. Mr. De Rance, F.G.S., the Honorary Secretary, read an elaborate report of the work done by the Committee during the last year, and it is evident the Association considers the inquiry one of growing importance. Mr. M. Reade, F.G.S., presented a report upon the wells of South-west Lancashire, in which he analysed the information he had collected during the last three years, and demonstrated, by calculation of the water collected from certain wells and bore-holes, that the yield of a well is dependent upon striking certain fissures or channels which ramify through the sandstone, forming ducts, conveying underground water to the pumping-stations. These ducts, which may be vertical fissures or may bo channels along the planes of bedding, like arteries, convey water from large areas of sandstone that have absorbed the rainfall from surface percolation. He also showed that the wells are nearly all affected by local percolation, and insisted on the necessity in most cases of excluding the water from the strata immediately surrounding the well, as it is liable to all sorts of organic contamination, by water-tight cylinders. Mr. Reade's report was accompanied by sections showing the water lines of the various wells, which will be published with the report, and bid fair to be of considerable practical utility.

In consequence of the Local Board of St. Columb, Cornwall, refusing to provide an efficient system of sewerage in accordance with the requirements of the Local Government Board, notice has been given by the Government Department that they intend to hold an inquiry, with a view of dissolving the Local Board. Sir Joseph Bazalgette, C.E., who has prepared plans for the drainage of the easteru portion of Bournemouth, including an important district recently added, has submitted his scheme to the Improvement Commissioners. By this it is intended that all the drainage of the western and central portion shall be diverted from its present outfall, and taken to Boscombe, a distance of about 2000 yards to the eastward, and there discharged into the sea, after receiving the drainago of the eastern district. The inhabitants of Boscombe strongly object to this scheme, and Mr. Thornhill Harrison, one of the Local Government Board Inspectors, after holding an inquiry, reported in favour of two outfalls, and took other exceptions to Sir Joseph's plau. The Improvement Commissioners are divided in opinion ou the subject, but the majority have passed a resolution in favour of one outfall only. Sir Joseph has gone iu detail through Mr. Harrison's report, and expresses his conviction that the scheme propounded by him will be found to work best for the interests of the town aud neighbourhood. He has promised to embody his views in a report to be presented to the Commissioners for their consideration.

At the Wandsworth aud Clapham Union, last week, a letter was read from the Brookwood Asylum, stating that no more patients can at present be admitted on the female side of the institution. It was stated that other asylums in the district were similarly crowded.

The Earl of Dudley has arranged, at his own expense, to convey water to about 500 cottages at Lower Gornal, where fever broke out some sime since, and pure water is almost entirely absent. This will be effected through negotiations with a local water company, who hitherto had declined to extend their mains to the place.

A very singular caso of mistaken identity of a body is reported from Grantchester, near Cambridge. It appears that one evening last week an inquest was held upon a body supposed to be that of a man named James Dazely, who was found drowned in the water at Grautchester. At the inquiry before the county coroner, however, two witnesses identified the body as that of John Adams, of Chesterton, and the jury returned a verdict accordingly. Upon a police officer making inquiries at Chesterton, he found Dazely in the union there, and Adams alive and with his wife. The document for the interment of the body as John Adams had actually been made out. The body as yet has not been identified.

Dr. Battistini has been named Physician to his Holiness the Pope of Rome, in place of Dr. Pelagallo, who has been summarily dismissed from his post by the Pope himself, his name having been struck out of the list of members of the Pontifical household. The dismissal of Dr. Pelagallo is said to be due to palaco intrigues and to reports conveyed to his Holiness that, neglecting the observance of that secrecy which the Vatican requires, he has given particulars to the outside world regarding the unsatisfactory condition of the Pope's health. Dr. Battistiui has already entered upon his duties.

The death is announced of Sir Francis Hicks, Treasurer of St. Thomas's Hospital. Sir Francis, who was greatly respected, and who has always shown the greatest attention and assiduity in discharging the duties of his office, was formerly a West Indian merchaut. He was appointed Treasurer of St. Thomas's Hospital on the retirement of Mr. Baggallay, in 1865, at the time when the Hospital was iu a transition state, and immediately after the Charity Commission investigation. Owing to the illness of Sir John Musgrove, President of the Hospital, the work of reconstructing the Hospital buildings devolved upon Sir Francis. In 1871, on the occasion of the opening of the new Hospital on the Albert-embankment, by her Majesty the Queen, Sir Francis was knighted. For the past few months he had suffered from illness, and since the middle of last month had been staying at the Cliftonville Hotel, Margate, where he died somewhat suddenly on Saturday last.

Recently, at the Cannock (Staffordshire) Police-court, a grocer, named Ridding, was fined £16 9s. for selling drugs not of the substance demanded by the purchaser. The defendant was selling "castor oil pills," manufactured by a firm in Wolverhampton, which, upon analysis, were found to contain uo castor oil, but calomel, aloes, colocynth, etc. Dr. Day, F.R.C.S., who was summoned to give evidence, said these pills, if taken in ignorance by certain persons, would act deleteriously. The defence set up by the defendant was that castor oil was only a name given to tho pills, which were harmless aperieuts; but, very properly, this plea was not admitted in extenuation.

A MEDICAL CLUB FOR AGRICULTURAL LABOURERS.

Some time ago there was established at Eye, in Suffolk, a Medical Club, which met with so much favour that within a year and a half it enlisted 4000 members, almost without solicitation. As the working-men of that district seemed to appreciate the advantages held out to them by this institution, which rendered them independent both of gratuitous advice and the parish doctor, it has been decided to found a similar Club, whose operations shall extend to the whole of the county

of Suffolk. The benefits are to be restricted to persons whose earnings do not exceed 20s. a week, or maid-servants whose wages do not exceed £8 a year, and this restriction secures the advantages of the Club mainly for agricultural labourers, as most mechanics earn considerably higher wages. The payment for a man or woman is 5s. a year; for a man and his wife, 9s.; and for each child, 1s., with a *maximum* payment of 5s. for children, no matter how large the family. A member of any benefit club may claim an abatement of 4s. from these rates. Women in their confinements are to be attended for 10s.; the remaining fees payable to a medical man being supplemented by the honorary fund. One of the rules allows any member a choice of doctors, living within a specified distance, who have agreed to work with the Club; and it is stated that most of the principal doctors in the county have consented to accept the scale of fees embodied in the rules. The Club is to be managed by stewards chosen in each parish, who will communicate, through a secretary appointed in every union district, with the central organisation at Ipswich. The rules and rates of membership have been so framed that the Club will be self-supporting except as to cost of management, surgical provision for accidents, and extra payments for confinements. These expenses it is intended to cover by means of subscriptions from honorary members and others. The scheme is well worthy of support, as it may, properly worked, do much to establish a feeling of independence amongst the class of agricultural labourers, and do away with the existing notion that the parish doctor and the union infirmary are the legitimate sources of relief in all cases of sickness.

SURGEON-IN-ORDINARY TO THE QUEEN IN SCOTLAND.

All those who love a good man and esteem a first-rate surgeon will be gratified to learn that Professor George Macleod, of Glasgow, has been appointed Surgeon-in-Ordinary to the Queen in Scotland, necessarily vacated by the migration of Mr. Lister to London. It is quite right that Glasgow should have her fair share of honours.

MEDICAL NEWS.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, August 30:—

Edwardes, William Whitfield, Llansantffraid, Oswestry.
Claughton, Charles Knox, Birkenhead.
Steventon, Walter Thomas, Snaith, Yorkshire.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Bridges, Ashley Colston, St. Mary's Hospital.
Webster, Ridley Manning, Middlesex Hospital.
Wright, Herbert Elliston, Guy's Hospital.

NAVAL, MILITARY, &c., APPOINTMENTS.

War Office.—Medical Department.—Surgeon-Major Daniel John Doherty retires upon half-pay. The following gentlemen to be Surgeons under the Royal Warrant of April 28, 1876:—Jarlath Joseph Mullen, M.D.; Francis Henry Swinton Murphy, M.D.; William Thomas Johnstone, M.D; Frederick de Caux; Abraham Walker Brown; Robert Doveton Hodson; Caleb K. Powell, M.D.; Hugh Cunningham Kirkpatrick, M.D.; John Armstrong; William Wallace Kenny, M.B.; Philip Mackay Ellis; Patrick Joseph O'Sullivan, M.D.; Edward Michael Angelo Hogan; Andrew Irwin; Thomas Kearney; William McCarthy; James Fitzgerald Brodie.

Bombay Medical Establishment.—Surgeon Henry Cook, M.D., Surgeon Isidore Bernadotte Lyon, and Surgeon Andrew Barry, M.D., to be Surgeons-Major.

Scots Guards.—Surgeon Ernest Wyndham Cottle resigns his commission.

BIRTHS.

Crombie.—On August 28, at 140, Finborough-road, South Kensington, the wife of John M. Crombie, M.A., M.D., of a daughter.

Fyffe.—On August 27, at Netley House, Victoria-square, Clifton, the wife of W. Johnstone Fyffe, M.D., of a son.

MARRIAGES.

Brown—Steele.—On August 28, at St. Mary's, Scarborough, William Brown, L.R.C.P. Edin., etc., of Carlisle, to Clara, daughter of the late John Steele, of Carlisle.

Elkington—Derrington.—On August 29, at Chetwynd Church, Ernest Alfred Elkington, M.B., of Newport, Shropshire, son of George Elkington, of Edgbaston, to Maria Eliza, daughter of the late Thos. Derrington, of Chetwynd Villa, Newport.

Hardy—Otley.—On August 22, at the parish church, Otley, Yorks, William G. Hardy, M.B., of 1, Sturt-villas, Bournemouth, to Annie, second daughter of the late John Dacre Otley.

Mack—Scott.—On August 30, at Pitcairn-green House, Perthshire, N.B., J. Steele Mack, L.R.C.S. Edin., of Colmonell, Ayrshire, N.B., to Emma Jane Anne, only daughter of Mr. Thomas Scott.

Mallam—Dodd.—On August 28, at St. Luke's, Uxbridge-road, W., William Prior Mallam, L.R.C.P. Lond., M.R.C.S. Eng., of 6, Boscombe-terrace, Shepherd's-bush, to Jessie Helen, elder daughter of John Packman Dodd, of 6, Wilton-villas, and formerly of Throwley Parsonage, Kent.

Paget—Salomons.—On August 29, in London, George Edmund Paget, M.A. Cambridge, eldest son of Professor Paget, M.D., of Cambridge, to Stella Rosalind Jeanette, youngest daughter of the late Philip Salomons, Esq., of Brighton.

Robathan—Wilkie.—On September 3, at St. Mary's Islington, George Beckett Robathan, M.R.C.S., of Brighton, to Frances Elizabeth Muirhead, widow of the late Joseph Wilkie, J.P., of Melbourne.

Shapter—Bayly.—On September 3, at St. Sedwell's Church, Exeter, Lewis Shapter, M.D., of The Barnfield, Exeter, to Charlotte, youngest daughter of Captain E. Bayly, of Friar's Lodge, Exeter.

DEATHS.

Carr, Jabez, M.R.C.S., L.S.A., at Effingham House, Leamington, on September 1, in the 67th year of his age.

Dukes, Arthur E., youngest son of E. Dukes, M.R.C.S., of 52, Marquess-road, Canonbury, on September 4.

Geddes, James Loraine, late Surgeon-General Madras Army, at Coonoor, Madras Presidency, on August 6, aged 78.

Scott, William, M.D., Surgeon-Major, late Madras Army, at 27, India-street, Edinburgh, on August 28, aged 60.

Yorke, Christopher Francis, M.D., at Granard, Co. Longford, on August 27, aged 42.—R.I.P.

York, George Billing, M.D., at Great Bowden House, Market Harborough, on September 1, aged 44.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

Beaford General Infirmary.—Resident Surgeon. Applications, with testimonials, to the Chairman of the Weekly Committee, on or before September 27.

Nantwich Union.—Medical Officer. Applications, with testimonials of qualification, to C. E. Speakman, Clerk, on or before September 12.

North-Eastern Hospital for Children, Hackney-road, E.—Physician. Candidates must be either F. or M.R.C.P. Lond. Applications, with qualifications and testimonials, to Alfred Nixon, Secretary, 27, Clement's-lane, E.C., on or before September 11.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

A Pupil.—You are too late for the Arts Examination for the fellowship of the College. The advertisement appeared some weeks ago in the *Medical Times and Gazette*. Write to the Hall on the subject.

A Member of the B.M.A.—The excursion to the lakes took place immediately after the annual meeting at Manchester, when, as usual, Mr. Cook, who organised it, gave the greatest satisfaction to the members who accompanied him. We have not heard where the next meeting will take place; Belfast and Cork have been named.

Bibliopole.—As stated last week, the library of the College of Surgeons will be closed during September.

L. E. C.—"Words are things, and a small drop of ink
Falling, like dew, upon a thought, produces
That which makes thousands, perhaps millions, think."
Byron.

C.B.S.—Kew Gardens were first opened to the public in 1847, at the recommendation of Sir William Hooker.

Sic.—Anatomy of the human body was renounced for many ages, and was not revived till the sixteenth century. The dissection of a human body was held sacrilege till the reign of Francis I.; and there is a consultation extant which the Emperor, Charles V., caused the professors of theology at Salamanca to hold, in order to inquire whether a human body might be dissected for the knowledge of its structure with a safe conscience. Vesal, a Flemish physician, who died in 1564, was the first who reinstated anatomy.

Inventor.—Addison says—"There is not a more painful act of the mind than that of invention. Yet in dreams it works with that care and activity that we are not sensible when the faculty is employed."

Sanitas.—One of the first legislative enactments of modern times on the subject of sewers was an Act of 9th Henry III., about 1225, which was followed by others; and the whole of the legislation then prevailing was carefully reviewed and condensed by Sir Thomas More in the "Bill of Sewers," which became law in 25th Henry VIII., or in 1531.

BOOKS AND PAMPHLETS RECEIVED—

Cassell's History of India, part 21—John Millar, L.R.C.P. Edin., Hints on Insanity and Signing Insanity—William W. Keen, M.D., On the Surgical Complications and Sequels of the Continued Fevers—Herbert Fry, The Royal Guide to the London Charities for 1877-78—W. T. Lusk, M.D., Morphia in Childbirth—Emilie Bovell, M.D., De quelques Accidents de l'Epilepsie de l'Hystéro-Epilepsie.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Home Chronicler—La Province Médicale—Cincinnati Clinic—Obstetrical Journal of Great Britain and Ireland—National Anti-Compulsory Vaccination Reporter—Leisure Hour—Sunday at Home—Veterinarian—Archives Générales de Médecine—Monthly Microscopical Journal—Edinburgh Medical Journal—New York Druggists' Advertiser.

TO CORRESPONDENTS.

We beg to return our best thanks to the Registrars and Secretaries of the various Universities, Colleges, and Schools for their prompt replies to our Circular, and for the trouble they have taken in supplying the latest Regulations of the Institutions with which they are connected.

As this number is almost entirely devoted to matter mainly concerning Students, many most important communications and contributions unavoidably stand over.

We have here given everything of importance for the entering Student to know; for any further details he should apply for a prospectus to the authorities of the School he may select.

APPOINTMENTS FOR THE WEEK.

September 8. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

10. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

11. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

12. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

13. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

14. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, September 1, 1877.

BIRTHS.

Births of Boys, 1248; Girls, 1248; Total, 2496.
Average of 10 corresponding years 1867-76, 2174·3.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	630	608	1238
Average of the ten years 1867-76	701·6	656·7	1358·3
Average corrected to increased population ...	...	...	1453
Deaths of people aged 80 and upwards ...	...	...	32

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	4	3	3	1	...	...	2	...	21
North	751729	7	5	7	1	6	...	2	...	25
Central ...	334369	...	1	4	1	4	1	1	...	15
East	639111	1	5	3	2	3	4	4	...	43
South	967692	8	3	9	...	6	...	3	1	50
Total	3254260	20	17	26	5	19	5	12	1	154

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·715 In.
Mean temperature	59·5°
Highest point of thermometer	73·3°
Lowest point of thermometer	43·2°
Mean dew-point temperature	51·8°
General direction of wind	W.S.W.
Whole amount of rain in the week...	0·42 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, September 1, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Sept. 1.	Deaths Registered during the week ending Sept. 1.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2496	1238	73·3	43·2	59·5	15·28	0·42	1·07
Brighton	102264	43·4	61	59	69·1	46·7	59·2	15·11	0·63	1·60
Portsmouth ..	127144	28·3	70	49	66·2	49·0	58·8	14·89	1·39	3·53
Norwich	84023	11·2	56	38	71·0	45·2	58·8	14·89	1·20	3·05
Plymouth	72911	52·3	36	28	67·0	48·5	58·9	14·94	2·15	5·46
Bristol	202950	45·6	142	87	69·9	41·0	57·6	14·23	2·37	6·02
Wolverhampton ...	73389	21·6	40	37	68·5	41·4	55·5	13·06	0·66	1·68
Birmingham ...	377436	44·9	325	195	...	...	...	...	...	...
Leicester	117461	36·7	78	74	...	...	...	...	...	...
Nottingham ...	95025	47·6	64	44	70·8	39·2	56·7	13·72	1·65	4·19
Liverpool	527083	101·2	417	250	66·1	48·1	55·2	12·89	0·67	1·70
Manchester ...	359213	83·7	264	163	...	...	...	...	...	...
Salford	141184	27·3	105	104	67·7	39·1	54·1	12·28	0·91	2·31
Oldham	89796	19·2	73	39	...	...	...	...	...	...
Bradford	179315	24·8	131	71	66·2	46·0	55·0	12·78	1·36	3·45
Leeds	298189	13·8	204	121	70·0	44·0	56·1	13·39	1·39	3·53
Sheffield	282130	14·4	212	97	70·0	44·5	56·2	13·44	1·18	3·00
Hull	140002	38·5	118	73	67·0	42·0	55·6	13·12	0·95	2·41
Sunderland ...	110382	33·4	68	55	76·0	45·0	57·4	14·11	1·19	3·02
Newcastle-on-Tyne	142231	26·5	119	66	...	...	...	...	...	...
Edinburgh	218729	52·2	123	81	63·0	42·0	53·5	11·95	1·38	3·51
Glasgow	555933	92·1	353	231	60·8	44·2	54·5	12·50	2·41	6·12
Dublin	314666	31·3	193	127	70·4	38·0	55·6	13·12	0·59	1·50
Total of 23 Towns in United Kingdm	8144940	38·3	5748	3327	76·0	38·0	56·6	13·67	1·25	3·17

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·72 in. The lowest reading was 29·35 in. at the beginning of the week, and the highest 29·94 in. on Saturday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

THE HUNTERIAN LECTURES FOR 1877.

ON DEFECTS OF VISION WHICH ARE REMEDIABLE BY OPTICAL APPLIANCES.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

By ROBERT BRUDENELL CARTER, F.R.C.S.,
Late Professor of Surgery and Pathology to the College; and Ophthalmic Surgeon to St. George's Hospital.

LECTURE VI.—ASTHENOPIA.

MR. PRESIDENT,—In a large proportion of cases of ametropia, and in some in which no ametropia is discoverable, we find that the employment of the eyes is limited by conditions of time. After a period of use, longer or shorter according to circumstances, either the vision becomes indistinct, or pain is experienced in the eyes themselves, in the orbital regions, or even generally about the head. In many instances the symptoms of distress commence with indistinctness, which, if the visual effort be continued, leads on to pain. In many there will be found some form of obstinate conjunctival trouble. In a few the headache is the precursor of sickness, vertigo, palpitation, and other symptoms, which may collectively occasion the belief that the patient is suffering from some obscure cerebral or cardiac affection. The foregoing conditions are conveniently included under the general term of asthenopia, or weak sight, depending, as they all do, upon some cause which renders sustained visual effort impossible. The word is only a convenient way of saying that the patient cannot use the eyes for long together; and it requires to be supplemented, in every case, by some other descriptive of the precise nature and apparent cause of the affection.

In some cases asthenopia is associated with manifest defect of vision; in others the vision is little, if at all, below the normal standard.

For many years, asthenopia, although well known to ophthalmic surgeons, was regarded as incurable. The ordinary prescription for it was to abandon all endeavours to use the eyes in near vision; and, as a means of carrying out this recommendation, patients were often further advised to become farmers or emigrants.

When Donders discovered the existence and the nature of hypermetropia, he saw at the same time that many cases of asthenopia were dependent on the strain thrown upon the accommodation of hypermetropic eyes, and that such cases could be effectually relieved by the use of convex spectacles. He was even disposed, for a time, to look upon all cases of pronounced asthenopia as being of this kind. The increased attention which was soon given to the subject was not long, however, in producing evidence that many asthenopic patients were not hypermetropic, but myopic; and it was assumed by Von Graefe that in these the cause of the distress was in the strain thrown upon the interni in maintaining the convergence of the visual axes to some given distance. He described this as muscular asthenopia, and the hypermetropic form as accommodative asthenopia; and to these two categories nearly all cases of asthenopia were for some time referred. Later experience has shown that emmetropic eyes sometimes suffer from asthenopia, and that the causes of the affection may be exceedingly obscure; but still the two forms first mentioned, the accommodative and the muscular, may be taken to include the large majority of the cases which present themselves in ordinary practice. In the former, inability to maintain the accommodation effort; in the latter, inability to maintain the convergence effort, is the immediate cause of the failure of sight.

I think it must be conceded that the liability to asthenopia in any community, whatever the immediate causes of the affection in each case, bears a great relation to the general nervo-muscular excitability of the people. In England we are sufficiently familiar with asthenopic patients, and their ailments form an appreciable proportion of the claims upon the attention of ophthalmic surgeons. There can be little doubt, however, that in the United States asthenopia is much more prevalent than on this side of the Atlantic. At the International Ophthalmic Congress, held at New York in 1876, two of the ophthalmic surgeons of that city read papers on asthenopia—one of them founded upon an analysis of 1079 cases, and the other upon an analysis of 1060 cases; all, as I understood, observed in private practice. I much doubt whether any two practitioners in any other capital in the world could have cited similar numbers; and I feel sure that the conditions of life in America must be largely contributory to the state of things which they disclose.

I have already said that asthenopia is often associated with conjunctival troubles; and that this should be the case is not surprising. Asthenopia has one universal character; which is that some one or more of the muscles of the eye are unduly fatigued or strained by exercise of the visual function; and such fatigue or strain tends naturally to the production of active congestion while it continues, and of passive congestion when the effort is temporarily laid aside. Extending to the conjunctival surface, this congestion relieves itself by oversecretion of mucus; and leads, after a time, to hypertrophy of the papillæ and to consequent roughness of the lids. These troubles react upon and increase the irritability of the eye; and sometimes occasion nutritive changes of a still more serious kind. The chief peculiarity of asthenopic conjunctival affections is their obstinate and recurrent character; and, when any form of conjunctival disorder either resists treatment, or shows a marked tendency to relapse after improvement, as soon as the eyes are taken into regular use, asthenopia should be suspected and sought for. In many cases the patient will attribute the symptoms of asthenopia to the conjunctivitis, and careful examination will be required in order to determine their actual nature.

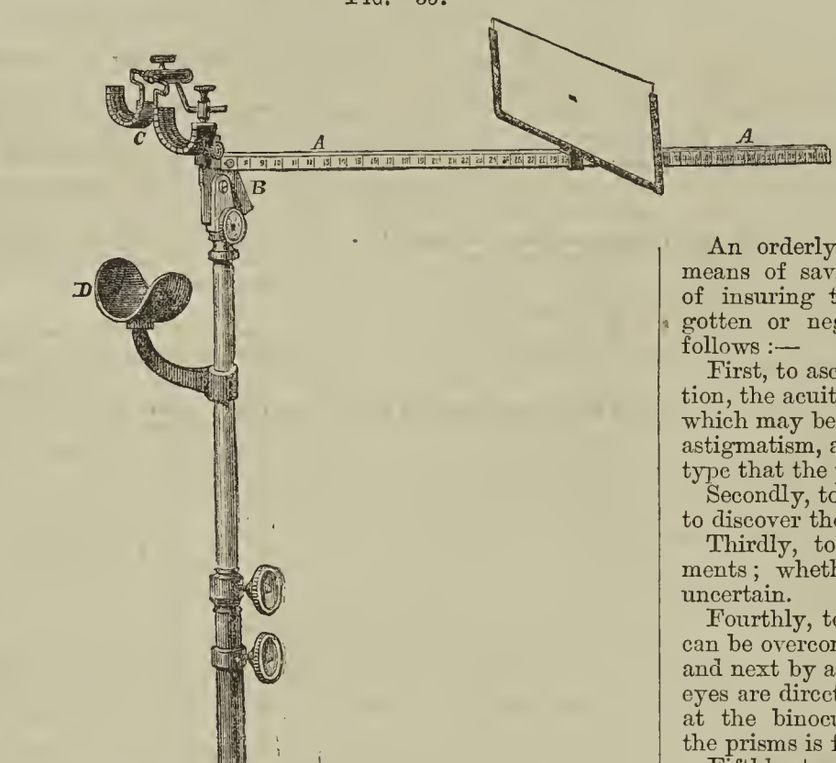
During many years the ophthalmoscope served to surround cases of asthenopia with all manner of unreal or imaginary dangers. The congestion already mentioned is not limited to the ocular surface, but may extend also to the deeper parts of the organ, notably to the optic disc and its immediate surroundings. In this region it may even give rise to some slight effusion into the fibre layer of the retina. Congestion of the optic disc and retina, when first made known by the ophthalmoscope, and when coupled with incapacity for continued use of the eyes, were eagerly accepted as signs of threatened, or impending, or actual retinitis; and, when coupled with symptoms of head distress as part of the asthenopia, were accepted as signs of impending or actual mischief in the brain. It is wearisome to think of the amount of nonsense which has been talked and written on the basis of these two errors; which have also been answerable for a vast deal of misdirected and even mischievous treatment. The idea of retinitis, or the idea of brain disease, led directly to the prescription of "rest" for the eyes; a prescription which, in 1874, I ventured to describe as being utterly wrong in principle, and as leading invariably to unfortunate results in practice. Setting aside manifest inflammation, such as iritis or irido-choroiditis, we may lay it down as a rule, almost if not quite without exception, that pain as a result of visual effort is symptomatic of some purely muscular trouble, that congestion associated with the pain is due to disturbed or excessive muscular action, and that the remedy is always to be sought in careful analysis of the muscular elements of the visual act, in the relief of any strain which this analysis may disclose, and in the regular and systematic employment of the eyes under improved conditions. To rest asthenopic eyes may be to relieve them from pain while the rest continues; but the relief is dearly bought at the cost of rendering the disused muscles even less fit for exertion than they were before. The brain troubles which occasion loss of sight—*e.g.*, intra-cranial tumours—may be associated with headache, but only with headache which is independent of visual effort; and retinal affections, such as neuro-retinitis leading to nerve atrophy, and the like, are even characteristically painless. The attention of the patient is usually first called to them by the discovery that his sight is fading away without pain. I have come to regard pain, other than glaucomatous or inflammatory pain, as a symptom which alone is almost sufficient to justify a favourable prognosis in any case of imperfect or conditioned vision.

In the great majority of cases of ametropia, and especially in hypermetropia and astigmatism, some pain will form part of the complaint made by the patient. Generally speaking, however, the pain will be relieved by the correction of the obvious defect, and no more trouble will be experienced. Such cases are primarily classified as ametropia, and their asthenopia is obviously a mere complication or result. There are others, however, in which asthenopia is present in great severity, and in which the cause is either not obvious, or the relief of some obvious defect fails to cure the asthenopia. These cases may be looked upon as typical examples of asthenopia, and their treatment requires much care and

circumspection. It can only be conducted upon the basis of a complete knowledge of the state of every single element in the performance of the visual function; and this knowledge can only be attained by a thorough, systematic, and orderly examination.

In order to facilitate this examination, I designed, and Mr. Hawksley constructed for me in 1875, an optometer intended to hold certain combinations of lenses and prisms, and to carry an object of vision at convenient distances. In America, last year, I found that the same idea had occurred to Dr. Risley, of Philadelphia, whose instrument, in many points of detail, was more complete.than mine; and I was therefore glad to take it into use. It can now be obtained from Mr. Hawksley, and is shown in Fig. 35.

Fig. 35.



The instrument consists of an upright pedestal, supported by a heavy foot, and containing a rod which is made to slide up and down, and is capable of being fixed at any desired height by a binding screw. At the top of this rod there is a quadrilateral brass bar, A A, fifty centimetres long, and graduated both in centimetres and in English inches. By means of a quadrant and screw, B, the bar can be fixed either in a horizontal position or with an inclination downwards, and, when not in use, it folds down out of the way. Along the bar there slides a slight metal carrier, to receive cards or other contrivances for test objects; and at the proximal end of the bar there are two semicircular clips, C, capable of being approximated or separated, and each one grooved to receive three lenses. On the sliding rod there is a chin rest, D, which may be turned aside when not wanted; and, when the object-carrier is removed, the bar is also made to carry a quadrant intended to be used as a perimeter. For testing vision, the apparatus being first set at a comfortable height, and the bar at a convenient angle, the clips are so adjusted that their centres may be as far apart as the pupils of the eyes. A suitable test object—a word, line, dot, star, or whatever may be necessary—is placed in the carrier, and any required lenses or prisms in the clips, which, having three grooves, admit of all sorts of combinations. When the bar is lowered, the same clips will serve to hold lenses, or prisms, or both, for the purpose of testing the vision with distant objects. The apparatus can in no sense be described as essential to a complete examination of the visual functions; but it has the merit of rendering such an examination more easy, and of saving much time in its accomplishment.

An orderly and systematic method of proceeding is also a means of saving time; and it has the additional advantage of insuring that no part of the examination shall be forgotten or neglected. My own course of proceeding is as follows:—

First, to ascertain, for each eye singly, the apparent refraction, the acuity of vision, the manifest degree of any ametropia which may be discovered, the presence or absence of evident astigmatism, and the distance of the near-point for the smallest type that the patient can read near at hand.

Secondly, to find whether there is binocular vision, and, if so, to discover the distance of the binocular near-point.

Thirdly, to observe the characters of the ocular movements; whether they are regular and steady or jerky and uncertain.

Fourthly, to ascertain what are the strongest prisms which can be overcome, first by abduction, with their bases inwards, and next by adduction, with their bases outwards, while the eyes are directed to a word printed in small type, and placed at the binocular near-point. The evidence of overcoming the prisms is furnished by the maintenance of single vision.

Fifthly, to ascertain what is the nearest point to which the visual axes can be directed, accommodation being reinforced by convex lenses.

Sixthly, to test the powers of abduction and of adduction once more; the eyes being directed to an object, preferably a steady candle-flame, placed at a distance of from eight to twenty feet.

Seventhly, to prescribe a solution of neutral sulphate of atropia, of the strength of four grains of the salt to the ounce of distilled water, a drop of which is to be applied to one or both eyes at bedtime, and twice, with an interval of two hours, on the following morning. Two hours after the last application, the refraction should be again very carefully examined, with especial reference to small degrees of either ordinary ametropia or of astigmatism.

By following this routine, and by noting down the results as we proceed, we obtain a precise account of the state of the refraction, the accommodation, and the convergence; and we ascertain whether the normal relations of these functions are disturbed. In a general way, the first part of the examination, up to the use of atropia, may be easily accomplished at a single interview; but it is better to see the patient a second time than to run any risk of being misled by careless answers when the eyes are tired. Whether the atropia should be applied to one or to both eyes, should generally depend upon the engagements of the patient. As a rule, I prefer to apply it to both at once; but, where there is any business which requires attention, it is best to let the first eye recover its power of accommodation before the other is taken in hand. The results of the examination may be most quickly and conveniently recorded by filling up blank spaces in a printed form; and this method is also the best way of obtaining materials for tabulation when a sufficient number of cases has been observed.

When all the facts bearing upon the question have been investigated and set down in order, they will at once suggest the most probable reply to the inquiry whether the asthenopia must be attributed primarily to strain of accommodation, or primarily to strain of convergence.

Strain of accommodation may be produced by any of the following conditions:—

1. Deficient power of the ciliary muscle, either as a matter of formation, or as a result of enfeebling illness.
2. Impaired elasticity of the lens, as in presbyopia.
3. Excessive demand, as in hypermetropia.
4. Constant variation of demand, as in astigmatism.
5. Unequal demand in the two eyes, as in anisometropia or antimetropia.

The cases which belong to the first three classes have the common characteristic that the need for the exercise of accommodation is greater than the power of exercising it; and they differ chiefly in respect of the side from which the inequality arises. In some, as in presbyopia, the difficulty is on the side of the lens; in others, as in weakness, it is on the side of the muscle; in others, as in high degrees of hypermetropia, the demand is in excess of the normal activity of the function. In all these varieties we may lay down the general rule to which I have already referred—namely, that if the demand for accommodation, whether it be normal or abnormal, is in excess of half the power of the function in the particular case, the demand will not be continuously satisfied without pain and distress; and hence that the strain of the accommodation, in all such cases, may be accepted as a probable explanation of the asthenopia, and should be relieved by spectacles as a first step in treatment. If the spectacles prescribed for this purpose are not successful, they will at least clear the ground for further investigation. It is obvious that some patients will be able to exert habitually something more than half their accommodation, while others will only be able to exert habitually something less than half; but in this, as in all analogous cases, no rule can be laid down which will be more than an approximation to the truth, or which will not require modification in practice in order to adapt it to individual necessities. Still, if the working distance of the patient does not demand the exercise of half, or nearly half, his accommodation, and if neither of the conditions mentioned under the two last headings is present, the first hypothesis about the asthenopia would be to seek its cause in some undue strain of the convergence.

The following cases may be cited as typical illustrations of their respective kinds; it being supposed that each patient requires to apply the eyes continuously to an object of vision at a distance of fifteen inches from them.

A. Emmetropic; age twenty-one. In consequence of paresis of the ciliary muscle, produced by diphtheria, has only four dioptrics of accommodation. Half this range, or two dioptrics, would bring the near-point to twenty inches; and, to bring it to fifteen inches, 2·66 dioptrics are required—an amount about equal to two-thirds of the total range.

B. Emmetropic; age forty-three. Accommodation normally reduced to four dioptrics by presbyopia. Excess of demand the same as in the preceding case.

C. Hypermetropia of two and a half dioptrics; age twenty-one. Accommodation of nine dioptrics. Of the 4·5 dioptrics of accommodation which can be continuously exercised, 2·5 are consumed by the hypermetropia, leaving only 2 dioptrics available for near objects, and hence the same conditions as in the former cases.

In estimating the strength of the convex glasses which should be prescribed for these three patients, it must be borne in mind that, under favourable hygienic conditions, the accommodation of patient *A* will probably be restored to the normal standard in a few weeks or months; and hence it is not desirable to give him more help than is absolutely necessary. Convex glasses of too high a power, which completely relaxed his accommodation, would deprive his ciliary muscle of wholesome exercise. He should therefore receive lenses of 0·75 only, and should be encouraged to use his eyes in a reasonable degree. Patient *B*, on the other hand, is at a period of life when his accommodation will decline rapidly; and he may at once receive lenses of a dioptric and a half. The accommodation of patient *C* will, at his age, change but slowly; and his hypermetropia may be corrected completely, either at once or by two gradations of glasses, on the plan described in the fourth lecture. When it is fully corrected he will need no farther assistance until he arrives at the age of commencing presbyopia. When that times comes he will need an addition to his spectacles equal to the power which an emmetropic person would require at the same period of life.

In cases of the fourth class, although there is often great strain of the accommodation, the degree of this strain can no longer be measured by the total range of the faculty. In astigmatism the strain arises from the constant variation of the demand, which has to provide in quick succession, and with unchanged convergence, for clear vision of those boundaries of figures which correspond with the chief meridians of corneal curvature. Supposing these meridians to be vertical and horizontal, the patient, in every act of seeing, accommodates first for the vertical and then for the horizontal boundaries of the object, or *vice versâ*. The effort is even greater than that which would be necessary if the object—a printed page, for example—were moved quickly to and fro before the eye, because in such movement the convergence would be altered together with the accommodation. The effect of the constantly varying accommodation will depend, in some degree, upon the amount of the variation—that is, upon the grade of the astigmatism; but, even in low grades, it is often beyond the powers of the normal function. When different forms of astigmatism are compared, my experience is that the hypermetropic forms occasion more distress than the myopic, the compound more than the simple, and the mixed forms most of all; but the difference between the susceptibilities of different persons is too great to allow any general rule of this kind to be laid down. Donders originally expressed the opinion that astigmatism of less than a dioptric was scarcely disturbing to vision; but such a degree is certainly highly disturbing in some cases; and in every instance of obscure asthenopia any discoverable astigmatism, however small, should be corrected, more especially if it should be of the mixed variety. The correction of even half a dioptric has been followed by excellent results in certain instances.

In the fifth class, comprising anisometropia and antimetropia, the accommodation strain is often felt when the range of the faculty, for each eye singly, is normal, and it then appears to depend upon the inequality of demand in the two. The nerve stimulus which produces accommodation is believed to be transmitted from the centre in an equal degree to each eye, and no inequality of accommodation is thought to be possible, except from peripheral failure in one of them. Supposing the eyes, although unlike in their refraction, to be in all essential respects healthy, and to be directed to the same object of vision, it is assumed that only one of them will receive a perfectly sharp image, or will be perfectly accommodated for the object; the other being incorrectly accommodated, and therefore receiving an image which is less sharp, but which may still be sufficient to maintain binocular vision. It would seem, at first sight, as if such an arrangement must lead to the constant employment of the eye which is most easily adjusted, and to a practical neglect of the dim image received by the other, such as obtains in ordinary squint. If this were so, there would be no apparent cause for asthenopia, unless the accommodation of the eye most used was itself unduly strained. But, as a matter of fact, we find asthenopia in a large proportion of such cases; and it may possibly be brought about by the relations which exist between the two eyes. There is much reason to believe that, in ordinary binocular seeing, although both eyes are concerned, they are not, at any given moment, both concerned equally; but that one of them is active, and the other more or less passive or complementary, the two exchanging their functions in this respect from time to time, and each becoming, so to speak, anode and cathode by turns. Assuming this relationship between them to exist, so that each eye takes up the more active seeing alternately with its fellow, we shall have a demand for a correspouding variation of accommodation whenever the change of function takes place; and I am disposed to think that this is the true explanation of the occasional asthenopia of unequal eyes. Let it be supposed that the right eye has a myopia of one dioptric, and the left a hypermetropia of the same degree. There would then be an increase or a relaxation of accommodation equal to two dioptrics, whenever the transference of the more active seeing occurred; and the familiar experiment of looking at a star with one eye only, until it disappears from view, leads to the supposition that such a transference must occur every few minutes. If this be so, the alternate tension and relaxation of the accommodation, for the same degree of convergence, may very well become a source of visual strain.

It would appear, at first sight, that the correction of anisometropia or of antimetropia would be simple, and would require only the application, to each eye, of the lens necessary for its own defect. Sometimes this plan will answer well, but sometimes it is impracticable. Every lens, placed before an eye, alters the size of the retinal image; and hence, when two unlike lenses are employed, the effect is to give the two eyes images of unequal magnitudes, which cannot always be fused into one. We shall find some persons who fuse the unequal into one. We shall find some persons who fuse the unequal images readily, and others who cannot fuse them at all. My

mpression is, that the cases in which fusion is resisted are usually those in which binocular vision was previously sacrificed to the defect; and that in these we seldom meet with asthenopia as a consequence of it. The only possible rule of practice is to test the power of fusion with unequal glasses, and, if it exists, to let such glasses be worn continuously. When fusion cannot be accomplished, the requirements of the better eye of the two must chiefly be taken into account, and the patient should be encouraged to use it singly. At the same time, the worse eye must not be neglected; but, being furnished with a lens suitable to its wants, it should be used at regular intervals, in order to keep its retina duly exercised and receptive. By reading with it systematically, even for a few minutes at a time, three or four times a day, its vision may often be improved; and I have sometimes seen the increased attention thus paid to its impressions result in the restoration of binocular vision, so that each eye could eventually be separately corrected, and yet the two be employed in unison.

(To be continued.)

CASES OF INHERITED SYPHILIS.

NOTES FROM A CLINICAL LECTURE AT ST. MARY'S HOSPITAL.

By Mr. HAYNES WALTON,
Surgeon to the Hospital.

How the Infection is received.—Markings on Infant.—Clinical Examination of Three Cases.—Proof of their Syphilitic Nature.—How the Symptoms appear.—Treatment.

Gentlemen,—The eye is an organ of special sense, in which the morbid influences of syphilis, as an inherited effect, are frequently and strongly developed. The three cases of this ocular juvenile constitutional poisoning, now in the hospital, shall supply us with stock material for this day's clinical remarks.

In the first place, I should tell you how the bad inheritance is derived, whence and under what conditions it is received. It comes from the one or the other parent. A father or a mother, with a primary sore, or with constitutional syphilis, may beget a child and transmit syphilis to it. After impregnation from a healthy male, the woman may receive syphilis by inoculation from another man who has a primary sore, and give it to the fœtus in her womb. A father may beget a syphilitic child without inoculating the mother directly, although she may be secondarily syphilised by absorbing the diseased secretions from the diseased fœtus. A fœtus and its membranes may show the strongest marks of syphilitic implication.

In all the cases before us, an ophthalmitis, *i.e.* inflammation of all the tunics of the eyeball, has prevailed. In Case 1, the girl aged sixteen, the ocular subjective symptoms on admission were—loss of useful vision of the right eye, so that fingers could not be counted a foot off; impaired vision, loss of acuteness, in the other eye. The objective symptoms were alike in both eyes, but much more marked in the left, viz., redness of the sclerotica, especially in the ciliary region, partial adhesion of the pupil, haziness of vitreous body. In the left the retinal vessels were not visible, and in the right but faintly so. According to the girl's account she never had good sight, had had several inflammatory attacks in the eyes, and an unusually severe one had induced her to seek aid at St. Mary's Hospital.

In Case 2, also a girl, aged fourteen, the subjective symptoms were—loss of sight in the right eye, and only enough sight in the left to enable her to find her way about in the ward. The objective symptoms were hyperæmia of both scleroticæ; interstitial opacity of the right cornea to a degree that hid the pupil and nearly all the iris, and general interstitial opacity of the left, but yet thin enough to enable one to see that the iris was discoloured, and the pupillary margin much adherent. The history told me that the eyes had been bad so long as the patient could remember; that the degree of the symptoms had fluctuated; and only in the later years had the sight been so seriously affected.

In Case 3, a male, seemingly aged about eighteen, the subjective symptoms were so nearly like those of Case 2 that they need not be described; and the objective symptoms were alike, but more severe. No history could be got, as the poor fellow is deaf, which deafness is acquired, and of syphilitic origin.

Now as to the evidence of these eye affections being syphilitic. Case 1 was a first child; Case 3 was the child that lived, the first-born having been a miscarriage.

It is usual in constitutional syphilis that the first or the earlier children become diseased, and it is very common for an infected fœtus to be prematurely expelled: There were, too, in both marks of sores about the mouth and anus. But all the patients had the notched and undeveloped teeth—Hutchinson teeth—so characteristic of inherited syphilis.

The usual typical commencing symptoms of inherited syphilis in infants and children are these:—The infant is attacked or is born with copper-coloured eruptions, snuffles, aphthæ of the mouth, and mucous tubercles about the genitals or anus. The eyelashes are exfoliated, and the nails may be unhealthy. When the second teeth appear, the undeveloped peg-like or notched condition of the front and lateral incisors is seldom absent.

The time of appearance of inherited syphilis in the eye is frequent in infancy, and if not then, certainly in childhood.

There is no essential difference between the symptoms of inherited syphilitic ophthalmitis and secondary syphilitic ophthalmitis in the adult, except in the former being less acute and severe. The surface of the eyeball, the sclerotica, and the conjunctiva, are seldom very red. The as yet undeveloped eyeball may account for this.

Treatment.—The principles for this are the same as those which I recommend to you and practise for the same disease in the adult, adapted only to the early age of the patient. Mercury is the chief remedy. In infancy and early childhood we must resort to inunction, and rub the drug into the soles of the feet, the axillæ, the groins, or the calves, from a scruple to a scruple and a half of the ung. hydr. being used daily. This ageney should be employed and continued, as a rule, according to the effect on the disease. The general health and feeding of infants and young children demand the most careful attention. For the former a wet-nurse during the ordinary suckling period supplies the best of all food. When such a nurse cannot be got, milk diet—that is, cows' milk with a proper dilution and sweetening according to the age of the child—should be solely given for nine months. Our patients, from their ages, were treated by the internal administration of mercury. You know that my plan is to give the chalk and mercury with the extract of hyoscyamus, in the proportion of one, one and a half, or two grains of the former, to two, three, or four of the latter, two or three times a day, taking care to avoid purgation, depression, or salivation, by lessening the frequency of the taking, or altering the proportion of the pill. But we must not make an abstraction of the disease syphilis, consider mercury to be the antidote, and ignore other curative measures. Tonics and stimuli are often needed along with it.

(Mr. Walton now proceeded to point out the effect of the treatment on the patients. Case 1 could read large type with one eye, and any type with the other eye. Case 2 could read ordinary type with the left eye, and the interstitial opacity of her other eye was much less. Case 3 had made progress so far that the hyperæmia of the scleroticæ was lost, and the opacities of the corneæ were little less, but not enough reduced to improve vision materially. He pointed out that little could be expected in the way of improvement in corneæ which had been so much damaged. The deafness had not lessened.)

Prize Questions of the Reale Istituto Lombardo di Scienze e Lettere in Milano.—From among these we quote the following:—1. *Premio Straordinario di Fondazione Cagnola*, 1879—"The nature of miasmata and contagia." A prize of 1500 lire (£60), and a gold medal of the value of 500 lire. 2. *Premio Straordinario Castigliani*, 1878—"Demonstrate whether humanised vaccination or animal vaccination constitutes the most preferable prophylaxis for variola." A prize of 700 lire. 3. *Premio di Fondazione Fossati*, 1878—"The functions of the anterior lobes of the human brain, with particular reference to modern opinions on the origin and seat of language." A prize of 2000 lire. 4. The same for 1879—"The history of the progress of anatomy and physiology of the brain during the present century, with especial reference to the doctrine of Gall." A prize of 3000 lire. 5. The same for 1880—"The illustration of some macroscopical or microscopical facts of the human encephalon." A prize of 2000 lire. The essays, written in the Italian, French, or Latin language, must be delivered, postage-free, at the Institute by February 28 of the respective years for the first two prizes, and by April 1 for the last three. Additional information may be obtained of the secretaries of the Institute, Milan.

was greatly checked, bowels became confined (and a purgative is at best a poor substitute for a healthy evacuation), and therefore the kidneys became the sole scavengers; these not being able to get rid of more than a certain quantity, nitrogeu accumulated, and scurvy was the result.

It is well known that when our dogs, and especially our pet dogs, get old and lazy, they frequently get mangy; and, if their gums be examined, they are found to be injected and scorbutic—this I have observed on numerous occasions. These animals are fed almost exclusively on lean meat, the fat being thought unwholesome, and more is given than is necessary for their sustentation; they care little for exercise, and spend most of their time in sleeping on the hearth-rug or in their baskets, so that little nitrogen is required by the system. Dogs are frequently confined in their bowels, so that the work of elimination must be wholly performed by the kidneys; these are frequently impaired in old age,(f) and accumulation of nitrogenous matter must result. Their teeth, too, aro worn out, and thus the food is ill-masticated; this throws extra work on the already decaying organs, and hastens their dissolution. It may be asserted, in opposition to this, that mange in dogs is the same as scabies in man; this may be the ease occasionally, but not in the majority of cases, as any one who will take the trouble to observe closely may prove for himself. That scurvy will make the hair fall off is certain, from frequency of baldness in scorbutic people, and the return of the growth of hair when the disease is checked. I have observed that veterinary surgeons almost invariably prescribe a farinaceous diet for dogs suffering from mange; this is prescribed empirically. Old lions and tigers when killed are frequently found to be "mangy," and their teeth worn to stumps; and this "mange" I believe to be scorbutic, and to be caused in the same way as in old dogs.

I have frequently cured the mange of old dogs, and the accompanying soreness of the gums, by the administration of olive oil, and have administered eod-liver oil to scorbutic sailors with the best results.

We know that every Arctic expedition has suffered from scurvy, and it seems that during intense eold men are more subject to the disease. From its having broken out in the *Tegathoff*, of the Austrian Arctic Expedition, when lime-juice was regularly served out, Lieutenant Payer was led to believe that this much-vaunted antiscorbutic loses its power in a low temperature; but it seems to me far more probable that lime-juice is an insufficient antidote. During extreme cold, elimination by the skin is checked, or altogether suspended; men are usually more costive in cold than in warm weather: these two outlets being elosed, a glut ensues aud scurvy is the result.

Before going further it may be well to say a few words about lime-juice, and see how far or how little we cau trust to it as an antiscorbutic. Its use was introduced into the Navy at the instigation of the Society of Friends, who demonstrated its efficacy to the satisfaction of the powers that were; but on what evidence I have been unable to discover. Siuce that time every writer on the subject of scurvy has recommended the use of lime-juice, but invariably this has been done empirically; and none should know better than the medical profession how likely empiricism is to err. It is generally asserted, and with truth, that since the use of lime-juice in the Royal Navy, scurvy has ceased to appear, and the immunity enjoyed is attributed to its use. How is it, I ask, that the same results are not obtained in the Merchant Navy? The fact is, we must look further than lime-juice for the cause of the effects produced. At about the same time as lime-juice was brought into use in the Navy, other important changes were introduced into the dietary scale of the men. Up to this period half a gill of rum was supplied thrice daily, *i.e.*, at breakfast, dinner, and supper, and at this time, for the morning and eveuing grog, eocoa and tea were substituted, and a gill instead of half a gill of rum was giveu at diuner.(g) Shortly after this period iron water-tanks were substituted for wooden casks, and as these preserve the water in a sweeter and more wholesome coudition, the health of the meu is better sustained, and they are thus rendered less liable to the disease. To these several facts rather than to the use of lime-juice alone should be attributed the reduction of the number of scorbutic eases. It seems to me that the only way in which lime-juice can act as an antiscorbutic, is iu its diuretic action aiding, to a eertain degree eliminatiou of the superfluous nitrogen.

That scurvy may occur on a fresh meat diet is certain it may be asked if salt meat is more liable to produce disease than fresh. This is a difficult question to solve v out further knowledge than we have on the subject, indeed without a long course of exhaustive experiments; I think that it may possibly be the case, for habitual m eaters(h) eat no salt with their food, whilst those who, on eontrary, live entirely on vegetable food, eonsume large q tities of it. This would seem that instinct or experience proved its necessity in the one case, and its inutility in other. The Guachos, who live entirely on meat, eat l quantities of fat;(i) probably they have discovered, many others, that a fair admixture of carbon is necessary food.

The facts that I have mentioned eoncerning the disea and I might bring forward many others of the same ki seem to justify us in the belief that scurvy arises fro accumulation of a superabundance of nitrogen in the sys and that lime-juice, however useful as an adjunct, is n eertain preventive. It is therefore necessary to see wha may do in this direction.

It should be madc imperative on shipowners to serve butter and potatoes to their erews; the latter are easily ried, both *au naturel* or in a preserved form. The we amount of sugar should be increased, for even with g economy the present allowance seldom lasts through the v It would be advisable to substitute cocoa for coffee at br fast; but with butter, potatoes, and extra sugar this is absolutely necessary. The amount of meat given—a p and a quarter of beef or a pound and a half of pork daily absurdly large, so that it would be well to think of the po of shipowners; and in consideration of the additions that I advised in thc present dietary scale, I would also propose the amount of beef and pork be reduced to three-quarters pound of either daily.

The apostrophe of an old Cornish captain—"Kip 'is empty an kip 'e 'ard at wurrk, an 'e warnt 'ave scurvy" not without truth, but it is scarcely necessary to lay m stress on the benefits of a good evacuation daily, or the use of laxatives, for sailors are fond of a good "clear o and from my knowledge of shipmasters, they are not the to serve out purgatives in too gentle a manner.(k)

In the event of another Arctic voyage, I would recomm that our sailors should take pattern by the Esquimaux eat a larger portion of fat than they have been in the hab doing hitherto.

For the eure of scurvy a proper *régime* of diet shoul insisted on. The cruciferæ are in great repute, and doub they are somewhat beneficial, though to what extent hard to say, as they have never been tried alone; the be derived from the use of acid fruits is probably much exa rated, but as they are always grateful to the sufferer, the to be recommended. Dr. Niemeyer(l) states that "the he effect of a fresh vegetable diet upon scurvy is much positively ascertained than is the dependence on the wa such nourishment." This author also states that the val beer has a great reputation as an antiscorbutic. I have n seen it prescribed, but on theoretical grounds would be inc to uphold it. Dr. Aitken(m) speaks highly of the us rabbits' blood that was administered to two scorbutic cases this is merely bearing out my views that a properly m diet is needed, the blood of the rabbit containing much o earbon that was required by the patients. Of medicine the early stage of the disease, when the patient is costive should begin with an oleaginous purge, and follow it up some of the neutral salts, such as sulphate of soda or po eombined with liq. ammon. acet.

For the diarrhœa which usually supervenes on the cos ness, I have usually prescribed five grains of the subni of bismuth, with ten drops of castor oil in mucilage peppermint water, with the best results. If there is

(f) I have made several post-mortem examinations on old dogs, and frequently found the kidneys granular. I have so often found only one kidney at these examinations as to lead me to suppose that this is not an infrequent abnormality in dogs.

(g) This has since been reduced to half a gill.

(h) See accounts of the Guachos, in "The Voyage of the *Beagl* Mr. Darwin.

(i) *Ibid.*

(k) I knew one shipmaster whose favourite purge was an ou salts and a wineglassful of castor oil, with a little essence of peppe and water; and another who had a stock pill of gamboge, croto and podophyllin.

(l) "Text Book of Practical Medicine."

(m) "Science and Practice of Medicine."

(n) I have quoted from memory, as I have not a copy of Dr. Ai excellent work at hand.

hæmorrhage from the bowels, turpentine will be found most effectual, and in all cases of debility cod-liver oil acts like a charm. For the local treatment of the mouth it seems to me superfluous to lay down any form of treatment, for as the disease gets well the soreness disappears, but local treatment alone is of no avail.

Napier, New Zealand.

REMARKS ON

THE PRESENT AND THE LAST EPIDEMIC OF SMALL-POX IN LONDON.

By CHAS. A. FOX, Surgeon.

It may be within the remembrance of your readers that, at the commencement of the severe visitation of small-pox in 1871-72, I endeavoured to point out the laws which regulate the fatality of this exanthem in the metropolis, and ventured to predict that a continuation and even increase of the epidemic was to be expected. This unfortunately, as we know, proved to be the case; and thus afforded one among many examples of the utility of statistical research.

The epidemic referred to far exceeded all previous ones that have occurred since the Returns of the Registrar-General have been issued. Its mortality reached the unique proportions of 2 *per cent.* of the population in London, and of 0·1 in the country at large. These were the ratios of death to population (not, as so often erroneously understood by "mortality," the number of deaths) for the year 1871.

It may be as well to mention here that the calculations employed in this paper have been corrected for deaths from causes not specified, for reducing the quarter to a uniform length, and for taking the population at the middle of the quarter. The population, too, has been assumed to have increased, since the Census of 1871, in the same ratio as in the previous decade, and the unequal length of years has been allowed for.

The figures of the great epidemic of 1870-72 have a considerable interest to the statistician and the medical inquirer. On a chart exhibiting its course per week for London, and including each of the five districts, we see that the highest number of weekly deaths was 288. This number was attained at the beginning of May, 1871, when it had lasted just six months. The epidemic had pretty regularly risen to this point from October, 1870, when the deaths first exceeded the weekly average of thirty years,—a point from which I propose to consider the disease as *epidemic*, in the absence of any better definition of the word. At the end of June the number of deaths suddenly declined, until, in the cold months of October and November, they came down to about sixty. The second maximum, the existence of which in the case of small-pox I mentioned in the papers referred to, soon occurred—the deaths reaching, in December, 1871, 106. Thenceforward the disease gradually declined in fatality or prevalence until early in August, when the deaths again came within the average count, and we may regard the epidemic as having ceased. Its duration had been ninety-three weeks—more than seven quarters of a year. It had thus been unusual both in severity and in duration.

The quarterly mortality for small-pox in the metropolis I shall show to be ninety-one to every million of the population. This, of course, has reference to a long series of years. But an idea may be gained of the severity of the late visitation, from the fact that, *whilst it lasted*, the average quarterly mortality was 435 to the million.

It might have been hoped that the force of the disease would be somewhat spent; and such seems to have been the case. The period since our last review, as it witnesses the highest, furnishes the lowest, mortality for small-pox within recent years; as it gives us the instance of longest duration of the disease, so it supplies one of the longest intervals of comparative exemption. The *quarterly* mortalities were as many as seven times (in this quiescent period) less than was ever the case during the thirty years previous: and these eleven amongst them included *all* the quarters of 1874. In the first quarter of 1876 the mortality was not more than 2 per million.

As hinted at the outset of these observations, the *yearly* death-rates, both for London and for England and Wales, exceeded in the midst of the epidemic any occurring in the previous generation, being 2434 to the million for the former, and 1006 for the latter—which surpasses even the high mortality (917) of the year 1838. On the other hand, although during the period by which the epidemic was followed the annual mortality for the country is greater than that for the metropolis, there is in both a marked diminution. The three *continuous* years (1873, 1874, and 1875) were each freer from variola than any in the series—perhaps than any in former times,—sixteen only having died to the million in London in 1874. On an average of these years the ratio of deaths was not more than twenty-four in the metropolis, and seventy-seven for England and Wales; whereas (as will be shown) the death-rates, taken for a long series of years, are respectively 350 and 245.

We are in a position now to verify or correct what were previously stated as the laws of small-pox mortality, since we have a longer series of years from whence to deduce them. The yearly averages for London and the country could at that time only be drawn from the facts of twenty-two years common to both; now we may review thirty years of which we have the requisite data, and these give us as the yearly mortality for London 350 per million, and 245 as that for England and Wales. Or we may take thirty-seven years for the metropolis, when we obtain an average for it of 301, which is still more valuable, though not comparable with the country at large.

On this large basis of thirty-seven years I have also set down the average mortalities for each quarter of the year, which are 104, 102, 74, and 87 to the million respectively. These figures exceed, in each case, those I gave in former papers. They also exceed those which are given by the ten years (1850-60), and by the following decade (1860-70). The difference between the highest and lowest of the seasonal numbers above given is thirty, which is nearly one-third of the average of the four, and indicates a higher range for the disease than appeared on a consideration of the facts of thirty years only. The difference was shown to be nineteen in the previous calculation, eleven less than above stated. The average here referred to is ninety-one, which is thus the quarterly mortality for small-pox on an average of thirty-seven years, and a proportion more reliable than that arrived at when I previously wrote.

The maximum quarter is still found to be the first or winter, and the minimum the third or summer quarter. The first and second quarters, however, as estimated by the present long range of observation, exceed the mortality noticed in my former papers far more than the third or fourth. And it may be justly queried, in view of this fact, whether the unusual severity of the disease in the early part of the year 1871, to which this alteration is mainly due, may not be owing to the remarkably cold character of the winter of 1870-71.

The various mortalities per quarter above noticed may be stated in other terms by the following figures, which give the average number dying per *week* of small-pox in each of the quarters. They are:—Ten for the first, eleven for the second, six for the third, and seven for the fourth quarters.

In a former paper I pointed out the law of recurrence for small-pox epidemics, and endeavoured to show that, as nearly as could be ascertained, they observed an interval of about fifteen quarters.

I would now make a very few remarks upon the visitation of the disease from which we have been recently suffering in the metropolis. This was separated from the last, which we have been considering, by a period of nearly seventeen quarters. For it may be said to have commenced in the middle of October of last year, on the principle assumed in the early part of these remarks.

The returns hitherto obtainable show it to have lasted forty-four weeks (more than three quarters), since on the principle above expressed it must still be considered as epidemical. It pursued in its earlier part an irregular course, and was most virulent at the beginning of the year (116 deaths). It has three times exhibited more than 100 deaths in the week. The mortality it reached in the first quarter of this year was as high as that of the latter part of 1871, being 337 deaths per million of the population. That of the second and last quarter, however, is less than the ratio given by the spring quarter of 1872, when the great visitation was declining, being, in fact, 233 to the million.

What I have here sought to point out will show that the epidemic of 1876 was to be anticipated, and consequently that it cannot be taken as throwing any discredit upon vaccination.

Stoke Newington, N.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

BIRMINGHAM GENERAL HOSPITAL.

A CASE OF UNILATERAL CHOREA WITH ORGANIC CEREBRAL HEMIANÆSTHESIA AND CROSSED AMBLYOPIA—ALBUMINURIA.

(Under the care of Dr. RUSSELL.)

The observations of Charcot, Türck, Landolt, and others, have attached peculiar interest to three elements in the following case—viz., the hemianæsthesia; the impaired vision, in so far as relates to its affecting the entire field in a single eye; and the hemichorea. The source of the interest attaching to these elements is derived from their existing in connexion with each other, and from an important question thence arising respecting the special seat of the lesion to which this group of disordered function is to be referred.

The hemianæsthesia conformed to the type furnished by the *hémianesthésie des hystériques* as described by Charcot, but which has also been found to exist, under very special circumstances, in connexion with coarse disease of the brain (hæmorrhage or softening), and is then distinguished by the same eminent observer by the appellation of *hémianesthésie cérébrale organique*, an appellation designed to separate this form of hemianæsthesia from all other forms not recognising for origin a cerebral lesion properly so-called (*Le Progrès Médical*, August 14, 21, 28, 1875). In the form of anæsthesia in question, at least in the best marked cases, all modes of sensibility are involved, and in the mucous membranes and in the muscles not less than in the outer integument; the external mucous membrane being more or less insensible to contact, and the muscles to contractions excited by faradism; moreover, the special senses are alike involved on the same side. In the insensible part, too, some restriction to the freedom of circulation in the smaller vessels appears to exist, as evidenced by the little tendency to bleed after punctures. As regards the visual affection, it is peculiar in this respect, that it affects the entire of one eye, the eye of the side affected by the insensibility (*l'amblyopie croisée*), and is thus distinguished from ordinary homologous hemiopia. This form of amblyopia completes the sensitive defect in the form of hemianæsthesia under consideration; in it, as exemplified by my patient, not only is acuity of vision in the affected eye seriously diminished, but the visual field is markedly contracted. A third characteristic has also been described by M. Galezowski, viz., abnormal limitation in the perception of colours—a peculiarity which could not be tested in the subject of the following case.

As is generally known, an interesting discussion has been raised by Charcot, Veyssière, Türck, and others, in connexion with this form of hemianæsthesia, and particularly with its relation to the monocular form of impaired vision (*Le Progrès Médical*, 1875; and Charcot's "Leçons," première série, dixième leçon). This discussion relates to the situation in the brain of the centre for sensory impressions, the part wherein intellectual recognition of sensory impressions is effected; to adopt the language of Dr. Hughlings-Jackson, the part of the hemisphere where the sensori element in the sensori-motor operations of the convolutions predominates over the motor element. The problem, however, is a complex one, as it depends not only on anatomical data as to the seat of lesion in the cases under review—which data are at present very scanty—but also upon other anatomical data concerning the decussation or non-decussation of the nervous fibres in the optic commissure, which themselves depend for their elucidation mainly on the interpretation given to the phenomena presented by such cases as the present one. With respect to the former of these subjects, the well-known observations of Türck, of Vienna, have ascertained that the seat of the lesion in four cases has lain in the superior and external part of the thalamus, in the third part of the lenticular nucleus, and in the posterior part of the internal capsule; and, eliminating the two first-mentioned lesions, as being common to other cases also, Charcot lays stress on the lesion affecting the posterior region of the internal capsule as the essential element, so far as present observation allows of an opinion being formed upon the subject; he regards these fibres, with Meynert, as being centrifugal, serving to transmit sensiti impressions to the posterior region of the hemisphere.

The interpretation of the ocular symptoms, in so far relates to their affecting the entire of one field, and not pr senting the form of hemiopia, depends on the conclusi formed as to the course of the fibres in the chiasma. Accep ing the theory of a semi-decussation, M. Charcot lays dow the thesis that homologous hemiopia implies the direct indirect implication of one optic tract; indirect implicati covering the details of many cases in which the optic thalam is involved, by inferring injury or pressure inflicted on t portion of the tract most nearly related to that ganglio But, with respect to the monocular affection, the *amblyop eroisée* of the cases now under consideration, the suggesti is made that those fibres which do not decussate in the co missure do effect a decussation in a farther part of their cour deeper in the brain, thereby conforming with the type pr sented not only by the decussating fibres of the commissur but by the other cerebral, and indeed also by the spinal nerv The part where this decussation takes place is supposed M. Landolt to lie beyond the corpora geniculata in the posteri part of the thalamus, not far from the corpora quadrigemi (*Le Progrès Médical*, 1875, p. 769).

On this supposition, a lesion of that particular part of t hemisphere may be supposed to produce the crossed amblyop affecting the entire field of the opposite side; and thus t combination presented by *hemianesthésie cérébrale organiq* may be accounted for. It may, however, be added that ho satisfactory soever may be this mode of explaining the ph nomena so far as anatomical details are concerned, a difficul would seem to be opposed by the theory of cerebral represe tation as ordinarily understood, since, so far as the represent tion of any one organ is subservient to its proper function, should suppose it would be the homologous halves of each e which would converge to the perceptive centre, so that t unilateral suppression of conscious sensation as regards t other nerves would have its analogue, so far as vision is co cerned, in the associated segments of the two eyes, rather th in the dissociated halves of the single eye.

Passing to the third element in my case, the hemichore MM. Charcot and Landolt (*Progrès Médical*, 1875) have describ some cases under the title of *hémichorée post-hémiplegique*, which, after the occurrence of an attack of hemipleg peculiar movements have been developed in the affected limb without, however, extending to the muscles of the face. The movements are stated to bear considerable resemblance the rhythmical movement occurring in insular sclerosis, b approximating also to the type of chorea in a certain degr of instability of the affected limbs, when the patient is n performing any voluntary movement. In severe cases t movements may constitute a permanent agitation, in no w differing from the movements of ordinary chorea. Now, this condition, as existing in adults, M. Charcot has fou the form of hemianæsthesia in all its particulars describ above. And thus, from the analogy of clinical details, su ported by the results of post-mortem examination in thr cases, he believes the lesion peculiar to the cases to be o affecting the posterior part of the foot of the corona radiat though he is unable to account for the choreic movemen otherwise than hypothetically.

M. Charcot has also met with the same combination motor derangement in cases of partial atrophy of the brain young children; but here, contrary to what happens in adul sensation may be unaffected.

The case which has suggested these remarks, although pr senting characteristically the form of hemianæsthesia a crossed amblyopia, with choreic movement superadded, y does not accord with the description just given, as regards t character of the movements, which had no resemblance to the of insular sclerosis, and were, indeed, slight in degree, a altogether subordinate to the motor incoördination of chore which constituted the prominent symptom. The face, too, w affected equally with the limbs; and the paresis was prese in only a minor degree, and did not precede the other symptom But M. Charcot goes on to comment on cases of hemichor accompanied or not by hemianæsthesia, and not necessari followed by hemiplegia, to which my case bears a clos resemblance. The disease probably results in these cas from the development of certain neoplasms in the substance the hemisphere, and he regards it as probable that the seat the new formation is the same with that of the lesions me tioned in a former part of this paper. He gives a case of

woman subject for five years to indefinite epileptic crises, and for the same period to permanent choreiform "*tremblement*" in the right upper extremity, augmented by voluntary movement. During the last year hemianæsthesia was superadded, but special sensation has since been nearly regained, and also common sensation, excepting in the choreic arm.

By way of bringing the clinical details nearer to my own case, I may refer to a remark by Trousseau ("Lectures," Syd. Soc., I., p. 402), who, in observing that more or less anæsthesia usually accompanies chorea, and is always greatest on the side most convulsed, refers to a patient affected with chorea who presented also a very marked degree of anæsthesia, and who also stated that she could not see very well with her right eye, adding that the weakness of vision had set in since her first attack of chorea a year previously, and had since undergone no amendment. "This impairment of vision," adds M. Trousseau, "which is probably due to paralysis of the retina, has been pointed out by several authors. Dr. G. Sée records an instance of it which fell under his own observation, but he justly adds that the accident is excessively rare."

Case.—E. F., aged twenty-seven, single, a barmaid. She presents no feature of importance in her previous history, save a liability to headaches and much overwork; nor in the history of her family, with the exception that a brother had "St. Vitus's dance." Eight days before admission she fell down the cellar-steps, but was not seriously hurt nor much frightened; but on the morning of the next day but one she found herself unable to hold her fork at breakfast on account of choreic movement in her right hand. She was sent out for a walk, but soon afterwards her right leg became affected, and she had difficulty in getting home. She continued to get worse. Soon after the accident she lost the sight of her right eye for ten minutes. The same eye has always been liable "to run water," but I can obtain no evidence of any ocular defect.

When admitted she had characteristic unilateral chorea on the right side, with decided paresis of the right upper extremity; she was quite unable to direct her fingers to pick up a pin, and when placed erect could not direct her right leg to make a single forward step; on the contrary, the limb moved in so irregular a manner as nearly to throw her down. When undisturbed she lay nearly without movement, excepting that her forehead was frequently corrugated on *both sides*, and that *both sides* of the mouth were often in movement, illustrating very forcibly the community of movement, in the bilaterally acting muscles, seen in hemichorea. From the same circumstance—the implication of the muscles of both sides in the trunk—it was almost impossible for her to rear herself up in bed, although the limbs on the left side were quite unaffected.(a) She had too a curious trick of constantly screwing up the lids of her right eye, doubtless from discomfort occasioned by the visual defect. When aroused, choreic movement was developed in the upper extremity. She swallowed well, but speech was decidedly affected; she began each sentence very deliberately, but ended it in rapid speech, articulation becoming at the same time thick and hardly intelligible.

There was very decided anæsthesia on the right side: a pin could be thrust deeply into the arm without exciting any but slight sensation; and no blood issued from the puncture. The loss of sensation was less complete in the leg. It was also decided in the region of the fifth nerve, and still more so in the other regions of the scalp on the right side. She, however, discriminated correctly between heat and cold, though the sensation was less distinct than on the other side. Electro-sensibility was similarly low; electro-contractility was normal. The mucous membranes of the right cheek, nostril, and eyeball had very low sensibility to contact. Smell, tested by assafœtida and peppermint, was nearly, if not quite, abolished on the right side, and the vapour of ammonia was felt less sensibly than by the opposite nostril; taste to salt and quinine was much less acute on the right side of the tongue; and hearing, both ordinary and perosseal, tested by the turning-fork, was very dull. Mr. Priestley Smith assisted me in testing vision; as regards acuity the difference between the two was that between $1\frac{1}{2}$ or 2 and $3\frac{1}{4}$ Snellen. There was a very decided peripheral contraction of the field of vision, chiefly laterally on the right side, and an equal contraction in the field for discriminating colours, but her being confined to bed precluded the making of any more exact observation on these points. The fundus oculi was quite normal. She manifested a very marked degree of inertia in doing what she was desired to do for the purposes of examination, and soon became wearied. I have only one record of the comparative temperature of the two sides, the report of a second examination having been mislaid: in that one record there was only a fractional difference. There was no ovarian tenderness; menstruation has been suspended for six months. She has never had a hysterical fit, but during her residence in the hospital the nurse reported on one occasion an attack of excitement with involuntary micturition, inability to speak, and occasional rigidity of limbs; she recovered from the attack very rapidly. At admission there was a large amount of albumen in the urine; there was no œdema. Once or twice it was believed that a faint mitral bruit was audible.

She improved steadily whilst under my notice. The albumen lessened to a trace, and then disappeared. At first some variation in the degree of anæsthesia, both absolutely and relatively, took place. The choreic symptoms had disappeared at the last report I had of her, but the field of vision had not extended, and the special senses on the right side were all very imperfect. Common sensation was nearly restored.

(a) A rather interesting undesigned confirmation of the truth of Dr. Broadbent's theory as exemplified in unilateral chorea is afforded in an article on Chorea by M. Jules Simon, in the *Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques*. The author observes that in hemichorea "the nervous disorders are rarely limited in an exact manner. In these cases, apparently limited, it is easy to observe that the muscles of the face and of the head frequently share in the disorders of the limbs, and that the malady tends to disseminate itself on a larger number of muscles."

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Medical Times and Gazette.

SATURDAY, SEPTEMBER 15, 1877.

ITALIAN HEALTH-RESORTS.

No. II.—San Remo.

San Remo is a place that has wonderfully improved in many ways since its discovery as a health-resort. In 1868, when the writer first visited it, the town itself was much in the same state as it had probably been for the last fifty or a hundred years, although signs of impending change were visible. To the east and west of the town, on the outskirts, two hotels had been recently built, and contained a fair number of English visitors; and there were half

a dozen available villas. One or two shops for English groceries, and a small reading-room, represented the chief provision for the comfort of visitors; and an English church was nearly completed. Since that time progress has been continuous. The municipal authorities have energetically striven to develope the resources of the town and neighbourhood, and the inhabitants have seconded their efforts in a most enlightened manner. Great transformations have been effected in the town, and the main street has been re-paved, levelled, and extended westward, so as to be scarcely recognisable. The external appearance of the multitude of new shops, which now are capable of supplying nearly every want, is far superior to that of the Mentone shops, and even rivals those of Cannes. Instead of two, there are now nine first-class hotels, and a tenth is rapidly being finished, to open in the coming season; while there are from sixty to seventy villas of various sizes, as well as several *pensions*, at the disposal of families or persons disliking hotel life.

San Remo lies about sixteen miles to the east of Mentone, and eleven from Ventimiglia, in 43° 47′ 56″ north latitude, at the foot of an amphitheatre of hills, the highest of which, to the NN.E., the Monte Bignone, has an altitude of very nearly 4000 feet. The hills have a comparatively gentle slope from below upwards, and are clothed with vegetation more or less completely to the summit, the olive being replaced in the higher regions by the pine. San Remo itself is built at the southern end of a ridge which runs almost due north and south. Beginning by a wide base along the seashore at almost equal distances from the promontories on the east and west, the Capo Verde and Capo Nero, which bound the amphitheatre of hills on the south, it gradually contracts as it ascends the hill in a triangular form, the apex of the figure being a church with dome and cupola—the Sanctuary—upon the hill, and the base the harbour and the coast on either side. The houses which form the triangle are densely massed together, and with their various tints of ochre, brown, pink, grey, etc., present a most picturesque appearance when viewed from the shore; and the stranger who climbs up the steep brick-paved streets, or lanes, under arched passages and flying buttresses innumerable, will find many objects of interest in his ascent to repay the toil. The winter visitor finds it difficult to realise the need of such deep shade as he encounters in the old town of San Remo, but there can be no doubt that the summer comfort of the inhabitants is greatly due to their contrivances for excluding the sun.

At the foot of the hill on which the old town is built, a long street, which is the continuation of the Corniche carriage-road, bends round from north-east to west, so as to divide San Remo proper into a northern and a southern district. The former, which is the larger, contains the poorer part of the town, the principal churches, the market-place, the chief shops, and the theatre; while the latter is occupied by a number of detached houses, villas, and gardens, some of the old palatial residences of the Italian nobility; the new boulevard, which runs from the railway station to the sea; and the harbour, with its marine stores, its trees, its fort and mole—the latter curving round through south to west, so as to form a fair protection to the shallow anchoring-ground. The main street, which thus divides San Remo, contains a number of the principal shops, the *cafés*, the post-office, and one or two hotels. The other shops are in one or two streets which run at right angles to it, and in some of the lower streets of the old town to the north. On either side of the old town a valley runs inland, that to the east being the most defined; but on both sides these valleys slope up to the lower hills of the general amphitheatre, and come to an end completely under the shelter of the higher ranges. The entrance to the western valley is to a considerable extent filled in by houses. The low hills which form its western side bend round and form a gentle slope, which runs parallel to, and at a short distance from, the se and is studded with villas embowered in foliage of vario kinds—the olive, however, predominating.

In this part of San Remo the improvement since 1868 is wo derful. The railway station now stands near the shore co nected with the harbour, and with the main road to the latt by a broad boulevard; and in order to conceal the railway itsel which was closely shut in between the sea and the carriag road just to the west of the station, the carriage-road has bee considerably raised, and carefully banked with masonry. C the sea side a broad and excellent pavement has also been la down, separated by palm, eucalyptus, and other trees from t dusty carriage-road, and it has been carried on westward as f as the new public garden, almost opposite the Hôtel Bellevu On this side of the town are some of the best hotels, the Roya Bellevue, Londres, and West-end. The latter, which is to t extreme west, was formerly Lady Kay-Shuttleworth's Vil Ponente. None of them are far enough from the sea to b free from the noise of the waves; and with the exception the last they are fully exposed to the sea-breeze and the S. wind. Built at a short distance up the slope to the north the main road, they have a good sea-view, and they all ha gardens of greater or less extent. Beyond the outskirts the town to the west, the road follows the shore and win gradually round to the eastern side of the promontory of Ca Nero. Before it turns it is intersected by one or two sma valleys or ravines. On the eastern side of San Remo, betwe the old town and the base of the Capo Verde, with its voti church of the Madonna della Guardia, there is a broad space land between the sea and the Corniche road, which is nearly fla On the north side, too, the near hills come down with a muc gentler slope than on the west, so that houses in this part ha the double advantage for an invalid of being some way fro the sea, and of not being perched up so high as to require climb to get to them. On either side of the main road in th part (eastern suburb) there are a number of detached vill and hotels with their gardens. Among the latter may be men tioned the Hôtels de Nice, d'Angleterre, and Victoria, the latt of late years frequented by Germans. A new and fine hote the Mediterranée, will be open next season. Many of th villas in this quarter are of very convenient size. At Mento there has been too great a tendency to build enormous villa which can only be let at exorbitant rents; but their proprieto have suffered in consequence, as only very wealthy people ca afford to take them, and they often remain unoccupied. A San Remo things have as yet been better managed, and the appears to be an increasing demand for small houses.

The road to the east of San Remo is more sheltered than tha on the west, and is planted with plane trees. The pavemen on this side are also excellent, and are being further extende Beyond the outskirts of the town the road runs through oli groves nearly due east at a distance from the sea for about mile, and then turns southwards to skirt the base of the pr montory of the Capo Verde, close to the railway and the se On both sides of San Remo, but especially on the easter there are plenty of pleasant walks in the olive woods to th north, and that without the fatigue of steep ascents; an there are also sheltered spots in which the invalid can wal with safety when the east or south-east wind is blowing Numerous excursions, which it does not enter into the scope this letter to describe, can be made to the village of La Coll to the north-west, to San Romolo (how Romulus would hav smiled at his brother Remus if he had known he was to b made a saint!), Taggia, Ruffini's birthplace, etc.

The cost of living at San Remo is much the same as Mentone and Cannes. Since 1868 prices have risen, as they hav everywhere else. At an hotel the *pension* ranges from ten o eleven to fifteen francs a day per head, according to the positio of the rooms, and wine, fuel, and lights are all extras. Furnishe

villas are let for the season at from 2000 to 10,000 francs and upwards, according to size. In the town, furnished single rooms may be taken for 40 to 100 francs per month, or a suite for 200 to 600 francs, but attendance and board are both extras, and in many cases the meals must be taken at a restaurant, a proceeding quite unsuited to the class of invalids who frequent the town. San Remo has enjoyed a good water-supply since 1828. The market is an excellent one, vegetables, butter, game, and meat being imported from Piedmont and other parts of Italy, while fish is caught at San Remo itself and at Bordighera. There is certainly no deficiency of creature comforts. There are plenty of carriages, and for the healthy who require "*distractions*" in the evening a new theatre has been erected, at which an excellent opera company performed during the past winter.

The climate of San Remo is one of the mildest on the Riviera, and, according to some authorities, while closely resembling that of Mentone, it enjoys an even more equable temperature than the latter. According to the reports published by the Italian Minister of Agriculture, Industry, and Commerce, the mean temperatures from 1866 to 1874 for the four seasons were—winter, 49°; spring, 58°; summer, 73°; autumn, 62° Fahr.

The mean temperatures of the winter months for the years 1865 to 72, inclusive, were as follows:—October, 62°; November, 54·5°; December, 56°; January, 49°; February, 52·5°; March, 54°; April, 59°. According to the late Dr. Dührssen, at Mentone (*Deutsche Med. Wochenschrift*, No. 6, 1876, s. 67), owing to the nearness of its protecting mountains, and to the greater height which they attain in the immediate neighbourhood of the town, the temperature in certain sheltered parts of Mentone is higher on *sunny* days in winter, and still more so in spring, than at San Remo; while, on the other hand, there are spots at the entrance to the Turin and Cabrol Valleys which the wind can reach, which have a colder climate than the best parts of San Remo.

On the whole, however, "The climatic differences between these two winter stations are so trifling that they need scarcely be considered in choosing one of them as a winter residence." With this view, which is also held by other good observers, we are in the main inclined to agree. San Remo is, if anything, more evenly sheltered on the north than Mentone, at any rate, than the west bay, and the prevalence of northerly currents is chiefly indicated by a general depression of temperature, the air being calm. In January, 1869, the temperature was so low for several days that the lemons seriously suffered, and the small streams in the neighbourhood, as we can personally testify, were frozen up. On January 23 the thermometer fell to 26° in the night, and on January 24 there was ice an inch thick in the shade.

The winds from the east and south-east are those which are chiefly felt at San Remo, the former especially being sometimes very rough and unpleasant. In December, 1868, we noted four days of easterly and three of south-easterly wind, and in January, 1869, eight days of easterly and four of north-easterly wind. The latter wind, or Tramontana, blows occasionally in winter with icy coldness, and (although some authorities endeavour to disguise the fact) the Mistral is by no means unknown, as, indeed, the conformation of the hills to the north-west would lead one *à priori* to expect. We ourselves have notes of it on three occasions in January, 1869. According to Dührssen (*loc. cit.*), the Mistral blows with a force which is rare at Mentone; and Schulze states (Die Klimatischen Curorte der Riviera, etc.," 1875) that in February and March, 1875, there were twenty-one days on which it blew with greater or less intensity. The south and south-west winds are often accompanied with rain. The average annual number of rainy days, according to Dr. Onetti ("Le Climat de San Remo," 1876), is from 40 to 50, distributed as follows:—Autumn, 15 to 20; winter, 12 to 15; spring, 10 to 12; summer, 5 to 6. From October to April there are on the average 35 days on which rain falls, while at Mentone, according to Bréa, there are 51. If, however, less rain falls at San Remo than at Mentone, the nature of the soil is such as to retain the moisture longer at the former than the latter. Marly clay is the predominating soil at San Remo near the shore on both sides of the town, while the sand rock on which Mentone stands allows the rain-water to percolate it rapidly. On this point Dr. Dührssen expressed himself (*loc. cit.*) as follows:—"It seems to me improbable that San Remo is, geologically considered, drier than Mentone; for in my numerous walks among the hills at the former place I frequently met with places in which the subsoil consisted of an impervious clay, whereas at Mentone it is generally readily percolable by water, and hence dries up much more quickly after storms than was the case at San Remo." The higher ranges of hills are limestone, and sandstone of various degrees of fineness is also not uncommon. In the tertiary deposits which are met with here and there is found a yellow clay of considerable value to the potter.

The absence of mist and snow is common to nearly the whole of the Riviera, and we need only note that the statement is true of San Remo. The snow, which falls on rare occasions, rapidly melts. The general character of the climate may be judged of by the statement that of 212 days from October 1 to April 30, 83 are on the average clear, 87 partially clouded, and 42 overcast (35 of these being rainy); though, according to Bréa, in the same period at Mentone there are 117 clear days, 28 partially clouded, 16 overcast, and 51 days overcast with rain.

Dr. Onetti gives a favourable report of the sanitary condition of the adult population of San Remo.(a) He states that the average death-rate is 1 in 50, or 20 per 1000, and that not only is phthisis rare among the inhabitants, but that it never assumes the acute form, and usually runs a very protracted course. The infant mortality is large, chiefly from diarrhœa in the hot weather. San Remo has a population of 12,000 people, and in the ten years (from 1864 to 1874) in the four parishes of Saint Siro, Les Anges, Saint Joseph, and Saint Donat de Verezzo, there were 2354 deaths, of which 1030 were in children under seven years, and 219 in people over eighty. Dr. Onetti regards the climate of San Remo as tonic and stimulating, and especially adapted for cases of phthisis of a torpid character, for anæmic and scrofulous cases, for affections of the lungs and heart generally, and for acute and chronic rheumatism. Our personal experience is unfavourable to San Remo as a place for rheumatic subjects, as we suffered from that complaint more or less the whole time we were there. Others, on the contrary, have had their rheumatism improved by a sojourn there. The chief drawbacks to San Remo are the clay soil, and the prevalence of easterly and south-easterly winds. Putting these aside, the indications for it are similar to those for all parts of the Riviera, where warmth in winter, sunlight, and pure air are the objects sought for. The rapid rise into public favour which San Remo has enjoyed, and the energy with which the authorities have exerted themselves to supply the needs of their foreign visitors, are strong arguments in favour of its still further development and success.

(a) It may interest some members of the profession to know that close to the Sanctuary on the hill immediately behind San Remo there is a Leper Hospital of fifty beds, and liberally endowed. We visited it in 1868, when there were about thirty cases of true leprosy in various stages in the wards, among others a young man who had never been further away from San Remo than to Toulon, and whose grandmother, mother, and maternal aunt (mother's sister) had all had the disease, though his father's side was free. This year we were unfortunate enough to call at the Hospital at a time when it was closed to visitors, but the porter informed us that the number of patients was gradually diminishing, and that they never had more than fourteen or eighteen in it now, though cases were admitted even from Nice and the French territory. The largest contingent is furnished by the villages among the mountains.

THE AIR OF CITIES.

Some time ago, Dr. Russell, the Medical Officer of Health for the city of Glasgow, resolved to make a series of investigations into the chemical constitution of the atmospheric air of that city, and received from the Health Committee a small grant for the prosecution of his project. The carrying out of such an undertaking has involved the lapse of considerable time and the exercise of tedious observation; but the results, though in themselves by no means insignificant, are of value principally on account of the indications they afford for the useful prosecution of similar inquiries.

Mr. E. M. Dixon, B.Sc., in co-operation with Dr. Russell, has submitted to the Health Committee of the Magistrates and Council of Glasgow a draft report, showing in a tabulated form the facts which they have collected during the course of their investigations; and he promises to publish a detailed account of the mechanical and chemical processes whereby these results have been obtained. In the meantime, Mr. Dixon thinks it sufficient to say that at each of the selected stations "the air was drawn by aspiration, and continuously for two or three days, in several distinct currents through as many distinct solutions, each of which was adapted to withdraw a special substance from the current of air which passed through it; that the amount of air which passed in each current was measured by a special gas-meter through which that current subsequently passed; and that the amount of the substance which was specially absorbed from each of the air-currents was finally determined by a method sufficiently delicate for the estimation of quantities which would be called traces."

The instrument employed was suggested by a French chemist, and consists of a glass tube with a bulbous end minutely perforated. Glass beads in the solution retard and break up the currents of air, and each current of air is passed through three of these perforated and bead-mounted bulbs. The process is seen to be effectual in retaining atmospheric impurities in solution, by the fact that the third solution invariably remains pure.

The Glasgow investigators made their observations at seven stations so selected as to render probable the detection of various forms of atmospheric impurities. Thus, one was situated under the Broomielaw-bridge, another in the crowded district of the Cowcaddens, another in the more salubrious atmosphere of the New Western Infirmary, and others at points correspondingly diverse. Their tables show the results obtained with regard to (1) carbonic acid, (2) sulphur in combination, (3) chlorine, free and combined, (4) nitrogen in the form of ammonia, and (5) nitrogen in the form of "albuminoid ammonia"; and they are accompanied by a map of Glasgow, showing the position of the selected stations, their topographical relation to density of population, and to the situation of large works from which volumes of smoke and noxious vapours proceed. This arrangement is one of great importance, as is shown by the fact that at one station, situated near a very large factory of that kind, the average amount of chlorine collected during stated periods was at the rate of 0·63, as compared with 0·09 down to 0·05 at other stations; while the amount of sulphur at the same station was at the rate of 0·42 as compared with 0·36 downwards—expressed in milligramme units of the substances in every 100 cubic feet of air.

The tables which deal directly with the presence of qualifying atmospheric ingredients are supplemented by others relating to wind, temperature, and rainfall; and the importance of the last is specially mentioned, and in all future observations will be more rigidly acted upon, both locally and at a distance.

With regard to the observations as far as they have yet been made, two things deserve comment. The first is, that as yet all the air has been collected in the open streets; and when the atmosphere of confined courts, alleys, and slums comes to be analysed, results more startling than pleasant may be anticipated. Again, at the time the report was published no comparative researches had been made regarding the co-existent conditions of the atmospheric air in country districts; but a station is now in operation at Eaglesham, about twelve miles south from Glasgow—a locality which is reported to be so remote from manufacturing and even agricultural industry that air and rain collected there may safely be taken as a sufficiently normal standard for comparison.

The conclusions arrived at by Mr. Dixon and Dr. Russell are:—1. That the general character of the air prevailing in any part of the city can only be ascertained by means of observations carried on continuously for some time under the varying circumstances of weather. 2. That the effect of a fresh breeze of wind in the way of purifying the air of the city is very marked. 3. That the circumstances connected with the fall of rain appear to merit careful examination.

The Glasgow magistrates deserve great credit, not only for respecting the advice of Dr. Russell with regard to these experiments, but for their general devotion to sanitary measures; and their example might well be imitated by other civic rulers. The steady prosecution of air analysis by Mr. Dixon and Dr. Russell is certain to lead to striking results and to supply valuable sanitary suggestions.

THORACENTESIS.

We propose briefly to review some of the points raised at the discussion on thoracentesis at the recent meeting of the British Medical Association. It cannot be denied that from some of the wisest and most experienced physicians present there was a general coincidence of opinion expressed that paracentesis of the chest had in many cases been too lightly and too hastily undertaken. We do not by any means undervalue such "general impressions"—vague though they be—as to the gravity of a therapeutic method, especially coming from the lips of men like Jenner, Fox, and Gairdner. But, in a paper specially devoted to the criticism of thoracentesis, we expected something more instructive than mere statistics of mortality, which practically are all that Dr. Fox has given us.

The outcome of Dr. Fox's paper was that cases of pleurisy without operative interference, taken in the aggregate, fare better than those in which paracentesis is performed. If it be permitted to us to criticise the work of so accomplished a physician, we should say that Dr. Fox would have contributed much more to the elucidation of the question at issue by an analysis of his own cases, setting forth in what ways paracentesis had seemed to prove hurtful, rather than by the elaborate digest of other men's statistics.

In no disease more markedly than in pleurisy is it necessary, in comparing the results of operative interference, to have full details not only as to the assumed co-existence of tubercle, but as to the actual condition of the patient when the operation was done, as to how it was done, and, above all, as to whether precautions were taken to insure complete evacuation. The first of Dr. Fox's tables, giving the mortality of all cases of pleurisy treated without operation in different hospitals, appears to us almost valueless. To compare this table, giving numbers which range from 1·6 per cent. to 23 per cent., with Table III., showing results after paracentesis, in which the numbers range from 8 to 52 per cent., appears to us unfair for the following reasons:—In Table I. there is every reason to believe that many of the cases were mild *ab initio*, whilst in the practice of English physicians, at all events, cases treated by paracentesis may be set down as presumably severe from one cause or other. Again, it is well known that in hospital practice many cases of pleurisy are discharged either with still some fluid in the pleura, or with damaged lung. These cases are lost sight of—their subsequent life-history is

not traced. They may reappear as chronic pneumonia, as tuberculosis, or as cirrhosis of lung; but the point is that they do not swell the mortality-list of *untreated pleurisy*. Now, with cases of pleurisy treated by paracentesis, let it be noted that after an operation has been performed the case is kept under more protracted observation. The curiosity of the physician is roused to trace the case to its end, and the result of treatment is more carefully recorded. Whatever the accompanying conditions, whatever the diathesis of the patient—whether the operation is performed *in extremis* or not,—if fatal from any cause, the case goes to swell the dire column of mortality after paracentesis. We decline to compare the results of interference and non-interference in cases of pleurisy unless we have the subsequent histories of both sets of patients side by side up to the post-mortem conditions found; for in that way only can we really compare any given set of similar cases.

We cannot admit that we have received anything of practical value from these statistics, except that in tapping for serous pleurisy there is a danger of purulent transformation. This is a valid objection, with the *caveat* that, in children especially, in a vast number of cases, purulent transformation occurs without tapping. But we presume that in the practice of most English medical men it is not usual to tap for serous effusion except in cases of considerable dyspnœa or of retarded absorption. In the first of these conditions Dr. Fox admits that paracentesis is justifiable, in spite of the danger of purulent transformation. With regard to the second of these conditions, we beg to draw attention to an empirical fact stated in the discussion—viz., that the removal of an exceedingly small quantity of serum had been in some cases followed by the starting of absorption. In aspiration for serous pleurisy, far more than for empyema, it has appeared to us important to prevent the admission of air, and, as Dr. Silver pointed out, to look well to our instruments being antiseptic.

With respect to empyema, Dr. Fox observes that "a spontaneous external perforation is a much less dangerous and fatal event than an artificial opening."

We had supposed that the most favourable mode of spontaneous evacuation was through the lung. But setting this question aside, let us ask, What is the outcome of Dr. Fox's conclusions with regard to the treatment of empyema? When in a given case the existence of purulent effusion has been established, is the practitioner to fold his arms, and in calm "expectancy" await the spontaneous opening of the empyema? Dr. Fox at the outset admits that operation is not to be withheld "if there is grave dyspnœa, threatened failure of cardiac action, hectic, or signs of purulent infection." In other words, wait till your patient is *in extremis*, then perform the operation, and let the case swell the statistics showing the extremely fatal results of paracentesis.

We venture to believe that in this as in other cases of internal suppuration, when once we have established the existence of pus we place the patient in the greatest safety then possible to him by removing the pus, and preventing its re-accumulation.

Dr. Allbutt's paper was a more hopeful, and, as we believe, a more practical discussion of the question of thoracentesis. It was of importance as setting forth the preference in the treatment of empyema, which now obtains in many quarters, for free incision under antiseptic precautions as compared with aspiration.

It is important to note that whilst Dr. Lee on theoretical grounds proposed the use of what might be styled "continuous aspiration," with a view to promote the expansion of the lung on the affected side; Dr. Gairdner, on the other hand, laid stress on the use of the minimum amount of force in withdrawing fluid from the pleura, with a view to avoid rupture of the lung.

One of the most important points raised with respect to prognosis was that mentioned by the President—viz., the age of the patient.

It is quite certain that the results of repeated aspiration, and indeed of thoracentesis generally, in children are much better than in adults. The reason of this is doubtless that hinted at by Sir William Jenner—viz., that the chest-walls in advanced life become rigid and cannot retract. In children, on the other hand, so great is the mobility of the thoracic walls that when the fluid has been removed the side of the chest contracts, adhesion between the two pleural surfaces occurs, and then re-expansion of the lung with restoration of the chest to its normal shape ensues.

Very little was said about washing out the pleural cavity. One reason for this appeared to us to be the evidence of preference for *double openings* by the majority of those who recommended free drainage. There can, we think, be no doubt that this method in a vast proportion of cases dispenses with the necessity for syringing out the chest, with its attendant risks.

The last word has not yet been spoken on thoracentesis. To quote the judicious sentence of Dr. Allbutt—"No method can make a vast internal abscess of the chest anything but a terrible malady." Seeing, however, some of the brilliant results which have been obtained, and not ignoring the failures (of which we desire a more complete account), we confidently look forward to the perfection of operative methods which shall give incomparably better results than the expectant and antiphlogistic treatment of our forefathers.

THE WEEK.

TOPICS OF THE DAY.

Considering its importance as one of the great centres of education, it is satisfactory to learn that, at a recent meeting of the Town and University Improvement Commissioners of Cambridge, the chairman was enabled to draw attention to the satisfactory state of the health of the borough. According to the death-rate of several towns with a population equal to, or exceeding, the population of Cambridge, compiled from a return made in May last at the second annual conference on the "Health and Sewage of Towns," published by the Society of Arts, it would be seen that Cambridge was one of those exhibiting the lowest death-rate. It was considered desirable that this important information should be made known to the public, together with the fact that the Improvement Board would not, on this account, relax their exertions. Dr. Anningson, upon being reappointed to the post of Medical Officer of Health, said he was sorry that the Board, from circumstances over which it had no control, had not been able to do more for the public health; at the same time he must observe that the Commissioners had taken a deep interest in the welfare of the town, and had always shown an anxiety to carry out any undertaking of importance which tended to improve the health of the borough.

At a meeting of the Portsmouth Town Council, held last week, the Mayor read a letter intimating that the British Medical Association would accept an invitation from the Mayor and Corporation and the local members of the Association to visit Portsmouth in August, 1878. The matter was ordered to be referred to a committee, as the visit would cost the town £400.

An alarming statement of the great increase of drunkenness in Yorkshire was recently made public at the annual Brewster Sessions for the Staincross Division of the West Riding Constabulary. Mr. Superintendent Sykes called the attention of the magistrates to the distressing fact that during the past year 1040 persons had been proceeded against for drunkenness, whereas in the previous year the number was only 884. He further reported that drunkenness amongst the wives of work-

ing-men had seriously increased during the past two years, owing to the facilities afforded for purchasing intoxicating liquors under the guise of "groceries." It was stated that the Bench disallowed every possible application by grocers for licences to sell wines and spirits.

At the usual monthly meeting of the East Moulsey Local Board, held last week, it was stated that in a case of suicide, Mr. William Carter, the Coroner for East Surrey, had delayed the holding of an inquest for six days, the body becoming during that long interval in a state highly dangerous to the health of those living in the same cottage with it. A representation had been made to the Home Secretary on the subject, to whom also Mr. Carter had written the following letter of explanation:—"Sir,—I much regret the Home Secretary should be troubled with the complaint of the Rev. Mr. Reynolds. The delay complained of was quite unavoidable on my part, in consequence of the number of cases I had fixed before receiving the official information of this death—nine in number; some at St. Thomas's Hospital, the authorities and relations of the persons wishing the cases disposed of in consequence of the extreme heat. Some were cases of drowning; the persons, having been in the water many days (eight to ten), were in a terrible state of decomposition. I had upwards of twenty cases last week, and others I had to forward to my colleague, that there should not be any unnecessary delay. Some of mine were far apart. I did all I possibly could to take them. My last case last night was six o'clock; so that I did not get home till just before nine, having first gone a distance of twenty-two miles out. Hoping this will be satisfactory, I am, Sir, yours obediently, Wm. Carter." After considerable discussion, the Board resolved to instruct their clerk to write to Mr. Carter, informing him that his letter to the Home Secretary had been sent to them, and that they did not consider his excuse at all satisfactory. This decision of the East Moulsey Board is scarcely fair to Mr. Carter when the abnormal pressure upon his time is dispassionately considered.

The Stafford House Committee for affording relief to the wounded Turks report that urgent appeals have been received from their commissioner, Mr. Barrington Kennett, for further assistance for the constantly increasing number of wounded requiring treatment, owing to the continued desperate fighting in Bulgaria. They have, in consequence, resolved to despatch at once five more surgeons and ten dressers to the seat of the war, making up the staff of surgeons maintained by the Committee to twenty-one, with ten dressers; at the same time it must not be forgotten that the Committee assist with stores the ten surgeons sent out by Lord Blantyre and others.

In accordance with his promise, Sir Joseph Bazalgette, C.E., has presented his full report on the drainage of Bournemouth to the Improvement Commissioners of that town. The objections to his scheme, which had been stated to the Local Government Board by Mr. Thornhill Harrison, one of their inspectors, is carefully dealt with, and Sir Joseph still expresses his decided opinion that there should be but one outfall for the drainage, namely, at Boscombe, the eastern suburb of Bournemouth. At present the outfall is at a short distance beyond the head of the pier, which is a principal place of attraction for visitors, including bathers from the beach, and yachtsmen whose vessels lie alongside the pier. The drainage of Bournemouth, according to the report, would never be satisfactory unless the whole of it were taken to Boscombe, and there discharged. In the course of a discussion which followed the reading of the report, it was stated that Sir Joseph Bazalgette estimated the cost of carrying out his scheme at £44,000, including £14,000 for an esplanade along the beach.

A short time ago, Dr. Littlejohn, Medical Officer of Health for Edinburgh, received information of a serious outbreak of typhoid fever at Coltbridge and other districts in the west end of the city, which it was believed had been caused by means of milk sold at a dairy in which a person was suffering from the fever. The district in which the outbreak first occurred is beyond the municipal boundaries, but Dr. Littlejohn lost no time in moving in the matter, the patient being removed to the infirmary. At the same time he communicated with the sanitary inspector for the district, with a view to steps being taken to have the surroundings of the dairy in question improved. The retailers of milk in Edinburgh who received their supplies from this dairy have been advised to discontinue their orders for the present, and this recommendation has been acted on. At present over twenty families in the district are suffering from the fever, several of the cases having terminated fatally. Dr. Littlejohn is carefully watching the progress of the epidemic, and taking all the necessary precautions to prevent its spread.

The attention of the Metropolitan Board of Works should surely be called to the following case. At an inquest held last week before Dr. Thomas, at Marylebone, on the body of a child two years and a half old, who died at 21, Nightingale-street, Lisson-grove, apparently from natural causes, Dr. Rugg, of 1, Grove-road, called attention to the disgraceful condition of the houses in the street. The deceased child which he was called to see, weighed, he said, only fourteen pounds, whereas it ought to have weighed at least thirty pounds. He did not wonder at children wasting and dying in such wretched rooms and dwellings as were to be found in Nightingale-street. The condition of the houses generally was very bad; the sanitary inspectors seemed to be afraid of going into these back streets. A juror said that these places would not be rooted out until there was a house-to-house sanitary inspection set on foot.

At the last meeting of the Lewisham Board of Works, the analyst reported that a large quantity of treacle, which had become accidentally poisoned with arsenic, had found its way into the market, and was being extensively sold. Two families had, it was stated, already been poisoned with the noxious compound, and the analyst advised the Board to have samples taken from every seller in the neighbourhood. The clerk told the Board that this would necessitate the purchase of at least a hundred samples; it was therefore resolved to take two samples from each parish for the purpose of immediate analysis. If the danger is likely to be so wide-spread, more effectual measures ought to be resorted to without delay.

It is stated that the Lord Mayor has declined to allow himself to be nominated for the vacant post of Treasurer to St. Thomas's Hospital, his official and other engagements not allowing him the time requisite for the discharge of the onerous duties appertaining to such a responsible post.

THE INDICATIONS FOR DRAINAGE OF THE KNEE-JOINT.

Dr. J. Scriba, Assistant in the Surgical Clinic at Freiburg (Baden), recommends drainage of the knee-joint, instead of excision, in the following cases:—1. In acute serous inflammation, in the rare event of there being abnormal pain of sufficient severity to affect the patient's general health. 2. In acute purulent inflammation of the joint, as soon as there is distinct fluctuation; in the rare cases of osteomyelitis involving one or both epiphyses; in the purulent inflammation which may complicate pyæmia, pneumonia, acute infectious diseases, and phlegmonous erysipelas of the lower extremities. 3. In chronic serous inflammation of the joint. 4. In fungous inflammation—(*a*) where the fluid secretion in the joint exceeds the fungous granulation in amount, and where the cartilage is still intact; (*b*) where there is excess of fungous granulation, but where caries is still absent. The presence of caries is a contra-indication for drainage, and an indication for excision. Scriba lays down the following maxim in opposition to those British surgeons who counsel very early excision:—"The earlier a chronic fungous inflam-

mation of the joint comes under treatment, the better hope is there of giving the patient a useful, movable knee-joint by means of drainage." It should be stated that Scriba only speaks of drainage applied to a joint *which is opened at the moment the tube is inserted*, and not to one in which there is a previous wound, either surgical or accidental, of some standing. The operation, as performed by Scriba, is briefly as follows:—An incision, two to three centimetres long, is made on either side of the patella down to the joint, and a thick drainage-tube inserted. If the bursa under the extensor muscles communicates with the joint, as is the rule, no further incision is needed. In the rare case in which it is isolated, an incision is made down through the quadriceps femoris, and a short tube inserted. The operation must be carried out *with the strictest antiseptic precautions*. Before the drainage-tube is introduced the joint is swabbed with a soft sponge; in acute cases using a 5 per cent. solution of carbolic acid; in chronic cases, or where there is fetidity, a 12 per cent. solution of zinc chloride. The tube is then put in, and the joint washed out through it with carbolic acid (2½ to 5 per cent.) until the solution returns quite clear. During the injection the joint must be gently kneaded with the hand. In acute inflammation the tube must be removed as soon as possible. The greater part may be taken out after the third or fourth dressing if the wound is perfectly sweet, and the remainder on the tenth to fourteenth day. If the secretion does not quickly diminish, the joint must be washed out again with carbolic acid, and the drainage somewhat prolonged; but the whole tube must never be left in after the tenth to twelfth day, for fear of irritating the cartilage on which it lies. In chronic cases, or where fungosity is present, the tube must be allowed to lie across the cavity of the joint for twenty to thirty days, in order to stimulate the lining membrane.

THE PLAGUE.

At a recent meeting of the Paris Academy of Sciences an important communication on the subject of the plague was read by Dr. Tholozan, of Teheran, the well-known physician of the Shah of Persia. After a lull of about six months, he states, this disease reappeared at Bagdad in February of this year. Its ascending and genuinely epidemic progress dates only from the month of March, and at the end of April the deaths were about fifty per day. The epidemic of this year has been shorter than that of 1876; the mortality has been much less, and its spread beyond the capital has been almost *nil*. For four successive years plague has shown itself as an epidemic in Mesopotamia in April and May, so that its existence as an endemo-epidemic in that country is now an established fact. The malady has resisted all attempts of local quarantine and disinfection. The fruitless application of these prophylactic measures does not prove their uselessness; it only shows that public hygiene leaves much to be desired in the East. But, on the other hand, it must be admitted that the plague, like cholera, diphtheria, and typhoid fever, may assume at certain seasons, and in certain circumstances, an epidemic development, the real causes of which science is at present unable to determine, and the progress of which cannot be arrested. Dr. Tholozan further communicated some fresh facts bearing on this subject. In the village of Sharoud, twenty-five leagues from the south-east corner of the Caspian Sea, in a climate cold in winter and temperate in summer, a most extraordinary disease broke out in December, 1876. Inflammatory swellings occurred in the groin, the armpits, and lastly in the ear; they were accompanied by intense fever, headache, and mental derangement. Death followed on the second or fourth day. The malady lasted about a month, and disappeared at the end of the following January. It is to be remarked that no one in the locality had made the pilgrimage to Mesopotamia for more than two years. Another epidemic of a similar kind was observed at Resht, the capital of the province of Guilan, at the beginning of the month of March. Resht is situated in the midst of a marshy forest, some leagues from the Caspian Sea. It is surrounded by streams and large mulberry plantations. All investigations have been useless at Resht, as at Sharoud, to discover any relation whatever between this plague, which Dr. Tholozan believes to be of Persian origin, and that of Mesopotamia, which is evidently of Turkish origin. The first cases of plague occurred at Resht at a time when the disease was scarcely developed at Bagdad; moreover, neither pilgrims nor caravans from Mesopotamia had arrived at Resht. Dr. Tholozan believes, therefore, that it must be admitted that there were in Persia, in the beginning of 1877, two centres of origin of bubonic plague—the one almost insignificant, and confined to one spot; the other extending over a town of 20,000 inhabitants, and threatening to invade the whole of Guilan, and perhaps other parts of the kingdom.

THE RECENT MEDICAL APPOINTMENT BY THE NORTH DUBLIN UNION BOARD OF GUARDIANS.

In the *Medical Times and Gazette* for September 1 we commented on the recent election of a medical officer to the North Dublin Union Workhouse. Dr. William Stoker, who was defeated by a majority of one vote in the final round of voting, has since petitioned the Local Government Board for Ireland to declare him legally elected, or, at all events, to order a new election, on the grounds (1) that in the first and second pollings he had a majority of the votes of the guardians present, and (2) that one of the guardians who voted for Dr. Kenny was not qualified to do so, he being a bankrupt at the time. To this appeal the Local Government Board have replied that they have been in communication with the guardians on the subject, and have ascertained through their inspector, Mr. O'Brien, the precise manner in which the voting was conducted at the election. The Board are of opinion that the final poll, when each guardian simply recorded one vote, is the only one that can be recognised as determining the question, and Dr. Kenny on that poll appears to have obtained a majority of one vote. As regards the second objection, the Local Government Board have been advised by counsel that the fact of bankruptcy may or may not be a disqualification, according to the precise circumstances of the case. In any event, the 30th section of the Irish Poor Relief Act (1 and 2 Vic., cap. 56) provides that no defect in the qualification, election, or appointment of any person acting as a guardian at the board of guardians shall vitiate or make void any proceedings of such board in which he may have taken part. Under these circumstances the Local Government Board see no reason for setting aside Dr. Kenny's election. The Local Government Board also wrote to the Board of Guardians approving of Dr. Kenny's appointment.

CEREBRAL THERMOMETRY.

M. Broca communicated to the Association Française pour l'Avancement des Sciences, which was sitting at Le Havre towards the end of last month, an interesting paper on the above subject. We are indebted to our contemporary *Le Progrès Médical*, No. 36, for the following details. M. Broca believes that thermometry will become a valuable aid in the diagnosis of brain disease. He uses very delicate thermometers, and, after applying them to corresponding positions on the two sides, covers with wool the part of the bulb which is not in contact with the skull, in order to guard against any thermic influence which the surrounding air might exercise. M. Broca has usually employed six thermometers, which were placed in sets of three pairs on corresponding parts of the skull. The anterior pair were placed directly behind the orbital apophyses, the middle pair above the ear, and the posterior pair in the occipital region. His first care was, of

course, to obtain the average temperature, and to this end he tested the temperature of his *internes* and dressers at the hospital. He found that the maximum temperature of the brain was 34·85° C., and the minimum 32·80° C., the *mean* temperature therefore being 33·82° C. But, further, he found that the thermometers on the *left* side invariably marked a *higher* temperature than those on the *right* side. Thus, on the right side the mean temperature was 33·90°, while on the left side it was a little over 34°. This difference was found to average about one-tenth of a degree; *but this difference is only found when and so long as the brain is at rest.* When the brain is active the equilibrium tends to establish itself, and the temperature figures correspond. M. Broca argues that the left hemisphere is more freely supplied with blood than the right, and that the latter, less prepared and less apt, when brain-work has to be done, requires a larger supply of blood than the left, and hence the temperature on the two sides becomes equalised. Further, M. Broca has found that not only on the two sides of the brain is there a difference, but that this extends to different lobes of the same side; thus he has shown that the temperature of the occipital lobe was only 32·92° C., that of the temporal lobe was 33·72° C., and of the frontal lobe 35·28° C., which is accounted for by the greater functional activity of the latter. Then when the brain is actually working there is a rise of temperature; thus, after reading aloud for ten minutes a rise of about *one half of a degree* can be shown. The clinical bearings of these observations are not less important. M. Broca considers that the thermometer supplies an additional and an important sign of cerebral embolism; he can even diagnose the part of the brain which is deprived of its blood. As the result of his observations, it appears that at the level of an embolism there is a decrease in the temperature. The subject is necessarily in its infancy at present, but with the aid and example of such an authority on matters craniological as M. Broca, we shall hope shortly to be in a position to publish more extensive details.

ROYAL COLLEGE OF SURGEONS.

During the past week, 378 candidates for the diplomas of Fellowship and Membership of this institution have been undergoing their preliminary or Arts examinations by the College of Preceptors at Burlington House. Of this number 112 were for the Fellowship, and 266 for the Membership of the College. The library and museum, which, with the College generally, are now undergoing cleaning, repairing, and painting, will be re-opened on Monday, October 1, when the annual registration of gentlemen pursuing their studies at the metropolitan hospitals will be commenced. The primary and pass examinations for the diplomas of Fellowship and Membership will take place in November.

THE HEALTH OF THE HOLBORN DISTRICT.

Dr. Septimus Gibbon, the Medical Officer of Health for the Holborn District, has recently published his annual report for the year 1876. Dr. Gibbon wishes to acknowledge the courtesy and public spirit of the medical practitioners and registrars of the district, through the kindness of whom most of the cases and deaths arising from epidemic and preventable diseases are brought to notice, though the Registrar-General refuses to supply the registered particulars of deaths. The births of the district show an increase of 4·8 per cent. on the previous year, but a decrease of 35 in the whole on the average number for the previous ten years; and the birth-rate is only 28·2 per 1000, as compared with 36·5 for the whole metropolis. This apparent lowness is attributable, Dr. Gibbon thinks, to the fact that many births among the Irish and Italians of the district escape registration, more especially as, during the recent epidemic of small-pox, evidence was afforded him of six children not having been registered. There was a marked decrease in the death-rate for the year under notice; the lowest number of deaths being furnished by the west portion, and the highest by the east portion of the district. The deaths from violence had decreased, and Dr. Gibbon expresses a hope that, now the playgrounds of the Board schools are to be opened and made available for all the children of the surrounding neighbourhoods, the number of children whose lives are annually sacrificed in the streets will be still further decreased. Torrens' Act has been applied in the past year to seven places, and the list of sanitary improvements carried out shows that even in Central London at the present time there are places where the elementary want of a supply of domestic water to houses has to be ordered under the authority of Act of Parliament. Dr. Gibbon records in this report the fact that a mortuary has at length been provided for the district, to which dead bodies are now removed, in most cases, from rooms inhabited by the living.

THE EPIDERMIS OF THE GENITO-CRURAL FOLD AND ITS VICINITY AS A BREEDING-PLACE FOR THE OXYURIS VERMICULARIS.

Under the above title, Dr. Michelson, of Königsberg (*Berl. Klin. Wochenschrift*, No. 33, 1877), describes the case of a healthy boy of thirteen, who was brought to him with eczema of the scrotum and the neighbouring parts of the thighs, and in which he found numerous eggs of the *Oxyuris vermicularis* embedded in the affected epidermis. The perineal region, and the back and lower part of the scrotum were free. The itching was so severe as to prevent sleep. The question was, from whence had come the female oxyurids which had laid the eggs? On inquiry, the boy stated that he had suffered from rectal worms as long as he could remember; but as the oxyuris requires a skin covered with some glutinous material for it to travel on, and quickly dies on a dry epidermis, it was unlikely that the worms had crawled directly to the affected part along the perineum. It seemed most probable that they were carried on some fæcal matter which adhered to the boy's shirt, the front border of which he had a trick of tucking back between his legs. An attempt was made by means of warm compresses to see whether the ova could be brought to maturity in this position, as Leuckart asserts that the embryocs require the action of gastric juice in order to set them free. The experiment failed. The eczema was cured in a few days by warm baths, and a powder of one part salicylic acid and five parts starch.

NATIONAL MEDICAL CONGRESS.

The fifth of these meetings is being held at Geneva from September 9 to 15. Among the subjects of interest under discussion are—"An International Pharmacopœia," introduced by Dr. Gille, of Brussels; "Artificial Bloodlessness," by Professor Esmarch; "The Effect of Wounds on Pregnancy," by Professor Verneuil; "The Artificial Nourishment of Very Young Children," by Dr. Zweifel; "The Effect of Alcoholism on Mental Diseases," by Dr. Magnan; "The Localisation of Functions in the Brain," by Dr. Broadbent; "The Etiology and Prophylaxis of Myopia," by Dr. Haltenhoff," etc. There is also an exhibition of new medical and scientific instruments. Professor Prévost is the General Secretary.

DECREASE OF ZYMOTIC DISEASE IN SOUTHWARK.

The annual report of Dr. Bianchi, Medical Officer of Health for Southwark, is principally noticeable from the fact that it records a large diminution of deaths from the class of zymotic diseases. But Dr. Bianchi thinks a great deal more might still be done in this direction if medical officers received more assistance from the public. As the law now stands, a case of infectious disease is only brought to the knowledge of the medical officer of health circuitously, or perhaps not at all, and he therefore follows in the steps of a large number of the profession to whom the health of the public is entrusted all over

the kingdom, in suggesting that legislation should compel the householder in whose residence an infectious case occurs, to make known the same to the medical officer of health for the district as soon as he receives notice of the same from the medical attendant in charge of the case. An ample and extended experience shows that Parliament is not easily moved to inaugurate sanitary reforms, but repeated representation on this subject must eventually bear fruit; and in this hope we persistently continue to record the opinions of medical officers of health from different parts of the country, all bearing on the necessity for legislation to strengthen their hands in this matter.

THE DUBLIN ARTISANS' DWELLINGS COMPANY.

The half-yearly meeting of this Company was held at the offices, Nassau-street, Dublin, on Monday, September 10. Sir Arthur E. Guinness, Bart., M.P., presided. The chairman, in moving the adoption of the report, said he believed far more in improving the condition of the working-classes by giving them suitable dwellings, than by the most stringent legislation. The Company had already built or contracted for 186 tenements at an average cost of £116 10s. each. They were building on three sites—in Buckingham-street, Echlin-street, and Dominick-street. The Board of Directors had for some time declined offers of other building sites because the Corporation, since the passing of the Artisans' Dwellings Act, had obtained a provisional order for the purchase of several sites in the city, and the directors looked forward to obtaining some of those sites from the Corporation. Those which they particularly desired to obtain were the Coombe, on which they contemplated building 195 tenements at a cost of £23,400, and Boyne-street, where they intended building 114 tenements at a cost of £12,980. The report was adopted, and a warm vote of thanks was passed to Sir Arthur Guinness. We understand that the tenements built by the Company are being constructed on the most modern and improved sanitary principles.

ST. BARTHOLOMEW'S HOSPITAL.

We are requested to draw attention to the fact that no fees are now required for House-Physiciancies or House-Surgeoncies at St. Bartholomew's Hospital. This appears to be not generally known; but in the Handbook to the Hospital and College it is stated that each of the four House-Physicians and four House-Surgeons is provided with rooms by the Hospital authorities, and receives a salary of £25; and that "no fees for these offices are now required."

Composition of Quack Medicines.—This is not a secret with regard to most of these, thousands of analyses by competent chemists having supplied revelations that would fill volumes. This is, however, of no avail, for neither the chemists nor governments are disposed to incur the expenses which would be required to make known the deceptions of these widely advertised compounds. Richter states that among 938 secret remedies analysed by him, he found (1) 22 per cent. contained substances of violent or poisonous action: and (2) 25 per cent. which, although less active, yet were possessed of medicinal power; while (3) 52 per cent. were of no importance, or quite inoffensive. The first category especially comprises violent and poisonous agents for the skin and hair; opiates for children, capable of inducing chronic cerebral disease or even death; "purifiers of the blood," composed of arsenic or mercury; and a whole legion of violent purgatives capable of doing in inappropriate cases an immense amount of mischief. The third category comprises preparations which have nothing in common with the noxious and poisonous effects produced by those of the first and second, but yet agree with them in being sold at from five to a hundred times their proper value, and thus constituting robberies. All these attacks on the public health and morals take place with the full cognizance of the public authorities.—*Lyon Méd.*, Sept. 2.

ON NERVE-STRETCHING AS A SURGICAL OPERATION.

There are few subjects in surgery of greater importance than the one now under consideration. Nerve-stretching is not new as a proceeding, but its application as a surgical operation only dates as recently as 1872. Dr. Paul Vogt,(a) Professor of Surgery in the University of Greifswald, has the merit of writing the first systematic book on the subject, and it is our intention to give a short summary of what it contains.

It is divided into five chapters. The first gives some physiological and anatomical researches on the effect of nerve-stretching under normal circumstances. The second treats of the effect of nerve-stretching under pathological conditions. Chapter III. collects all the cases which have hitherto been published, with the clinical results. Chapter IV. enters into the indications for the operation; while the last chapter summarises the topographical anatomy, and shows the points at which the chief nerves may best be exposed and got at.

I. Physiological and anatomical experiments on the action of nerve-stretching under *normal conditions*:—Though numberless experiments on the action of the most varied physical and chemical agents on the function of the nerves have been made, yet that of stretching has been almost left out of consideration; and this is the more strange because very various degrees of, and alterations in, the tension of nerves must occur during the constant changes of position which the body assumes within the normal limits. The first experiments were made by Harless and Haber (1858), but it was Valentin who, in 1864, published the first detailed researches on this subject. He arrived at the following conclusions:—

1. Stretching lengthens the primitive fasciculi, and decreases their calibre, and the nerve-sheaths press upon the medullary substance. Electric excitability is not much interfered with, provided the stretching be not too considerable.

2. If the stretching has not been carried too far, a nerve will quickly recover itself. The time required for recovery is in direct ratio to the weight applied, and the length of time during which it was applied. If the stretching has been carried to such a point that no further excitability can be produced, it may nevertheless recover perfectly after a sufficient period of rest.

3. The microscopic examination of nerves which have been stretched to their uttermost, fails, as a rule, to discover anything abnormal, except that the medullary substance seems in places to be separated from the nerve-sheath, just where rupture of the sheath seemed to be commencing.

4. The electro-motor qualities of the medullary substance become changed under the influence of powerful mechanical action. Tutschek's and Conrad's experiments have since confirmed Valentin's; and it may therefore be laid down that "the excitability of a nerve-trunk, and the reflex excitability in the parts supplied by it, are lowered by any prolonged stretching." The manner in which this change is brought about does not appear, but it is in one of three ways—the stretching either acts on the nerve as a conductor, or on the central organ, or on the terminal organ. As regards the first of these three ways: The median nerve of a male subject, 50 centimetres long, extending from the wrist to the axilla, is fixed at one end, while to the other a weight is attached; 3 kilogrammes suffice to increase its length by 2 centimetres, and an increase in length of 3 centimetres can only be obtained by the greatest amount of stretching that can be applied by the hand. After several weightings with 2 or 3 kilogrammes, the nerve retracted again to its normal length; and after repeated and long-continued trials, a permanent lengthening of 0·2 centimetres only was obtained. The elasticity decreases from the central towards the peripheral extremity. Again, if an amputation of the thigh of a dead body be made, so that everything is divided except the sciatic nerve, and if the leg, weighted with 30 kilogrammes, be allowed to hang supported only by the nerve, the distance between the upper and lower cut sufaces will increase to 10 centimetres. This, however, is not all to be put down to the elasticity of the nerve, but rather to the rupture of some of its attachments to the muscles of the leg. If the lower extremity of a dead body

(a) "Die Nerven-Dehnung, als Operation in der chirurgischen Praxis." Leipzig: Vogel. 1877. Pp. 80.

be forcibly flexed on the abdomen with the leg extended, it is impossible to produce any extension of the peroneal nerve, previously exposed, behind the head of the fibula; neither can any extension of the sciatic be produced under similar circumstances. If any great force be used, there is rupture rather than yielding of the nerve. The same applies to the upper extremity. The head being turned towards the left, the right arm extended and abducted, with the forearm and hand extended, it is impossible to produce any stretching in either the median nerve or in the brachial plexus. Hence we are to conclude "that the nerve is only elastic and stretchable within certain limits. The limits of the normal elasticity correspond with the physiological limits of the motions of the human body. Any attempts to stretch nerves beyond these limits are followed by rupture in their continuity." Thus, in replying to the first question, whether the mechanical action of nerve-stretching acts on the conducting power of a nerve, we are bound to conclude that as we cannot get beyond the physiological limit of nerve-elasticity without loss of continuity in the nerve, so we cannot alter the conducting power of a nerve within those limits.

Then, as regards the second point—the effects of nerve-stretching on the central organ,—the less elastic a nerve is, the more likely will stretching it be to act on its points of attachment. In order to test this, the sciatic nerve of a full-grown goat was laid bare between the tuber ischii and the trochanter, and then its attachment to the spinal cord was also laid bare. The nerve-trunk was then seized by the finger, and strong traction was made, but not the slightest participation of the stretching could be appreciated at its junction with the spinal cord—not even when a traction was made which finally resulted in rupture of the nerve-trunk. Other and similar experiments were made, and as the result it may be laid down "that in the simple laying bare and stretching of a spinal nerve the traction is not conveyed to the central organ."

We now come to the last proposition: the effect of nerve-stretching on the peripheral terminal organ. If a small opening, three centimetres square, be made on the flexor surface of the forearm just above the wrist, so as to expose the median nerve; and then, with the arm hanging down by the side, if the brachial plexus be laid bare, and traction exercised on the median nerve, the latter will be seen at the opening to undergo considerable displacement outwards. The same can be stated of both the radial and ulnar nerves on making suitable openings over each. Hence, then, the centripetal stretching of a nerve-stem is conveyed to its peripheral termination, and may thus act on the parts which it supplies.

It only now remains to point out in what this alteration consists. It may be summed up as follows:—The stretching of a nerve-trunk is followed chiefly by a displacement and loosening of its attachments within its surroundings, both in a central and peripheral direction, and by a simultaneous stretching and displacement of the bloodvessels running within the nerve-sheath. This latter effect, as seen in the injected nerves, is indicated by the tortuosity and marked dilatation of the vessels supplying the nerves, while an altered condition of the vessels within the nerve-trunk does not seem to take place. Further, these changes may be observed immediately after the operation, and also for some considerable time subsequently to it. The effect thus produced, then, may be called Neurolysis and Neurokinesis, instead of neurotony, which means simply nerve-stretching.

Thus, if the activity of a nerve, according to the experiments of Harless, depend on the pressure exercised by its sheath, it must necessarily follow that a change in the function will temporarily follow on the stretching and the displacement which has been shown to take place. And, further, if we are to suppose that the activity is also dependent on the nutrition of a nerve, then the conditions of nutrient arteries of the nerve will come into considerable play. A dilatation and tortuosity will be brought about by this stretching, which in its turn will lead to a slowing of the blood-current, a diminution in the blood-pressure and in the chemical changes which go on in the nerve-trunk. And with every alteration in the tissue metamorphosis, comes an alteration of function. Thus we get two factors, which are probably more important than the "concussion of nerve-substance and nerve-cells," which have hitherto been made so much of.

II. The author next proceeds to discuss the action of nerve-stretching under *pathological conditions*. In order to be able rightly to understand this action on diseased nerves we ought to be well acquainted with the appearances which nerves present under varying circumstances, and unfortunately we know very little about the subject. The author, though he has often made experiments, has never succeeded in artificially producing what is called neuralgia or tetanus in animals. At most a little local neuritis seems to have been caused, which subsided again, but which, after nerve-stretching, appeared to heal still more quickly than when left to itself. There is another field for observation on this subject, and as a more extended knowledge of neuropathy would be of material service, the study ought to be warmly taken up.

III. Record of published cases in which the operation has been performed, with date:—

a. Billroth (operation 1869, published in 1872): Laying bare the sciatic nerve, and examining it with the finger. Nothing abnormal was detected. The spasm of the leg, for which the operation had been undertaken, completely ceased within three months of the operation.

b. Von Nussbaum (operation 1872): (b) Laying bare and stretching the brachial plexus, on account of an intense neuralgia, of spasmodic contractions, and loss of sensation of the muscles of the arm. This operation was most completely successful.

c. Gärtner (1872): Laying bare and stretching the brachial plexus for a paralysis of thirty-four years' standing. The arm was greatly wasted, and the fingers contracted.

d. Patruban (1872): Laying bare and stretching of the sciatic nerve for sciatica. Great amelioration.

e. Vogt (1874): Laying bare and stretching of the ulnar nerve for paralysis, in consequence of adhesions with nerve. Cured.

f. Von Nussbaum (1875): Laying bare and stretching of the tibial and peroneal nerves in a case of reflex epilepsy. Complete cure.

g. Callender (1875): Laying bare and stretching of the median nerve in the stump of a forearm on account of neuralgia. Cured.

h. Von Nussbaum (1876): Laying bare and stretching the sciatic and crural nerves of both sides for central disease. Paralysis of lower extremities with clonic spasms, following on a fall eleven years ago. Spasm entirely cured.

i. Vogt (1876): Laying bare and stretching the brachial plexus in traumatic tetanus following extensive injury to the hand. Cured.

k. Kocher (1876): Laying bare and stretching of the tibial nerve for traumatic tetanus.

l. Petersen (1876): Laying bare and stretching of the tibial nerve for neuralgia.

m. Vogt (1876): Laying bare and stretching of the inferior dental for neuralgia. Cured.

Though the number of cases thus far is small, the results of the operation are striking. In these cases there was one symptom common to all—viz., the abnormally *increased excitability* of either the sensory or motor tracts,—and the result of the operation in each case was to lessen it. A closer inspection of the cases showed, first, changes in the neighbourhood of the nerves acting as a mechanical irritant, which were removable by the exposure of the nerve-trunks simply; and, secondly, changes in the nutrition of the nerves manifesting themselves as neuralgias, for which the nerve-stretching was especially indicated.

To the above list of published cases the Author now adds *three* of his own. *The operation was undertaken each time for tetanus, and in two of the three cases the patients recovered.*

IV. If any justification of the operation were necessary, the cases just quoted might be appealed to; and, further, the old maxim, "*Remedium anceps melius quam nullum*," would more than call for it. When it is compared, however, with the only other operative procedure which is open to the surgeon, it stands out in prominent and favourable contrast; for neurotomy or neurectomy, hitherto employed, brings about its mechanical interruption in nerve-conduction by means of *solution of continuity*. On this account, therefore, the operation has, for the most part, only been applied to *sensory* nerves; for division of a motor nerve would be followed by immediate paralysis of muscles or even limbs supplied by such nerve—a sequence by no means desirable. Further, the disease may be either central or peripheral, and division of the nerve under any circumstances could scarcely affect a central cause, and hence in many cases would even be contra-indicated.

(b) This is the first *published* case.

There are at present some definite indications for this operation, and the author lays them down somewhat as follows :—

A. *In Neuralgia.*—If it be generally true that secondary changes take place in a nerve-centre as the result of a peripheral irritation, which, in its turn, leads to an alteration in the vaso-motor district, and then to trophic changes in the nerve itself, we can easily understand why simple neurotomy is so seldom followed by good or permanent results. And after what has been said as to the supposed *modus operandi* of nerve-stretching, it will be conceded that the latter operation is the more likely to be of benefit, either in combination with neurotomy or alone.

1. Nerve-stretching in combination with neurotomy. When we have to deal with a neuralgia of peripheral origin affecting a purely *sensory* nerve, and one which has resisted all previous treatment, and which we cannot influence by electro-therapeutical means, a case in which no special local measures are indicated (removal of a scar, foreign body, or morbid growth), *then neurotomy of the affected nerve, in combination with simultaneous stretching, both centripetally and centrifugally, is indicated.* By means of this combination we dispose of the peripheral irritation, or at least we get an interruption of communication with the nervous centre, and also a diminution of the irritability in the course of the entire nerve-trunk, since the action of nerve-stretching goes much further in this direction than simple division of a nerve; and also from the circulatory changes there results an alteration in the nutrition—altered though it already is—of the nerve. Thus there is a combination of effects, which must almost necessarily produce a favourable influence on the disease, provided always that the *secondary changes in the nerve-centre* are not altogether beyond the possibilities of resolution. This operation, of course, is only admissible for sensory nerves.

2. Nerve-stretching alone will be indicated under analogous conditions for *mixed* nerves. If we are called to treat a neuralgic affection, we should, of course, remove all local irritations by local measures (such as removing or detaching scars in the neighbourhood of nerves), and at the same time by "stretching" seek to paralyse the result of the previous irritation. We might even, under certain circumstances, proceed to stretch the nerve-trunk without adopting the above-mentioned preliminary measures, when all medicinal and electro-therapeutical measures had previously failed. In the latter case we should seek to get at the nerve at the nearest possible point to its centre; and by vigorous stretching endeavour to influence the local condition also.

3. Neurotomy alone is indicated in neuralgic affections of *a very localised nature*, where a *subcutaneous* division of the affected nerve-twig would suffice, and where the laying bare of the nerve-trunk would scarcely be justifiable. In this group may be placed neuralgias of single sensory twigs in the case of extensive, and hence not easily extirpated, scars, tumours, and the like.

B. *In Epilepsy.*—The cases of epilepsy to which this plan of treatment is adapted are those which we call *reflex epilepsy*, depending on some appreciable or fairly obvious injury of a peripheral nerve distribution. There is on record a large number of cases where the removal of scars, neurotomy, etc., have led to a perfect cure. Cases 1 and 6 (before given) are also examples of the favourable effect of stretching under analogous circumstances. The following would seem to be an exceedingly suitable case for the operation :—A man had a small tumour removed from the cheek. The wound only closed slowly. Shortly afterwards, after any great exertion or excitement, he began to experience a feeling of heat about the scar, and occasionally a twitching and spasm in the muscles of the neck. These symptoms became aggravated after a time, and now he is the subject of well-marked epileptic attacks. On examining the local conditions more thoroughly, a scar, about the size of a florin, is found in front of and beneath the angle of the right jaw. It is not painful or tender, and nothing abnormal is found in the surrounding parts. But there is one point, which is painful, from which the twitchings seem to start. Topographically it corresponds exactly to the point of exit of the nervus cutaneus colli superior et medius of the cervical plexus. The author believes that he has here found the source of the peripheral irritation, and has advised stretching of the nerve-trunk where the twig arises. The case is to be recorded later on. In all cases, however, the indication must be exact and precise if we would be successful.

C. *Traumatic Tetanus.*—Contrary to the advice given in the two previous classes of cases, we must in this disease *proceed to operation at once*, and *not wait* until all therapeutic and anæsthetic measures have been tried. If needs be, order these measures *in addition* to the nerve-stretching, but not *in its stead*. The surgical treatment may be both local and central. The cases, however, where any active local treatment can be of avail, are those in which no important changes in the central nervous system have shown themselves. The period during which local treatment *might* be of service is exceedingly short. In some patients the central manifestations come on simultaneously with the disease; and here, of course, local treatment would not be of any avail whatever. As compared with all previous operative interference, nerve-stretching accomplishes much more, is a harmless operation if it even do not succeed, and does not require a solution of continuity in the nerve.

The group of cases above given has been selected in order to give some definite indications for undertaking this operation. But it is obvious that a much larger group might have been given. In order to sum up, then, we may state that the prominent symptoms which call for this treatment are *exalted irritability*, and *disturbed function due to a disturbed blood circulation* at the peripheral termination of a nerve.

V. *Technology of the Operation.*—The actual accomplishment of such an operation appears very simple, and yet from a study of all the published details it is clear that final success depends very much on attention to small matters, which sometimes are apt to be forgotten. The operation may be divided into three stages :—1. Laying bare the nerve within its sheath. 2. Drawing forwards and stretching the nerve. 3. Reposition and application of dressings. The first act of the operation is a most important one. In the case of traumatic tetanus before reported, some important changes were found, not only in the nerve itself, but also in the surroundings of its sheath; in all such cases *it is recommended directly to free* the nerve-sheath on all sides as far as one can reach; stretching then accomplishes the rest. The second act of the operation may be performed either manually or instrumentally. For the drawing forward of the nerve one naturally uses a blunt hook, or an elevator, or for a small nerve an ordinary aneurism needle. The actual stretching is best accomplished by passing the forefinger, appropriately curved, beneath the nerve, and using it in conjunction with the thumb. By this means we secure as much force as is necessary, provided we place the limb in a suitable position. Were a hook used for the stretching, there would be a danger of locally injuring the nerve itself, which is not possible when the finger is used. In the case of small nerves it would be impossible to pass the finger beneath them, and hence a thin elastic band may be substituted. In this way an *elastic* traction can be exercised without the risk of bruising or otherwise injuring the nerve itself. The last part of the operation consists of the dressing. If the stretched nerve does not recede when the limb is placed back in its normal position, or if the part operated on is one (the face) in which these movements would be impossible, the operator must gently tuck in the nerve into its bed. A small bit of drainage-tube is to be placed at the bottom of the wound, which may then be appropriately closed by a few sutures. Lister's dressing and spray ought to be used in these cases, as rapid union and a small scar must be tried for.

It does not seem to us necessary to follow the author any further. All practical surgeons will be acquainted with the points at which the nerves can best be got at. It is obvious that in this operation, as in tying arteries, there is a *lieu d'election*, and that success will be in proportion to the skill with which the operation is performed and the after-treatment attended to.

Salicylic Acid in Pertussis.—Amidst the round of trials which salicylic acid is undergoing, may be mentioned its use in pertussis as recommended in the *Petersburg Med. Woch.*, Nos. 22 and 23. Inhalation of a 2 per cent. solution for five minutes every evening during the convulsive stage effects an immediate influence, a cure resulting, on the average, within two weeks.

Lady Doctors.—In addition to the names already entered in the Medical Register, the following ladies, having qualified, have recently been added to the number, viz. :—Louisa Catherine Fanny Atkins, of St. John's-wood; Sophia Jex-Blake, of Bernard-street; Eliza Louisa Walker Dunbar, of Clifton, Bristol; and Frances Elizabeth Hoggan, of Rutland-gate. Others, it is stated, are about to follow.

FROM ABROAD.

The Diarrhœa of Infants.

The number of the *Journal de Thérapeutique* for July 25 contains an instructive paper upon the diarrhœa of infants from the pen of M. Blache, who has a large practice in the diseases of children.

Diarrhœa, he observes, must not be considered in children merely as a symptom, constituting, as it often does, a disease in itself. From a practical point of view it may be considered as consisting of several stages; and if we do not interfere hygienically and medically in the first of these (simple diarrhœa or catarrhal flux), we soon find it passing into the second stage (inflammatory diarrhœa), and then to a more advanced degree (dysentery), to terminate in choleriform diarrhœa, which annually carries off so large a number of infants. It is the persistence of the disturbed condition of the secretions which determines the progressive intensity of the affection. It is remarkable, after even the most intense diarrhœa, how seldom any considerable intestinal lesions are found. It is during the period of dentition that diarrhœa most frequently appears, but it is of much less frequency in children at the breast than in those brought up artificially—the casein of cow's milk coagulating in large clots, while woman's milk produces only small flocculent coagula. We must be careful, under the idea that such a flux is favourable to the issue of the teeth, not to allow the diarrhœa of dentition to continue too long unchecked. After dentition, the most frequent cause is cold, and especially humid cold; and a very important mediate cause is allowing the infant to suckle at irregular intervals. For although it may be impossible to insist upon the rule of never suckling under two hours' interval, yet a frequent recourse to the breast on every trifling pretext, soon after suckling, even when it does not give rise to an immediate diarrhœa, fatigues the intestinal canal, and predisposes to enteritis. In older children diarrhœa is often induced by the irritation caused by improper aliment, or food being given too abundantly.

The stools may be simply aqueous or contain the remains of undigested food; while in children brought up by hand they are sometimes too compact, sometimes accompanied by masses of undigested milk, and at others by clear yellow liquids, issuing in a jet accompanied by flatulence. Sometimes inodorous, they are oftener fetid, the fetor sometimes preceding the diarrhœa. The stools, however, are oftenest found of a greenish colour resembling chopped spinach, this being due to the conversion of the brown colouring matter of the bile into biliverdin by acids, this transformation sometimes occurring only after the stools have been voided and mixed with the urine. Observation of these appearances is of importance, as they may indicate that the milk of the nurse does not agree with the child, from fault of regimen or other cause. In the advanced period of catarrhal diarrhœa the stools become mucous or glairy, and streaks of blood may indicate the approach of dysentery. It is chiefly in infants artificially brought up, or in those whose development is not satisfactory, that colourless, clayey stools are found to precede the diarrhœa. It is the bad character of the evacuations rather than their number which constitutes diarrhœa; but after awhile their number and abundance induce other symptoms. Thus, the reiterated passage of the stools induces a redness and burning sensation, which extends from the anus to the genitals, the inner part of the thighs, the legs, and sometimes even to the heels; and in profuse diarrhœa those rapid emaciations occur which are observed in their most marked form in infantile cholera. But without proceeding to this extreme, the arrest in the development of the infant is to be noted as one of the results of diarrhœa. This can only be verified by the aid of the scales. By these it is ascertained that the infant may cease to increase in weight, and even commence to lose, within twenty-four hours or less; but in simple intestinal catarrh, or that accompanying dentition, it will be by the end of three days that the infant ceases to increase in weight, and if the diarrhœa still persists, loses it more and more. It may be laid down as an axiom that, during the first year of life, every infant who does not increase in weight proportionally to his original weight has entered into that complex morbid condition designated by Parrot as "*athrepsié*." Although diarrhœa of a medium intensity is only exceptionally accompanied by fever and general phenomena, this is far from being the case with it when arrived at its third stage, bearing so much analogy to the dysentery of adults. In this are met with intense fever with dryness of the skin, and alternations of irritability and depression; and the disturbance of the nervous system is so considerable that convulsions may arise which resemble those observed at the commencement of meningitis. The urine in the diarrhœa of infants is very acid, and the diminution of the acidity, when not due to ammoniacal fermentation, is generally of good prognosis. Its quantity, especially in serous diarrhœa, is greatly diminished. Albumen is by no means of rare occurrence in the urine of sick children, but it has rarely the same consequence as in the adult. When serous diarrhœa has lasted some time a considerable quantity of albumen may be present; and its diminution, followed by its disappearance, is a good sign; while its gradual increase, or sudden manifestation, is a bad one.

In the treatment of diarrhœa the dietetic and hygienic question is of great importance. When during the first few days the infant can only take a very little milk at a time, it may be put to the breast every hour or hour and a half; while from the end of the second week it should only suckle every two hours. When, having acquired some strength, the infant is able to suck more abundantly, the state of its stools should be watched, for it often happens between the third and sixth week that diarrhœa appears consecutively to dyspepsia due to excess of alimentation. It commences with the regurgitations and hiccups which nurses regard with so much satisfaction, but which should be considered as signs of repletion precluding diarrhœa, and which may be prevented by due regulation of the nutriment. At the period of dentition supervision is especially demanded, for a predisposition to diarrhœa already exists; while at the period of weaning, when the child begins to eat, indigestion may give rise to intense diarrhœa. The diarrhœa is usually most difficult of arrest when it succeeds to premature weaning; and a return to the breast, when practicable, is the most certain of remedies. It is of great importance to continue the use of milk at the period of weaning; but still it is not rare to meet with children by whom the best cow's milk is not tolerated, and seems even to keep up diarrhœa. Before giving up milk in these cases, that of the goat or ass should be tried, as both of these have proved of great use at the end of obstinate diarrhœa. Sometimes, however, in these refractory cases, lacteal diet has to be entirely suspended. About the sixth month a small panada, made of bread which has been gently roasted for three quarters of an hour, may be given; and towards the eighth month broths may be commenced. As a good hygienic measure, acting as a preventive of intestinal disturbances, the child's abdomen should be encircled in a flannel bandage from the time of the fall of the funis to nearly the end of dentition. Not only does this preserve the child from the action of cold, to which it is so susceptible, but it serves to support the abdomen and repress the tendency to distension which is produced by the slightest intestinal disturbance.

As to medical treatment, whatever be the nature of the diarrhœa, its origin, intensity, and even its prolonged duration, the following procedure, modified in different cases, has always proved successful:—1. Diminution of nutriment, enemata repeated according to requirements, and cataplasms to the abdomen. 2. The administration during three, four, or five days in succession of a small teaspoonful of equal parts of castor oil and gum syrup, which are emulsified at the time they are given by simply shaking the phial. Three or four days usually suffice for modifying the nature of the stools and diminishing their number. If by the second day the diarrhœa has become moderated without disappearing, the medicine should be suspended for a day, to be resumed the day after. While the medium dose is a teaspoonful, this will have to be varied with the age; and as a general rule it may be stated that one gramme of the oil will suffice before the first six months, and that from two to three grammes will be required to the second year. The gum moderates and regulates the action of the oil, which, given alone, acts with too much violence. In some cases, in which the stools are especially fetid and glairy, a second dose may be given in the evening. When the diarrhœa is very abundant, occurring twelve or fifteen times in the twenty-four hours, the quantity of gum syrup should be doubled or tripled, and a small quantity of vinum opii added. The purgative so modified may then be given every two or three hours. The dose of the vinum opii is limited to from one to three drops (at most) in the twenty-four hours, and when there is a disposition to vomit, a little orange-flower water may be added. It is to this same opiated

form we should have recourse when there is relapse of the diarrhœa. But, useful as this mild form of purgation is, it is much aided by the other means. The diminution of food is in some cases not required in consequence of loss of appetite, and in these the action of the purgative is speedily followed by desire for food. Indeed, the child should not pass more than half an hour after the purgative without sucking, or an hour without taking light broth. The utility of cataplasms is too obvious to be insisted upon, and oily or aromatic embrocations are very useful as a mechanical means of diminishing the gases of the intestinal canal which are of such frequent occurrence in disturbance of the digestive passages in childhood. The utility of enemata is also indubitable, and the following rules should be observed for their administration:—A large enema of camomile tea is to be followed in twenty minutes by a very small starch enema; and these two are to be repeated in the same manner whenever a series of four or five stools has occurred within the space of eight or ten hours. When the diarrhœa is sufficiently considerable to necessitate two or three repetitions of this kind within the twenty-four hours, it will be better that they should consist either of decoction of bran or decoction of marsh mallow, returning only to the camomile enema when the diminution in the number of stools renders it unnecessary that the large enema should be followed by the small starch one. In mild diarrhœa the purgative mixture is not required, the use of the camomile enema for a day or two sufficing. When with the diarrhœa there are combined manifest signs of *embarras gastrique*, an ipecacuanha emetic should precede the treatment; and before resorting to the castor-oil mixture, minute doses of calomel should be administered, when ardent fever, conjoined to nervous manifestations, leads to the fear of the occurrence of convulsions. It cannot be too often repeated that convulsions often accompany diarrhœa when it results from too abundant or indigestible food.

REVIEWS.

The Spas of Aix-les-Bains and Marlioz, Savoy. By Francis Bertier, M.D. Paris. London: J. and A. Churchill. 1877. Pp. 159.

Dr. Bertier has done good service to the profession and the public alike in publishing this little book. It is an account of the waters of this favourite resort, noting their physiological action, modes of application, and their medical effects. The waters are sulphurous, hot, and exceedingly abundant; they are stimulant and alterative in their properties, and are indicated in rheumatism, rheumatic arthritis, gout, certain skin diseases, bronchial affections, and in various forms of paralysis. Dr. Bertier describes the mode in which these waters are administered, and points out the indications for this or that method. The book contains also much useful information for those who go to such places for the first time, and we heartily recommend it to all who may think of going to Aix. The climate is very fine, and the means of access are ample and easy. English visitors, too, will have the advantage of having in the person of Dr. Bertier a physician who speaks English fluently, and whose genial and kindly manners, not less than his skill as a physician, will add much to the pleasure and advantage of a few weeks' stay at this pretty little watering-place.

A Treatise on the Theory and Practice of Medicine. By John Syer Bristowe, M.D., F.R.C.P., Physician to St. Thomas's Hospital, etc. Pp. 1166. Smith, Elder, and Co. 1876.

We welcome Dr. Bristowe's book very heartily, for it shows evidence of long and steady work in pathology and practical medicine, and of wide reading bearing on the task the author has undertaken. We do not, however, like the "get up" of the book. It is too unwieldy—at least, we expect this will be the student's view,—but for this, of course, the publishers, and not the author, are to blame.

The first part of the work is devoted to general pathology, in which are included etiology and a general account of physiological processes in health and disease. This section of the book is well and carefully written, and especially those pages devoted to tumours. The remarks on the local and general spreading of morbid growths, on the part played by the lymphatics in these processes, and on the elective affinities of tumours, we commend to our readers' notice as being of both clinical and pathological value.

The second part of the volume treats of special pathology, and therefore of particular diseases. "Specific febrile" affections are first noticed, and with the author's introductory remarks on contagion we mostly agree. But we are by no means convinced that typhoid fever does not sometimes arise *de novo*; and there can be no doubt that it is met with after the opening of long-closed drains in districts where it has not been known previously to exist. Many country practitioners can bear witness to this, and in such cases there is at least a doubt as to the precise mode of origin of the fever. The author's remarks on the general management of epidemic disease (page 136) are eminently practical. His descriptions of the acute diseases are, on the whole, excellent, and we can commend, particularly to anti-vaccinators, the overwhelming evidence adduced in proof of the protective power of vaccination.

The sections which are devoted to pulmonary affections are remarkably clear, though we do not agree with the author in his account of some physical signs. There are, in a manner, small points but worth noticing in a work which is likely to, and we hope will, become one of our standard text-books. For instance, Dr. Bristowe applies the term "tympanitic" to the percussion-note of both emphysema and pneumothorax; but surely the notes in the two diseases are as different as they can well be. And we certainly prefer the old term "hyper-resonance" for "emphysema," and "tympanitic" for "pneumothorax"; for (as Dr. Bristowe himself says further on) the note in the latter often exactly resembles that got on percussion of the small intestines. Tympanitic note means a distinct loss of lung resonance, and so is got in cases of partial consolidation and compression, where, as the author points out, beginners are apt to think there is an increased lung resonance, and consequently no serious mischief. We are glad to find mention made of the occurrence of cracked-pot sound in healthy children. This important fact is passed by in most text-books, and no mention is made of it even in works devoted to lung diseases. At the same time, the value of this percussion-sound as a sign of cavities is not diminished, for it is not difficult to distinguish between the true and false "*bruit de pot fêlé*," if a little care be taken. We agree with Dr. Bristowe, also, that "fine crepitation" is not, as is generally asserted, limited to the end of inspiration; it may be heard both in inspiration and expiration. And we think the author might have gone further, and declared that it is very often audible in the stage of consolidation, as well as in the first stage of pneumonia.

As we have said, thoracic diseases are on the whole well and clearly written. But some of the articles do not quite satisfy us. For instance, in the description of acute bronchitis too little attention is given to the effects of age on this disease, nor (as occurs in many other text-books) does acute capillary bronchitis of young children receive that especial consideration which it deserves. So, again, in all text-books intended for students, care should be taken to warn them against confusing bronchitis and pneumonia in the aged, as is too often done. Dr. Bristowe recognises the important fact that in bronchitis the temperature may acquire a pneumonic degree, and run up as high as 104° Fahr.

The author evidently supports the tubercular theory of phthisis, and refrains from a discussion of the catarrhal view of this disease. His account of asthma is excellently written, and prominence is justly given to the observations of the late Hyde Salter, whose work Continental writers have often adopted without acknowledgment. It is too often forgotten of this disease that quite young children may suffer severely from it, and in consequence absurd errors in diagnosis and treatment are not infrequently made. Dr. Bristowe notices its occurrence in the quite young.

Though at the present time there is a conflict of opinion as to the manner in which morbid sounds are caused in the heart, we do not quarrel with Dr. Bristowe because he neglects to argue the whole question, and asserts dogmatically that murmurs are due to "molecular vibrations produced in the blood as it traverses one or other of the cardiac orifices." In a text-book such as this it would have been out of place to launch into a discussion of theories not likely to be settled for some time to come. We think with the author that it is better to use the term "diastolic" for those murmurs heard at the apex other than systolic, because thus may be avoided all the misunderstandings which have followed the employment of

the terms "presystolic" and "auricular-systolic," though these terms have much to recommend them.

We cordially assent to most of Dr. Bristowe's descriptions of the symptoms and physical signs of heart disease, and when we raise doubts in regard to them it is only in the hope that his attention will be directed more particularly to some points. For example, is it not common in mitral obstructive disease to have an increase in the arterial fuluess and tensiou? We believe it is common, and as the busy practitioner is compelled to rely so much on digital examination of tho pulse, all authors of practical works should be particularly guarded in everything they write upon it. The description of Graves's disease is exceptionally clear; and with regard to angina pectoris we agree with Dr. Bristowe that an essential feature in it is contraction of the systemic capillaries, and a consequent damming-up of the blood in the heart. We must call atteution to one statement, because of its practical importance. Dr. Bristowe says that embolism of the lungs is almost invariably due to thromboses in the veins. Is it not the case that in mitral disease, which, whatever its nature, leads to mechanical impediment in the right heart, thrombi are frequently found in the right auricular appendix, and that parts of these, becoming detached, are carried to form infarcts in the lungs?

The diseases of the lymphatics form a feature of great value in this book, and especially do we commend the author's succinct description of the symptoms and signs of mediastinal tumours. And of the remaining sections of the volume we have little to say except in praise. As might be expected, the chapters on affections of the abdomen are generally good; and when we reach the subject of brain diseases we cannot but concede to the author additional praise. Space will not permit us to enter into particulars, nor are these needed where everything is good. The descriptions have been worked up with care, and include the most recent observations, both physiological and clinical. The work of Charcot and of Duchenne has been laboriously introduced into the volume before us, nor have the observations of our own countrymen been neglected. We particularly commend the articles on sclerosis of the nervous centres and on locomotor ataxy.

We have said little as to the author's remarks on treatment. We believe that, on the whole, such remarks are among the most valuable in the book. As a general rule it is best that definite rules of treatment should be laid down in books intended to guide students, and that their attention should not be diverted by too many details. This rule Dr. Bristowe has observed; and sometimes, we think, almost too closely. In nearly all our modern text-books the scientific aspects of therapeutics are too much neglected, and the use of medicine is apt, in consequence, to degenerate more and more into an empirical routine. As an excellent illustration of the author's consideration of treatment we refer to that recommended in delirium tremens. On the whole this contains exactly what we should do in the majority of cases. Dr. Bristowe does not discard opium and the hypodermic use of morphia, and we agree with him that the latter is a most valuable remedy in this disease. We do not side with those who abstain from medicines because unaided nature will in time cure the disease. They adopt a line of argument much to be deprecated in diseases like delirium tremens, where such rapid changes occur for the better and also for the worse; aud those who are guided by it are likely to be worse practitioners than our forefathers, who ventured far iu the exhibition of powerful drugs. But as an instance for the need of more particular directions as to the use of some drugs—especially anodynes and narcotics—we refer to the author's recommendation of chloral in delirium tremens. While often advantageous, it is as often a dangerous remedy. We cannot but think that the student and beginner in practice should be cautioned as to its use in delirium tremens until he has seen several cases of this disease. It very often seems to paralyse the respiratory powers, and to favour the accumulation of secretions in the bronchi - an accident common enough in the completely alcoholised without the assistance of drugs, and one which very often is the direct cause of death.

It is, of course, impossible in text-books to discuss all the ins and outs of medical practice, and Dr. Bristowe cannot be found fault with because space would not allow him to lay down more particular indications for the use of drugs. Sometimes, however, he is too definite and dogmatic, and we would instance his method of treating obscure cases of obstruction of the bowels (the article on which is uncommonly well written). He says, in the first place, use purgatives; if these fail, fall back on opiates and belladonna; and, if these fail, resort again to purgatives. We cannot think this safe advice to students, though the line of treatment is often very properly adopted. Obstruction of the bowels, when obscure, is one of those diseases for which no special line of treatment can be laid down; and in discussing its treatment space should be given, even in text-books, for particulars. All the recent reports of cases of obstruction show that both medicine and surgery are achieving, and will achieve, triumphs in their combat with this disease; and they also show that our diagnostic knowledge is at present too small for us to arrive at a definite mode of treating it generally.

But, we repeat, the treatment of the various diseases is admirably summed up, and we pronounce Dr. Bristowe's book to be eminently practical iu this respect. A fair space is given to dietetics of disease, and we are glad that this important subject is receiving more and more attention in works on medicine. We have ventured to find fault with some parts of Dr. Bristowe's book, not by any means in a spirit of hostility, but rather to suggest for future editions. We give the author our hearty congratulations, and his book our best commendation; and wish it all success.

FOREIGN AND COLONIAL CORRESPONDENCE.

FRANCE.

Paris, September.

How to make the Best Use of the Paris Hospitals and Medical Schools: Free Admission of Foreign Medical Men and Students; Hospital Service; Private "Cliniques"; Scientific Laboratories; the Library of the School of Medicine; Excellence of the Clinical Teaching at the Hospitals, more particularly in "Specialties."

I propose in my present letter to give a few hints for the service of medical men who may be intending to pay a visit to Paris. From personal experience I know how much time may be lost at the outset of such a visit, from a want of knowledge of what to do and where to apply for information.

I may mention, in the first place, that Paris is a very generous city to foreign medical visitors; for any foreign medical man or student who can establish his identity has the recognised and official right, without any payment whatever, to attend all the lectures at the Faculty of Medicine, to use the library and museum, and to follow the practice of any physiciau and surgeon at any of the uumerous hospitals in the town; and this for as long a period as he likes.

In order to obtain au order of admission at the School of Medicine, all that need be done by a foreign visitor is to see the secretary, and to show his diploma if a doctor, or his certificate of registration if a student. Should he have come to Paris without these, he can apply at the British Embassy, where he will be able, without difficulty, to obtain a letter of recommendation from the British Ambassador. To obtain official admission to the hospitals he must apply in the same way at the chief office of Public Assistance in the Avenue Victoria, near the Hôtel-de-Ville. It is not absolutely essential to obtaiu an official order of admission, but I should advise anyone who is intending to make a prolonged visit to do so.

On a first visit to a hospital—even when a general card of admissiou has been obtained from the Assistance Publique—it is as well to see the director. He will give a special admission for that hospital, and the visitor will always afterwards be at liberty to walk straight into the service he wishes to attend. There are, however, one or two institutions where a little difficulty may be met with. One of these is the Salpêtrière. Except wheu a course of lectures is being delivered there, this hospital is not supposed to be set apart for teaching purposes, and a visitor will probably be stopped by the concierge. If he be intending to pay only one visit, the director will furnish him with a card for that day; but if he wish to study for some time at the institution, it will be better—I may say, indeed, necessary—that he should ask the chief of the service he wishes to attend, or the interne of that service, to speak to the director on his behalf, when he will be given a permanent card of admission. So much is admission to the Salpêtrière looked upon as a matter of favour, that any foreign visitor wanting to make much use of it should, if

possible, get a private introduction to Professor Charcot, or whatever other physician he may wish to work under.

In Paris all the visits of the physicians and surgeons to the hospitals are made, without exception, in the early morning, beginning generally at from half-past eight to nine, and rarely ending later than eleven or half-past. After that hour nothing more is done in the wards, and after twelve o'clock no one is admitted without a special order from the director. By noon, then, all chance of hospital work is over. To anyone making a long stay it becomes a question how to utilise the afternoons to the best advantage. There are several ways in which the time may be usefully employed. In the first place, there are *cliniques* for special diseases held by private doctors in the afternoons, at which poor patients are seen gratuitously, which any student may attend. It is especially in connexion with diseases of the eye that such *cliniques* exist. Dr. Galezowski holds a consultation of this kind at 26, Rue Dauphine, and Dr. Fano another at 14, Rue Séquier. Patients are seen every day at one o'clock, and, as large numbers attend, capital work can be done by anyone wishing to study diseases of the eye. There are several other *cliniques* of the same kind, not only for the eyes, but for other specialties.

All men coming to study at Paris should plan out for themselves some special work to be undertaken in one of the many scientific laboratories of the town. It is perfectly easy to obtain admission into most of these, nothing more being necessary than to call upon the chief of the laboratory, and to ask his permission, which is readily accorded. As a rule, a small payment is asked for the use of apparatus. I give a list of the principal laboratories. There are two laboratories under the nominal direction of M. Robin, the Professor of Histology: one of these is at the Ecole Pratique, and is devoted chiefly to the study of normal human histology; and the other is in an old house in the Boulevard St. Germain, opposite the School of Medicine. This is presided over by M. Pouchet, and is intended for the prosecution of the higher microscopical studies, especially in connexion with embryology. Embryology and teratology also form the chief object of study in the laboratory of M. Dareste, at the Ecole Pratique. Pathological anatomy is best studied in the laboratories of M. Charcot, at the Ecole Pratique, and M. Ranvier, at the Collége de France. There are two principal physiological laboratories—that of M. Claude Bernard, at the Collége de France, where biological chemistry forms the chief basis of study; and that of M. Marey, at the same institution, the mechanical problems of biology being especially studied there. Biological chemistry may also be studied in the laboratory of M. Schutzenberger, at the Collége de France.

Those who are intending to make investigations in comparative anatomy will find every facility for doing so in the laboratories of M. Milne-Edwardes at the Jardin des Plantes, and of M. Lacaze du Thiers at the Sorbonne, the former being especially set apart for the study of the vertebrata, and the latter for that of the invertebrata.

There are, in addition, laboratories at certain hospitals, notably at the Hôtel-Dieu and at the Charité. The laboratory at the old Hôtel-Dieu is at present dismantled, whilst that of the new building has not yet been fitted up for work, but in a few months the latter, which, it is said, will be a very fine one, will be in working order. To obtain admission into these, all that is necessary is to speak to the *chef de laboratoire* and to ask permission of the director to enter the hospital after twelve o'clock.

Anyone wishing to pursue a serious course of study will be able to pass many useful hours in the library of the School of Medicine. There are about 40,000 books in the library, including most of the principal English, German, and Italian standard medical works. Every facility is accorded to visitors, and with the material at command there need be no excuse for finding the time hang heavily.

I think it will be abundantly evident that whoever wishes to employ his time profitably in Paris can do so, notwithstanding that after eleven or half-past eleven in the morning hospital work is at an end. In reference to this hospital work, I think it very important that if the visitor intends to make a prolonged stay he should attach himself to some three or four services only, and confine himself to these for two or three months at a time, going twice a week or so to each, rather than run indiscriminately from one service to another, without stopping long enough in any of them to enable him either really to learn anything about the patients, or to gather the general tone of the teaching of the physician or surgeon under whose care they are. One not unfrequently hears complaints from English or American visitors that they have learnt very little in Paris. This must surely be their own fault, for the material and the teaching are alike excellent, and for the most part the complaint owes its origin to the habit of running about from one hospital to another, and from one service to another, without system and without any definite object in view.

Before closing my letter I should wish to say a few words about the teaching—not of the teaching involved in the ordinary curriculum at the School of Medicine, of which I know little, but of the clinical teaching at the hospitals. This is excellent, and in certain ways, I think, better than anything we have in London, and better in this way: that more use is made of the specialties. At every hospital where services are set apart for special objects, the chief of the service, in addition to the bedside teaching, which is for the most part extremely good, undertakes to give one or more courses of lectures in the year on some division of his specialty. The subject treated of is thoroughly exhausted, and as each year a fresh branch is taken up, we have at last a fine series of lectures, embracing in a full and exhaustive manner a large part of the specialty. The courses of lectures given by Professor Charcot at the Salpétrière on nervous diseases have now a world-wide reputation, and the book into which they have been collected forms the standard work on this class of diseases. M. Fournier has given many courses of lectures at St. Louis on syphilis in its various manifestations, at one time confining himself to the purely clinical and pathological aspects—as when he lectured on syphilitic nervous diseases, on syphilitic disease of the tongue, etc.,—at times treating rather of the social problems in connexion with the disease, as the influence of syphilis on marriage, the communication of the disease from a child to its nurse and *vice versâ*, etc. At the same hospital courses of lectures are given every session by MM. Besnier and Sallier on some branch of diseases of the skin. M. Magnan gives very instructive lectures at the Asylum of St. Anne on mental diseases. M. Magnan selects cases of allied or contrasted diseases, and examines them before his class, bringing into prominence the characteristics of each case. The student has thus the opportunity of seeing in a short time a number of cases illustrative of the chief forms of insanity, and, aided by the very able and scientific expositions of M. Magnan, he has excellent opportunities for acquiring a knowledge of this branch of medicine. I may mention, in addition, the lectures given by M. Parrot at the Hospice des Enfants Assistés, by MM. Archambault and Bouchut at the Enfants Malades, by M. Luys at the Salpétrière, and others. Most of these lectures acquire additional interest from the natural ease and fluency which is inherent in most of the French professors, in common with so many of their countrymen, and which, in some instances, amount to real oratory. Though evidently prepared with great care, the lectures are generally delivered extempore or with but slight reference to notes, and it is a pleasure to listen to the uninterrupted flow of well-turned sentences, in which, nevertheless, the matter is in no degree subordinate to the manner.

The Militia Surgeons of Last Century.—In the early days of the militia the pay of the surgeon was so small (being only 4s. a day), that no one could be found to take it unless an ensign's commission was added. We find mention of this arrangement made as late even as 1801.—*Athenæum*, Aug. 25.

Lithotomy by Means of the Thermo-Cautery.—M. Anger observed at the Society of Surgery that he had hitherto only employed the thermo-cautery in lithotomy for the preliminary stages of the operation; but on another case occurring he should not hesitate to practise the entire operation by this method. He has experimented upon the dead body in the following manner:—The catheter having been introduced, the tissues were divided by means of the thermo-cautery, until the groove of the catheter could be felt. A puncture was then made also by the thermo-cautery, and a three-branched *ecarteur* was carried along the groove into the bladder. The catheter was then removed, and the prostate divided through its whole extent between the branches of the *ecarteur*, so that the finger could easily penetrate into the bladder. On another body, M. Anger made two small lateral incisions, with an equally satisfactory result.—*Union Méd.*, Sept. 8.

GENERAL CORRESPONDENCE.

JUSTICE TO MANCHESTER WORTHIES.

[To the Editor of the Medical Times and Gazette.]

SIR,—Scanty justice has been done to more than one of the Manchester medical worthies by some of the speakers at the late meeting of the British Medical Association. For instance, Mr. Kinder Wood, who is very well known as having written "On a Fatal Affection of the Pudenda of Female Children" in an early volume of the *Royal Medical and Chirurgical Transactions*, is described as a "Mr. Ward" by Dr. Priestley three times over in your report of his opening address to the Obstetric Section. There is not a surgeon who may not be called upon to distinguish in a female child between the effects of criminal assault and idiopathic vulvitis, the result of debility and dirt; and for an early and emphatic paper on the diagnosis he has to thank Mr. Kinder Wood, not "Ward."

The other worthy for whose reputation I plead is Mr. Charles White, who was an example of the union which Dr. Barnes so much desires of great obstetrical skill with general surgery and medicine. White is spoken of with great respect by Sir William Fergusson for his achievements in surgery, especially with regard to excision of the hip-joint and reduction of dislocations; but it is his treatment of lying-in women which ought to insure him immortality. He repudiated the hot and sweating system then in vogue among midwives, and advocated the use of cold water and cold air, such as had been recommended by Sydenham a century before in the treatment of small-pox.

I am, &c., R. D.

August 30.

NEW INVENTIONS AND IMPROVEMENTS.

NEW ILLUMINATING LAMP FOR MEDICAL PURPOSES.

MESSRS. SALT AND SON, of Birmingham, have brought out a new illuminating lamp for medical purposes. An examination of the woodcut (scale one-third size) will show that it is neat and portable, and being nickel-plated is cleanly.

The flame burns with a steady light, its intensity being increased by means of a reflecting mirror, whilst the rays are concentrated by a bi-convex lens so that they may be directed on any given point. No shade is required, and the flame, being inclosed in a lantern, is not affected by currents of air. The wick is fed by a sponge saturated with petroleum.

TOUGHENED GLASS VAGINAL SPECULUM.

NOT the least useful adaptation of the new process for toughening glass is that of lining vaginal and other specula with this material. All are familiar with the "starring" of the plain old glass specula, and many have cause to lament the accident of breakage while in use. It is to obviate this that Messrs. Maw and Son, of Aldersgate-street, have made specula lined with toughened class. The sample sent us is excellent. We have subjected it without any consequent damage to several severe tests, such as would have inevitably been destructive to any ordinary glass speculum. We can confidently recommend it for more extended trial and use.

HOSPITAL SATURDAY FUND.—The amount received by the Hospital Saturday Fund up to last night was about £2500. This is exclusive of the sum collected in the streets on Hospital Saturday. The amount as at present known is about £300 in excess of the sum received at the corresponding date last year. M. Leopold de Rothschild, one of the Vice-Presidents, has sent a donation of £50.

MEDICAL NEWS.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, September 6:—

Bately, Robert Godfrey, Balaam-street, Plaistow, E.
Bottrell, James Francis Henry, 42, Bloomsbury-square, W.C.
Buckle, John, The Oaks, Catten, Norwich.
Hooker, Joseph Stenson, 46, Watling-street, E.C.
Leah, William, Birchfield, Birmingham.
Salter, John Reynolds, Taunton.
Trevan, Frederick Adolphus, Port Isaac, Cornwall.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Griffiths, Ernest Edward, Middlesex Hospital.
Jeram, James William, St. Bartholomew's Hospital.
Pearce, John Puckey, Middlesex Hospital.
Ward, George Smith, King's College.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

GIBBONS, R. A., M.B., M.R.C.S.—Junior House-Surgeon to the Hospital for Sick Children, 49, Great Ormond-street, W.

NAVAL, MILITARY, &c., APPOINTMENTS.

ADMIRALTY.—Staff Surgeon James Crowder Eastcott has been promoted to the rank of Fleet Surgeon in her Majesty's Fleet, with seniority of August 30. The under-mentioned Surgeons have been promoted to the rank of Staff Surgeon in her Majesty's Fleet:—William Middleton Power and George Kell, with seniority of the 5th inst.; William Dudley Woodsworth and Fleetwood Buckle, M.D., with seniority of the 7th inst.; Edward William Doyle, James Hamilton Martin, William Henry Stewart, M.B., and Thomas Conry, with seniority of the 16th inst.

ST. JAMES'S PALACE.—The Queen has been pleased to appoint George Husband Baird Macleod, M.D., Regius Professor of Surgery, University of Glasgow, to be one of the Surgeons-in-Ordinary to her Majesty in Scotland, in the room of Professor Joseph Lister, resigned.

BIRTHS.

ADAM.—On September 6, at Caterham, the wife of James Adam, M.D., Medical Superintendent, Caterham Asylum, of a son.

HYDE.—On July 18, at Aller Park, near Ladysmith, Natal, the wife of G. Clarence Hyde, M.R.C.S. Eng., District Surgeon, J.P., of a son.

MARRIAGES.

DENNIS—PARSONS.—On September 5, at Eynsford, Kent, Augustine Dennis, M.R.C.S.E., of Great Berkhempstead, Herts, second son of A. V. Dennis, M.R.C.S.E., of Burnham, Westgate, Norfolk, to Susannah, elder daughter of Richard Parsons, of Eynsford, Kent.

DOVE—SUNDERLAND.—On September 5, at Ravensden, Beds, Harry Dove, M.R.C.S. Eng., of Stowmarket, only son of the late H. Dove, M.D., Norwich, to Mary Anne, third daughter of the late Rev. T. L. J. Sunderland, M.A., of Ravensden Grange, Beds.

HARRIS—BARNETT.—On September 6, at St. George's, Hanover-square, William Henry Harris, M.D., Surgeon-Major Army Medical Department, to Annie Mary, second daughter of John Barnett, of Halford.

JAMESON—BURKE.—On September 5, at St. Peter's Church, Dublin, Andrew Jameson, second son of the late Andrew Jameson, of Alloa, N.B., to Grace E. A. M., only daughter of W. Burke, F.K.&Q.C.P. Ire., Registrar-General for Ireland.

SEATON—SAUNDERS.—On September 4, at Chipping Norton, Oxon, Ernest William Attree, second son of Joseph Seaton, M.D., of Halliford House, Sunbury-on-Thames, to Fanny Emma, daughter of the late Robert Merry, Esq., of Hemel Hempstead, and widow of the late John Saunders, Esq., of Watford, Herts.

SWANWICK—DODDS.—On September 1, at St. John's Church, Low Fell, Gateshead-on-Tyne, Eustace Maclean Swanwick, M.R.C.S., L.R.C.P., of West Hartlepool, second son of Thomas Swanwick, Esq., of Manchester, to Edith, youngest daughter of M. S. Dodds, Esq., of Low Fell.

WATTS—BROWNE.—On September 12, at Rusholme-road Congregational Chapel, Manchester, James, only son of Sir James Watts, of Abney Hall, Manchester, to Anne Hadfield, second daughter of Henry Browne, M.D., of Manchester.

DEATHS.

BUCHANAN, ANDREW, M.D., at Dijon, on September 4, in his 70th year.

CLARKSON.—At Eden Lodge, Tunbridge Wells, the wife of W. H. Clarkson, M.R.C.S. Eng., on September 2.

DOWMAN, JOSEPH RYMER, M.R.C.S. Eng., at Hartland, near Bideford, North Devon, on August 4, aged 37.

FRASER, JOHN, youngest son of Surgeon-Major A. H. Fraser, L.F.P.S. Glasg., Principal Medical Officer, British Troops, Burmah, at Rangoon, on August 4, aged 9.

GULLAND, OLIVIA JESSIE, wife of Surgeon-Major Gulland, M.D., daughter of the late Charles Denroche, Esq., C.E., of Cardiff, at St. Mark's House, David-place, St. Helier's, Jersey, on September 2, aged 25.

HENTSCH, ELLEN, wife of J. P. Hentsch, M.R.C.S. Eng., at 32, Bruce-road, Bromley-by-Bow, on September 8, aged 34.

LAKIN, JAMES HENRY, M.D., of Sutton Coldfield, on September 2, aged 53.

MERYON, C. L., M.D.. F.R.C.P., at The Grove, Hammersmith, on September 11, aged 96.

RANDOLPH, JOHN, M.R.C.S. Eng., of 16, Bessborough-gardens, Vauxhall-bridge-road, S.W., on September 8.

SLACK, H. W., L.R.C.P. Edin., M.R.C.S. Eng., at 41, Rodney-street, Liverpool, on August 29.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BEAFORD GENERAL INFIRMARY.—Resident Surgeon. Applications, with testimonials, to the Chairman of the Weekly Committee, on or before September 27.

BRISTOL GENERAL HOSPITAL.—Physician's Assistant. Candidates must produce proof of a registered medical qualification, also satisfactory testimonials of ability and good moral conduct. Applications to the Secretary, at the Hospital, on or before September 21.

BRISTOL ROYAL INFIRMARY.—Assistant House-Surgeon. Candidates must be Fellows of the Royal College of Surgeons of London, Edinburgh, or Dublin, or Masters in Surgery of one of the universities of the United Kingdom, and also possess a registered medical qualification. Applications, with testimonials and certificates of registration, to the Secretary on or before September 18.

CITY OF LONDON LYING-IN HOSPITAL, CITY-ROAD.—Consulting Surgeon. Candidates must be Fellows of the Royal College of Surgeons of England. Applications, stating qualifications, etc., to the Secretary, on or before September 18.

NORTH DEVON INFIRMARY, BARNSTAPLE.—House-Surgeon. Candidates must be registered in Medicine and Surgery under the Medical Act, unmarried and free from the care of a family, and produce satisfactory testimonials as to moral character. Certificates and testimonials to the Secretary (under cover), addressed to the House Committee, on or before September 21.

WESTERN DISPENSARY, 40, QUEEN ANNE'S-GATE, WESTMINSTER, S.W.—Resident Medical Officer. Application by letter, stating age, qualifications, etc., and enclosing testimonials, to the Secretary, on or before September 17, and candidates must attend personally the election on Wednesday, September 19, at five o'clock.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Alresford Union.—Mr. G. R. Lawrence has resigned the Second District; area 23,903; population 3538; salary £100 per annum.

St. Asaph Union.—Mr. J. H. Wolstenholme has resigned the Rhuddlau District; area 7478; population 7724; salary £78 per annum.

Aysgarth Union.—Mr. J. Thompson has resigned the Hawes District; area 30,233; population 2419; salary £40 per annum.

Bideford Union.—The Hartland District is vacant; area 18,451; population 2103; salary £40 per annum. The Clovelly District is vacant; area 2502; population 759; salary £13 per annum.

Castle Ward Union.—Mr. Robt. Torrance has resigned the Stamfordham District; area 28,338; population 2345; salary £20 per annum.

Dursley Union.—Mr. H. Collins has resigned the Third District; area 6410; population 2316; salary £80 per annum.

Sedgefield Union.—Mr. G. R. Sheraton has resigned the Sedgefield District; area 14,115; population 2811; salary £15 per annum. Also the Bishopton District; area 9677; population 868; salary £15 per annum.

Southmolton Union.—Dr. Sanders has resigned the Seventh District; area 4910; population 1642; salary £31 10s. per annum.

Thame Union.—Mr. Richard Lee has resigned the Thame District; area 11,955; population 4870; salary £100 per annum.

APPOINTMENTS.

Gateshead Union.—Arthur W. Attwater, L.R.C.P. Edin., M.R.C.S. Eng, L.S.A., to the Whickham District.

Isle of Wight Union.—Edward A. Waterworth, M.D., M.R.C.S., to the Workhouse.

Nuneaton Union.—Albert N. Cookson, M.R.C.S. Eng., L.S.A., to the Chilvers Coton District.

Wimborne and Cranborne Union.—Arthur F. Van, M.R.C.S. Eng., L.S.A., to the Fourth District.

Wisbech Union.—John W. Measures, M.R C.S. Eng., L.S.A., to the Tenth B District.

Woburn Union.—John A. Macdonald, F.R.C.S. Edin., M.D. Queen's Univ., Ire., to the Workhouse.

Faringdon Union.—Charles G. Parker, F.R.C.S. Eng., to the Shrivenham District.

Folehill Union.—Herbert C. P. Masser, M.R.C.S. Eng., L.S.A., to the Lowe and Stoke Districts.

Grantham Union.—John C. Eaton, M.R.C.S. Eng., L.S.A., to the Ancaster District.

St. Ives Union.—Joseph W. Ellis, M.R.C.S. Eng., L.S.A., to the Swavesey District.

Sunderland Union.—Harry Drinkwater, B.M. and M.C. Edin., M.R.C.S Eng., to the Bishopwearmouth West District.

Ware Union.—Harry May, L.R.C.P., L.S.A., M.R.C.S., to the Workhouse and the Third District.

THE next examination for the certificate in sanitary science of the University of Cambridge will begin on October 2. Application for admission to this examination, which is open to all whose names are on the Medical Register of the United Kingdom, should be made to Professor Liveing, Cambridge, on or before September 18.

NERVOUS ALBUMINURIA.—M. Teissier, of Lyons, read a paper at the recent meeting of the French Association for the Advancement of Science, in which he stated that albuminuria may not only be produced by renal lesion and a changed condition of the blood, but also through the influence of the encephalic or sympathetic nervous systems. Most authors reject any influence of this kind, further than it modifies the capillary circulation of the kidneys or the composition of the blood—everyone acknowledging, however, the existence of important nervous disturbances at the onset of albuminuria, but attributing them to renal congestion and to the loss of albumen. Numerous cases have led M. Teissier to form the opinion that these nervous phenomena play, not unfrequently, the part of cause rather than of effect, existing indeed long prior to the appearance of the albuminuria, of which he cites some examples in vertigo, hemiplegia, spinal disease, etc. Again, other cases occur in arthritic patients, in whom alternations are observed between albuminuria and glucosuria and phosphaturia, such alternation, which is much dependent on regimen and medication, continuing sometimes for years. From the facts he has observed he draws two practical conclusions—first, that in albuminuria of nervous origin we should especially rely on quinine, valerian, nux vomica, iron, and arsenic; and secondly, that in arthritic, diabetic, and irritable subjects we should avoid giving large doses of alkalies, for fear of giving rise to cerebral lesions.—*Gaz. Médicale*, Sept. 1.

NOTES, QUERIES, AND REPLIES.

"He that questioneth much shall learn much."—*Bacon.*

HUNTER AND JENNER.

In addition to the correspondence which has already appeared in the *Medical Times and Gazette* between these two distinguished men, we have the pleasure of adding another copy of a letter purchased last week at Messrs. Sotheby's, by Mr. Erasmus Wilson, for presentation to the library of the Royal College of Surgeons, which institution, our readers will no doubt be surprised to learn, does not possess a single letter of the founder of the Hunterian Museum. There were three letters to be sold by auction, which Professor Wilson wished to have secured, but by some misunderstanding only the following was purchased, viz.:—

Dear Jenner,—
I have received the Bustard safe as also the Bones. Your friend Mr. Hazeland has been very kind for which I have wrote (*sic*) to him and thankd him, but when you see him, or write to him, express the same to him, as an indirect thank is better than a thousand direct ones. Are Hedgehogs in great Plenty? I should like to have a few. You must pursue the Cuckoe this Summer.
I am imployd as much as a thousand Bees. I am building surveing &c. I wish this summer was well over. When I am fitted up I hope you will come and see me
Ever Yours,
April 22. JOHN HUNTER.

The orthography, punctuation, etc., are preserved; the handwriting is fairly good; it is endorsed in Jenner's writing, "J. Hunter." We understaud that some very interesting letters of Hunter and Jenner to and from each other will shortly be sold by Messrs. Sotheby and Co.

Dr. Denham.—As the members of the Midwifery Board all resigned their seats, there is consequently an end to the examinations for the "L.M." for the present; in fact, no additions to the Licentiates in Midwifery have been made during the past collegiate year.

Epidemiologist.—Yes; the International Sanitary Conference assembled in 1866, at Constantinople, to devise measures to insure Europe from future visitations of cholera. In 1874 Austria proposed that another conference should be held to reconsider the subject, the sittings of which commenced at Vienna on July 1 in that year.

Nero.—The lines are—

> ". . . With awakened eyes they took revenge
> For past credulity in casting shame
> On my real knowledge, and I hated them."
> *Browning's "Paracelsus."*

Danubian.—The mean temperature of the lower valley of the Danube is said to be 24° Fahr. during January, or 14° below that of Aberdeen, and 15° below that of Dublin. An exceptionally cold year was 1861, and then the thermometer often fell below zero, and on one occasion exceeded 34° of frost.

Tom M.—Anthony Petit, an eminent physician-accoucheur and anatomist, was a native of Orleans. He acquired great reputation as a practitioner, and in 1763 was appointed inspector of the military hospitals throughout France. In the following year he was made professor of anatomy and surgery at the Royal Garden, in which office he was attended by an extraordinary concourse of auditors. He finally retired from practice, and died near Orleans in 1794 at the age of ninety-two. He was a voluminous medical writer.

A Surgeon—R. V.—According to a Parliamentary paper recently issued, the proportion of the male population between the ages of fifteen and thirty-five serving in the militia, yeomanry, and volunteers of Great Britain, is about six in every hundred. Scotland stands highest, the rate in some counties being 16 per cent., while in some of the Welsh counties and in the Isle of Man the proportion is as low as 2 per cent.

THE BITER BIT.

At the Rugeley (Staffordshire) Petty Sessions, last week, a chemist was convicted for selling a small quantity of arsenic without having a witness. The arsenic was obtained by a policeman in plain clothes, against whom a summons has been taken out for having given false information to the defendant when the poison was purchased.

Howard.—The list of Fellows of the New York Academy of Medicine comprises the *élite* of the profession practising in the cities of New York and Brooklyn and their vicinity, and of some eminent practitioners in more distant towns.

Anti-Tobacco.—There is a French Anti-Tobacco Society (Société contre l'Abus du Tabac), and it offers prizes for papers on the following points:—1. A prize of 100 fr. to the schoolmaster who will write the best paper in view of warning youth against the dangers of prematurely indulging in the use of tobacco. 2. A prize of 200 fr. to the medical man who will relate the greatest number of interesting and unpublished observations on diseases arising from the use of tobacco. 3. A prize of 300 fr. to the author of the best paper relating to the influence of tobacco on studies, especially in universities, civil and military schools. The papers are to be directed, before the end of the year, to the office of L'Abeille Médicale, 3, Rue St. Benoît, Paris.

COMMUNICATIONS have been received from—

Mr. R. BRUDENELL CARTER, London; Dr. BARLOW, London; Dr. LAWSON, Banstead Downs, Sutton, Surrey; Dr. SPARKS, Crewkerne, Somerset; Mr. J. CHATTO, London; Dr. JAMES RUSSELL, Birmingham; Messrs. SALT and SON, Birmingham; Dr. J. PEARSON IRVINE, Carnforth; Mr. J. BATELY, Yarmouth; Dr. DRUITT, London; Mr. H. STYRAP, Isle of Man; THE REGISTRAR OF THE APOTHECARIES' HALL, London; Mr. T. M. STONE, London; Mr. GEORGE BROWN, London; Professor NEUMANN, Vienna; Dr. NORMAN MOORE, London; Mr. BOWES, London; Mr. D. H. GABB, Hastings; Messrs. CALVERT and Co., Manchester; Mr. USSHER, Burton-on-Trent; Dr. CARMICHAEL, Edinburgh; Mr. HENRY REECE, London; Mr. ED. WALFORD, Ramsgate; Dr. STURGE, Paris; Dr. J. W. MOORE, Dublin; Messrs. LEE and NIGHTINGALE, Liverpool; Mr. G. H. ROND, Wolverhampton; Mr. BURGESS, Leamington; Dr. BULKLEY, New York; Dr. ANNINGSON, Cambridge; Mr. GEORGE MEADOWS, Hastings; Dr. HEINEMANN, London.

BOOKS AND PAMPHLETS RECEIVED—

E. Kunemann, La Principauté de Monaco considérée comme une Station Sanitaire—Edward Dowden, LL.D., Shakespere—Robt. Campbell, M.D., The Relations existing between Eczema and Psoriasis—Robert Bentley, F.L.S., and Henry Trimen, M.B., F.L.S., Medicinal Plants, part 24—Arthur Trehern Norton, F.R.C.S., The Examiner in Anatomy—Mary Putnam Jacobi, M.D., The Question of Rest for Women during Menstruation—S. Weir Mitchell, M.D., Fat and Blood, and How to Make Them—A. S. Wilkins, M.A., Roman Antiquities.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Cincinnati Clinic—Analyst—Guy's Hospital Gazette—Practitioner—Dublin Journal of Dental Science—Canada Medical and Surgical Journal—Trade Marks.

APPOINTMENTS FOR THE WEEK.

September 15. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

17. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

18. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

19. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex. 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

20. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

21. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, September 8, 1877.

BIRTHS.

Births of Boys, 1184; Girls, 1172; Total, 2356.
Average of 10 corresponding years 1867-76, 2142·0.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	615	565	1180
Average of the ten years 1867-76	691·6	651·8	1343
Average corrected to increased population ...	...	...	1437
Deaths of people aged 80 and upwards ...	...	...	34

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	2	2	2	3	1	...	2	...	14
North	751729	1	7	1	3	7	1	4	1	20
Central ...	334369	1	2	2	...	...	...	3	...	9
East	639111	3	6	7	1	4	1	5	1	16
South	967692	1	6	5	...	7	...	3	...	28
Total	3254260	8	23	17	7	19	2	17	2	87

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·837 in.
Mean temperature	53·5°
Highest point of thermometer	69·4°
Lowest point of thermometer	40·1°
Mean dew-point temperature	44·5°
General direction of wind	Variable.
Whole amount of rain in the week...	0·78 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, September 8, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Sept. 8.	Deaths Registered during the week ending Sept. 8.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2356	1180	69·4	40·1	53·5	11·95	0·78	1·98
Brighton	102264	43·4	53	29	66·0	43·3	53·0	11·67	0·63	1·60
Portsmouth ...	127144	28·3	74	35	65·0	43·7	53·2	11·78	1·34	3·40
Norwich	84023	11·2	69	39	66·5	42·0	53·2	11·78	1·70	4·32
Plymouth	72911	52·3	49	42	63·5	39·0	52·0	11·11	0·72	1·83
Bristol	202950	45·6	126	85	66·6	34·2	49·8	9·89	1·35	3·43
Wolverhampton ...	73389	21·6	51	32	60·7	39·3	49·1	9·50	1·27	3·23
Birmingham ...	377436	44·9	318	184	...	...	...	...	...	...
Leicester	117461	36·7	86	71	64·5	39·2	50·5	10·28	0·67	1·70
Nottingham ...	95025	47·6	43	30	65·2	36·9	50·8	10·45	0·94	2·39
Liverpool	527083	101·2	386	275	59·5	42·5	50·5	10·28	1·60	4·06
Manchester ...	359213	83·7	231	166	...	...	...	...	...	...
Salford	141184	27·3	148	64	63·1	34·4	48·0	8·89	0·98	2·49
Oldham	89796	19·2	82	32	...	...	...	...	...	...
Bradford	179315	24·8	161	84	62·0	42·0	50·4	10·22	1·51	3·84
Leeds	298189	13·8	233	105	63·0	43·0	51·0	10·56	1·58	4·01
Sheffield	282130	14·4	207	119	62·6	41·5	49·8	9·89	1·65	4·19
Hull	140002	38·5	97	60	...	...	...	...	...	...
Sunderland ...	110382	33·4	108	52	68·0	46·0	54·2	12·33	0·54	1·37
Newcastle-on-Tyne	142231	26·5	103	62	...	...	...	...	...	...
Edinburgh	218729	52·2	130	64	61·5	40·5	50·4	10·22	0·45	1·14
Glasgow	555933	92·1	379	198	59·5	38·0	50·6	10·34	0·43	1·09
Dublin	314666	31·3	179	164	67·2	36·5	53·5	11·95	0·08	0·20
Total of 23 Towns in United Kingdm	8144940	38·3	5719	3172	69·4	34·2	51·3	10·73	1·01	2·57

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·84 in. The lowest reading was 29·49 in. on Monday morning, and the highest 30·18 in. on Tuesday evening.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

CLINICAL LECTURES

ON A CASE OF

PROGRESSIVE PERNICIOUS ANÆMIA CURED BY ARSENIC.

By BYROM BRAMWELL, M.B.,

Physician and Pathologist to the Newcastle-on-Tyne Infirmary; Lecturer on Clinical Medicine and Pathology in the University of Durham College of Medicine at Newcastle-on-Tyne.

LECTURE I.

THE man whom I now introduce is well known to many of you, for while he was in the wards we had long and interesting discussions at his bedside. He was admitted under my care on November 26, 1875, suffering from "progressive pernicious anæmia," and was discharged on January 20, 1876.

The following is a summary of the very copious notes which are entered in the case-book:—J. D., aged thirty-eight, married, a chemical worker, was admitted on November 26, 1875, complaining of extreme shortness of breath and palpitation on exertion, swelling of the feet, hands, and face, and general debility.

He enjoyed excellent health until seven months ago, when his present illness commenced with a rigor after exposure to cold and wet. The shivering was followed by general weakness. His colour changed; his hair became grey. He several times vomited, and had frequent attacks of diarrhœa. Three months ago he was slightly jaundiced; two months ago his face swelled; two weeks ago his feet became œdematous. He lives at the top of a fairly healthy house, situated in the midst of smoke, but in a district where malarious fevers are unknown. He has had abundance of good and varied food. There has been no return of the shivering since the commencement of the attack. He thinks the "gas" was partly the cause of the complaint. His family are all healthy. He has not had syphilis, and has not been an excessive drinker.

On admission his condition was as follows:—He looked very much older than his years. The feet, legs, hands, and face were slightly swollen. The skin was soft and smooth, and of a faint yellow tinge; the hair was grey. There was a small fatty deposit at each internal canthus. The mucous membranes were profoundly anæmic. There was no loss of fat, but the muscles were soft and flabby. Muscular irritability was very marked. His weight was eleven stone one pound; his height five feet nine inches. The temperature was normal.

He was very short of breath on exertion, and suffered from violent palpitation. He often, too, felt giddy and faint on movement. Loud blowing murmurs were audible at all the cardiac orifices, a mitral murmur, systolic in time, and propagated upwards towards the axilla, being especially noticeable; indeed, so marked was it that our then Junior House-Surgeon, Dr. Mickle, diagnosed the case as one of cardiac dropsy from mitral insufficiency. The size of the heart was slightly increased. The pulmonary second sound was not accentuated. A loud venous hum was audible at both sides of the neck. The left external jugular vein was distended and prominent. The pulse was 76, somewhat full, jerking, and of very low tension. The tongue was clean and moist, but very pale. The appetite was good; there was no thirst. The liver-dulness was normal. The splenic dulness was slightly increased. The urine was normal in amount, very pale, neutral, specific gravity 1020; it contained no albumen and no bile.

He complained of headache and a singing noise in the left ear. The feet and hands were numb. This was especially the case after exposure to cold. Very marked reflex movements were produced in the lower extremities by tickling the soles of the feet. He complained of pain in the back, and slight tenderness on pressure over the lumbar spines. The application of the hot sponge test elicited nothing abnormal. Sight was dim in both eyes; the pupils were widely dilated, but very sensible to light; the fundus was markedly bloodless; the disc ill defined. There were no retinal hæmorrhages.

A drop of blood was obtained with difficulty in the usual manner by pricking the finger. It was of a dull red colour, and seemed to separate into two parts, looking as if minute drops of blood and oil had been brought together. On microscopical examination, it presented the following characters:—The red globules were diminished in numbers, and did not form rouleaux. They were markedly altered in shape, some of them being large and no longer bi-concave, others irregular, and with one or more tail-like projections; others appeared nucleated, the nucleus being of a pinkish-red colour. There were also numerous small red globules; indeed, these (the red globules) seemed to be of all sizes, from minute masses of protoplasm to the abnormally large oval corpuscles which I have described. The white corpuscles were not in excess.

He was ordered five grains of quinine and fifteen minims of the tincture of the muriate of iron three times a day. On December 3 a teaspoonful of phosphorised cod-liver oil was added (one-thirtieth of a grain of phosphorus).

On December 6 the eyes were again examined with the ophthalmoscope, and several large retinal hæmorrhages were seen in both eyes. These hæmorrhages were mostly situated in the course of the vessels; the stratum of blood was very thin. The pupils had been very widely dilated ever since his admission, the result of sulphate of atropia.

On December 15 it was noted that he had gradually been getting worse, and was then confined to bed. He had several times vomited, and had had a severe attack of diarrhœa. There had been an irregular attack of fever. Temperature 100·2° Fahr.; pulse 120. The dropsy was greater. The iron, quinine, and phosphorised cod-liver oil were discontinued, and two minims of liquor arsenicalis, thrice daily, were prescribed.

The after-progress of the case may be described as one of slow but uninterrupted improvement. The dose of the liquor arsenicalis was gradually increased to sixteen minims three times a day.

On January 20 he expressed a wish to go home, and was discharged. He attended as an out-patient, and continued to take the arsenic until the end of April, when he considered himself perfectly well. He tells me to-day that he has been at work since the end of March; that he has never lost a single day during the whole of that time; that he now feels as well as ever he did in his life. He is not in the least degree short of breath; all cardiac murmurs have disappeared; the blood is now natural. His hair is darker than it was, but you will see that it is still grey. His sight is not quite so good as it used to be.

This is the history of the case. I had no difficulty in recognising its nature, for I had previously met with several others of a similar character.

The first one was that of R., a sailor, aged eighteen, who was admitted to the Tyne Floating Hospital, under the care of my brother, Dr. J. W. Bramwell, at the end of 1874, as a supposed case of typhoid. He presented most of the symptoms which I have described in D.'s case, the most prominent being great anæmia and debility, with irregular attacks of vomiting, diarrhœa, and pyrexia. He was treated with quinine in large doses, iron, fresh vegetables, and other remedies, but made no improvement. After three months, my brother, being completely puzzled, sent him up to me.

He was admitted under my care on March 21, 1875. It so happened that at that time, in conjunction with our late Senior House-Surgeon (my friend Dr. Beatson), I was investigating the microscopical characters of the blood in disease, and I was then (as I am now) in the habit of examining the fundus with the ophthalmoscope in all important cases admitted into my wards. I was thus led to examine the blood and the retina in this case. The blood presented exactly the same characters as it did in the case of the patient D., and there were well-marked hæmorrhages on the retinæ.

This was a combination of symptoms which I had not come across before, and I was as completely puzzled as my brother had been.

On June 10 another case, presenting all the same appearances, was admitted, and the patient died a fortnight afterwards. The post-mortem revealed fatty degeneration of the heart, liver, and kidneys, a well-marked enlargement of the thyroid gland, and a peculiar mammillated appearance of the stomach about the pyloric orifice. There was nothing, however, to account for death, and I was still as much in the dark as ever.

About this time, Dr. Beatson, while on a visit to Edinburgh, mentioned these cases to Professor Grainger Stewart, who at once recognised their nature, and referred me to an article in the *Medical Times and Gazette*, November 21, 1874, and to a letter from Dr. Wilks which appeared in the *British Medical Journal* for November 28, 1874.

I thus found that the disease had been first described many years ago by the celebrated physician of Guy's Hospital, Dr. Addison, who by-the-bye, was born at the village of Long Benton, close to Newcastle. Dr. Addison gives the following description of the disease:—

"For a long period I have from time to time met with a very remarkable form of general anæmia, occurring without any discoverable cause whatever—cases in which there had been no previous loss of blood, no exhausting diarrhœa, no chlorosis, no purpura, no renal, splenic miasmata, glandular, strumous, or malignant disease. Accordingly, in speaking of this form of anæmia in a clinical lecture, I, perhaps with little propriety, applied to it the term *idiopathic*, to distinguish it from cases in which there existed more or less evidence of some of the usual causes or concomitants of the anæmic state. The disease presented in every instance the same general character, pursued a similar course, and, with scarcely a single exception, was followed after a variable period by the same fatal result. It occurs in both sexes, generally, but not exclusively, beyond the middle period of life, and, so far as I at present know, chiefly in persons of a somewhat large and bulky frame, and with a strongly marked tendency to the formation of fat. It makes its approach in so slow and insidious a manner, that the patient can hardly fix a date to his earliest feeling of that languor which is shortly to become so extreme. The countenance gets pale, the whites of the eyes pearly; the general frame flabby rather than wasted; the pulse perhaps large, but remarkably soft and compressible, and occasionally with a slight jerk, especially under the slightest excitement; there is an increasing indisposition to exertion, with an uncomfortable feeling of faintness or breathlessness on attempting it; the heart is readily made to palpitate; the whole surface of the body presents a blanched, smooth, and waxy appearance; the lips, gums, and tongue seem bloodless; the flabbiness of the solids increases, the appetite fails, extreme languor and faintness supervene, breathlessness and palpitation being produced by the most trifling exertion or motion; some slight œdema is probably perceived about the ankles; the debility becomes extreme, the patient can no longer rise from his bed; the mind occasionally wanders, he falls into a half-torpid state, and at length expires. Nevertheless, to the very last, and after a sickness of perhaps several months' duration, the bulkiness of the general frame and the obesity often present a most striking contrast to the failure and exhaustion observable in every other respect. On examining the bodies of such patients after death, I failed to discover any organic lesion that could properly or reasonably be assigned as an adequate cause of such serious consequences."

In the *Guy's Hospital Reports*, vol. iii., Dr. Wilks describes several cases of a similar nature, and points out that the chief pathological lesion is fatty degeneration of the heart. The disease was, however, lost sight of until it was re-discovered a few years ago by a Swiss physician, Dr. Biermer, of Zürich, who named it "progressive pernicious anæmia." Dr. Biermer has materially added to our knowledge of the affection; he was the first to discover the retinal hæmorrhages which I have described.

You see, therefore, that my observations with regard to this point were anticipated; and thus it is, gentlemen, that the old saying, "There is nothing new under the sun," is often verified in medicine. Do not, however, let that be any discouragement to you, for an immense deal yet remains to be done in almost every subject. It is only, however, by laborious work, by spending much time daily in the patient study of cases in the wards, as you know is my custom, and by following out these cases in the post-mortem theatre, that you can hope, as I hope, to gain a sound knowledge of disease, and to fit yourselves for making original observations. In medicine, as in everything else, discoveries are not the result of lucky chance; and I cannot enforce this truth better than by again telling you that this idiopathic or progressive pernicious anæmia was first discovered by that type of a physician, Dr. Addison.

The remarkable alteration in the microscopical characters of the blood which I have described to you, and which was present in all my cases, has also been independently observed by Professor Eichhorst of Jena. His observations were published in the *Centralblatt Med. Wiss.*, No. 26, 1876, and are thus translated in a note which appeared at the end of a clinical lecture by Professor H. Quincke of Bern, published in the *Medical Times and Gazette*, October 14, 1876:—"He asserts that a constant alteration of the red blood corpuscles can always be detected. While a part of the latter retain their normal size, and are only distinguished by their remarkable paleness and slight tendency to form rouleaux, the remainder immediately attract attention by their diminished size. Their diameter may scarcely be a quarter that of a healthy corpuscle, while their colour is of a deeper red than normal, and when seen in profile they are found to have more or less completely lost their biconcave outline. Their size may be even so much diminished that many of them resemble small red-tinted fat-drops. The alteration here described has not been detected in anæmic and cachectic conditions other than pernicious anæmia. The white corpuscles were present in all the cases observed (seven in number) in remarkably small proportion."

This description tallies remarkably with my own. The only point in which I differ from Professor Eichhorst is that in my cases some of the red globules were apparently nucleated,(a) and many of the small red globules were much smaller than a quarter that of a healthy corpuscle. I failed to observe that they, *i.e.*, the small red globules, were of a deeper red than normal. Those small red globules which were apparently nucleated certainly had this appearance. Those small globules which were not nucleated were of a very pale yellow colour; in fact, of the same colour as the large globules. In one case which was fatal, numerous small emerald-green molecules were seen. These were probably not of much consequence, for I have noted their presence, though never in the same number, in other diseases.

In the same clinical lecture, Professor Quincke describes the appearances of the blood in his own cases. He found the red blood corpuscles diminished in number and altered in shape and size; some of them smaller than normal, "and amongst them there were a number of tiny yellowish particles." "In several cases," he says, "those finely granular masses which are sometimes lustreless and sometimes shining, and which are common in the blood of cachectic individuals, were found in great abundance, either singly or in groups. In my eighth case they were so abundant that they rendered the serum of the blood cloudy."

The case which I have described to you presents all the typical features of the disease. It is important to note that the retinal hæmorrhages only appeared after the pupils had been for some days widely dilated. The same thing occurred in my first case. Other points of interest are—firstly, the appearance of old age which the patient presented, and the alteration in the colour of the hair; secondly, the intensity of the reflex movements (in another case this was so great as to induce an incomplete pseudo-paraplegia).

So much, then, for the symptomatology. Little is known as to the causation; probably, as Professor Quincke says, "we have not to deal with a single diseased condition, but pernicious anæmia, just like anæmia in general, is the product of extremely various morbid processes, and represents the very last stage of the anæmic process" (*Medical Times and Gazette*, October 14, 1876).

Pregnancy seems to be a predisposing cause, and this explains why the disease occurs more frequently in women than in men. Of the six cases I have met with, only one was a woman; but this is accounted for by the fact that a much greater number of men than women are admitted to the medical wards of this Infirmary.

In two of my cases there had been a recent attack of yellow fever. The man whom I have shown you to-day thinks "the gas" (chlorine and hydrochloric acid fumes) was partly the cause of his complaint. I am not disposed to give any weight to this belief, for all these men blame "the gas" for any illness which may affect them. In none of my cases could a malarious origin be made out. It is probable, however, that in some cases it is the cause of the disease.

Professor Quincke separates cases of the disease into two divisions. In the first he places all those cases in which there is defective formation of new corpuscles, the causes of which are chronic inanition, atrophy of the mucous membranes, and the disturbance of nutrition in the blood-forming organs. In the second he includes all those cases in which there is increased destruction of the elements of the blood. Examples of this class are, he says, perhaps those in which there is an increased amount of iron in the liver (*Medical Times and Gazette*, October 14, 1876, page 429).

In my next lecture I shall speak to you of the pathology, diagnosis, and treatment.

Note.—The subject of this lecture was shown to the members of the Northumberland and Durham Medical Society on December 9, 1875, and the condition of the blood described.

(a) The apparent nucleation was no doubt due to the separation of the hæmoglobin from the stroma, as described by Messrs. G. Mackern and Henry Davy in the *Lancet* for May 5, 1877.

HUNTERIAN LECTURES FOR 1877.

ON DEFECTS OF VISION WHICH ARE REMEDIABLE BY OPTICAL APPLIANCES.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

By ROBERT BRUDENELL CARTER, F.R.C.S.,
Late Professor of Surgery and Pathology to the College; and Ophthalmic Surgeon to St. George's Hospital.

LECTURE VI.—ASTHENOPIA.

(*Continued from page* 300.)

WHEN the original examination of the patient affords no reason to suspect strain of accommodation as a cause of the asthenopia, attention must next be directed to the convergence; and here we enter upon ground which is no longer secure. Von Graefe was the first to point out that, in a certain number of cases, asthenopia is dependent upon inability to main the necessary convergence, instead of upon inability to maintain the necessary accommodation; and he invented the phrase "insufficiency of the internal recti," to fulfil the double purpose of describing the condition and of conveying his hypothesis about its nature. He appears to have meant, by insufficiency, a state of weakness which bears no resemblance to paralysis or to paresis, and which is attended by no paralytic symptoms, but which renders the affected muscles unable to discharge continuously their most important natural function. In the majority of the cases, the internal recti, when tried by any test which would be applicable to other muscles, are found to be in full possession of their powers. The range of adduction of each eye, in correspondence with the abduction of its fellow, may be complete, and may cover a much greater extent of movement than any which can possibly be called for in convergence for binocular vision. The binocular near-point may be as close to the eyes as in the normal state, and the power of overcoming prisms by adduction may leave nothing to be desired; but, notwithstanding, when the maintenance of a given convergence is difficult or impossible, we are asked to believe that "muscular insufficiency" is the ordinary cause of the trouble. We are even told by some writers that this mysterious affection is one of "very common occurrence."

A man of commanding and fertile intellect, like Von Graefe, can hardly fail at times to suggest hypotheses which will not bear the test of examination, and I have little doubt that, if his life had been spared, he would long ago have repudiated this one. Many of his pupils, however—some, perhaps, from a laudable veneration for the memory of their master, others from a less laudable conviction that the chief use of a great philosopher is to save other people the labour of thinking,—have continued to repeat his words as if they were necessarily the exponents of verity; and hence the notion of insufficiency of the interni has taken deep root in the literature of ophthalmology. It has done so the more effectually, because Von Graefe devised two tests of insufficiency, according to which this condition may be found in almost every case of myopia in which it is looked for. His successors, when they have met with apparent muscular asthenopia, have applied Von Graefe's tests, and the results which he declared to be characteristic of insufficiency have been produced. The diagnosis has then been considered to be complete, and the real value of the tests themselves, until quite recently, has remained unquestioned.

Von Graefe's first test for insufficiency was to direct the patient to look steadily at some object in the median line, at a distance of six or eight inches from the eyes. A screen, or the hand of the surgeon, was then interposed in such a manner as to conceal the object from one eye. If the eye so excluded from vision retained its direction unchanged, the interni were supposed to be normal; but if the covered eye deviated outwards, the interni were supposed to be insufficient. In order to ascertain the degree of the insufficiency, another and more delicate test was next to be applied.

In this more delicate test, the object of vision is a small black dot, bisected by a vertical line. A card thus marked is fixed in the median line, at a distance of eight or ten inches from the eyes, and the patient is directed to look at it steadily. A prism of ten or twelve degrees, with its base either upwards or downwards, is then placed before one eye; and, as the power of the superior or inferior rectus to overcome double vision is very limited, this prism necessarily produces a vertical diplopia. The patient will therefore see two dots, one above the other. If the original convergence for the object is accurately maintained, the duplication of the vertical line will only cause it to appear elongated; and the two dots will be seen one above the other on the same line. If, on the contrary, the convergence is not maintained, the patient will see two lines with a dot upon each; and, as the diplopia is a consequence of relative divergence of the optic axes, the double images will be crossed, and the extent of the divergence will determine the distance between them. A second prism, with its base inwards, will produce approximation of the images; and the prism which brings them back to the same vertical line is assumed to be the measure of the insufficiency, as it certainly is of the relative divergence. In other words, the assumed test of "sufficiency" of the interni is that they shall be able to maintain an unchanged convergence when one eye is excluded from vision of a near object to which both were originally directed; and that they shall also maintain an unchanged convergence notwithstanding an artificially produced vertical diplopia. When the requirements of these tests are not fulfilled, the existence of "insufficiency" has been taken for granted; and it has also been thought that the best method of treatment for this insufficiency is by tenotomy of one or both of the external recti. It has been assumed, generally speaking, that the insufficiency is relative rather than absolute; that is, that in any given case the strength of the interni did not preponderate over that of the externi in a sufficient degree to allow of the maintenance of convergence, and that division of the externi, by weakening them, would redress the balance of power. In this assumption, another is manifestly involved, namely, that both the external and internal recti muscles live in a state of continual tension, and that the externi, even when not receiving any volitional impulse, present an impediment to the free performance of ocular adduction.

In dealing with this piling up of hypothesis upon hypothesis, this continued postulation of something to explain something else, the chief difficulty is to select among the many objections which oppose themselves to the acceptance of Von Graefe's doctrine. In my own case, this difficulty is enhanced by the consideration that I have never seen any non-squinting asthenopic patient who even seemed to require tenotomy of the externi; so that my knowledge of the operation is practically limited to cases in which it has been done with unfortunate effect by some one else. As far as I am aware, there is no other instance in which abductor muscles have even been supposed to present an impediment to the ordinary range of movement of unparalysed adductors; and there is no other instance in which it has been proposed to divide an abductor or an extensor muscle as a means of relieving the weakness of its assumed antagonist. The affection called "scrivener's palsy" may by a trifling stretch of imagination be described as an "insufficiency" of the flexors of the thumb and fingers; but I have never heard that division of the extensors has been suggested as a possible means of treatment. As soon as the ordinary range of movement of any set of muscles is exceeded, their antagonists come into play as inhibitory structures; but within the ordinary range the antagonists exert no such influence. Acrobats of the class called contortionists differ from untrained persons in the degree in which the opponency of antagonistic muscles has been overcome by stretching; but no such stretching is needed until the limits of customary movement are overpassed. An acrobat, who can allow his feet to separate until his perineum touches the ground, has overcome by exercise the natural rigidity of the adductor muscles of his thighs; and, in like manner, a person who could perform adduction of the eyes until the corneæ became invisible, would have overcome the natural rigidity of the externi. It is clear, however, from all analogy, that the natural rigidity of the externi does not come into play, as an inhibitory power, within the limits of the ordinary movements effected by the interni; that is, for example, within the limits of the customary adduction of either eye in looking to the right or to the left with both. The assumption that volitional visual convergence can be impeded by the preponderating strength of the externi is likewise opposed to all analogy; for there is no other instance in which the strength of a muscle interferes with the free use of its antagonist. We never hear of an athlete whose flexors are so strong that he cannot extend his limbs, or whose extensors are so strong that he cannot flex his limbs. Even the showman's little dog, whose tail was so tightly curled that he could not put his hind legs to the ground, would be a less strange phenomenon. Natural convergence, if impeded by the externi at all, can only be impeded by some condition analogous to spasm; and liability to spasm is characteristic of weak muscles rather than of strong ones.

My attention was first called to the relation between the convergence function and sustained vision by the writings of Dr. Scheffler; and, in the *Practitioner* for 1874, I published some papers on the hygiene of vision which indicated dissent from the generally accepted view. In consequence of these papers, Dr. Theobald, of Baltimore, was good enough to send me a copy of an essay of his own, which had appeared in the American *Monthly Journal of the Medical Sciences* for the preceding January, and in which he discussed the value of Von Graefe's tests, and showed, I think, conclusively, that they would not bear the interpretation which had been placed upon them. Still later, Dr. Krenchel and Dr. Hansen, both of Copenhagen, have written very lucidly upon the question of insufficiency; and I think it must now be conceded that Von Graefe's fabric of postulates has been overturned. The difficulties in the way of sustained convergence, whatever they may be, are certainly not due to "insufficiency of the interni," and cannot be rationally treated by tenotomy of the antagonists.

We have seen already that the purpose of ocular convergence is the fusion of the two retinal images into a single sensory impression; and hence that single vision with the two eyes, and not clear vision, is the proper stimulus to the performance of the convergence function. To afford clear vision is the office of the accommodation; and, since accommodation and convergence are normally exercised in corresponding degrees, a certain correlation, probably in part structural and in part acquired, usually exists between them. We have seen also that this correlation between accommodation and convergence is more or less elastic—that is, that the accommodation may be varied while the convergence remains the same, and that the convergence may be varied while the accommodation remains the same; the extent of this relative play between the two functions being different in different persons, so that the accommodation and the convergence are sometimes more and sometimes less closely united. The performance of fusion, however, requires exact convergence; and the smallest deviation of the visual lines is followed by the appearance of double images. In Von Graefe's first test, the exclusion of one eye from perception of the object prevents the possibility of fusion, and excludes the demand for fusion from operation; so that the test only shows what degree of convergence will continue to attach itself, in the case of the individual under examination, to the amount of accommodation which the seeing eye is at the moment exerting. If, as commonly happens, the patient is myopic, and the object is not very much within his far-point, he will require very little accommodation, and this little will only call for a correspondingly small amount of convergence; so that the visual lines will naturally diverge from the position in which the requirements of fusion had originally placed them, and will assume a position which is determined by the requirements of accommodation alone, without the aid of fusion. There is here no question of strength or weakness, of sufficiency or insufficiency, but there is simply a diminution of convergence consequent upon a diminution of the nerve stimulus by which the convergence effort is called forth. If the patient is not myopic, but if his accommodation and convergence faculties are only loosely united, having a large amount of relative play, precisely the same result will be produced. The withdrawal of the fusion stimulus will leave the interni at liberty to assume a position of smaller effort; and, like all other muscles, they will undergo relaxation when there is nothing to call them into action. It is only when the relation between accommodation and convergence is close and intimate, so that the two functions are inseparably united, that the test would establish "sufficiency." It is only in such a case that the withdrawal of fusion would leave the position of the visual axes still held unchanged by the accommodation; and this result would follow whether the interni were strong or weak. The test points to the intimacy of the relation between accommodation and convergence, and it points to nothing else.

The second of the two tests differs but little from the first. The immediate stimulus to convergence being the desire for single vision, this desire itself appears to arise from the confusion produced by double images of surrounding objects. Von Graefe's test-object, however, is of such a nature that double images produce no confusion, because it is quite as natural to see two dots upon a piece of card as to see one only; and hence the fusion stimulus to convergence is wanting. As in the former test, the degree of convergence which follows the removal of the desire for fusion is solely determined by the accommodation; and the test only shows the degree of convergence which the eyes assume, as the result of being accommodated for a given distance. In every case of myopia the tendency of the visual axes would be towards divergence, an in every case of hypermetropia the tendency would be toward convergence, as soon as the control exercised by the deman for fusion was withdrawn.

The ordinary clinical history of a case of so-called insuff ciency of the interni is that the patient is myopic, say to fi dioptrics, which would place the far-point at eight Englis inches. At this distance, or even a little within it, he is unab to read continuously, and the effort to do so is attended by variou distressing symptoms. In one case, which I have formerly pul lished, these symptoms were of such a kind as to lead to a di gnosis of obscure intracranial disease; and the patient, wh wanted nothing but a pair of spectacles, was sent to Austral and back in order to afford rest to his brain by a long voyag In such an instance, the effort to read means an effort to mainta convergence to eight inches in absolute repose of the accor modation. To an emmetrope this would be impossible, eve for a few minutes; as may be proved by any young emm tropic person who will put on convex spectacles of five dio trics, and will attempt to read in them. The strain and tensi of the eyes will soon become unbearable; and it may shown, by a simple experiment, that this strain is not due to t convergence effort *per se*, but solely to the fact that the co vergence effort is required during repose of the accommodatio If we combine with the convex lenses prisms with the bases inwards, of sufficient power to rest the convergen as well as the accommodation, reading immediately becom easy. If we then give the same person concave spectacl such that he is able to overcome them by accommodation, a bid him look at the horizon, the strain upon his eyes will so become unbearable. He will be exerting a good deal of accommodation to overcome the glasses, but he will be exerti no convergence, because the distance of the object of visi requires that, for the sake of fusion, he should keep his visu lines parallel. We may relieve the strain instantly by placi before the concave lenses prisms with their bases outward which will call for a convergence effort in addition to the acco modatiou effort; so that we create strain by causing either fun tion to be performed singly, and we relieve strain either placing both at rest or by calling both into play. This appl chiefly to emmetropic persons; for, in the myopic, habit a necessity cause the functions of accommodation and conv gence to be less strictly dependent upon each other; and t patient will be able, especially for the sake of fusion, to co verge to some extent without accommodating, although pr bably not to the full extent which the state of his refracti would require. If we give him concave lenses of three dio trics, according to the rule which I have already laid down speaking of myopia, they will remove his far-point to twel inches; and then, in order to read at twelve or fifteen inches, will have to exert both accommodation and convergence, a both, perhaps, in an approximately equal degree. If distr should continue, we have next to ascertain which of the t functions is working in excess as compared with the othe whether the accommodation or the convergence; and simplest method of investigation is to try whether diminishi or increasing the convergence will afford relief. We may this either by Risley's optometer, or by a spectacle-frame w double clips. We let the patient read with the lenses of th dioptrics, at the stated distance, until the eyes begin to fatigue; and then we add to the lenses prisms, say of f degrees, with their bases inwards, so as to diminish the conv gence. A very few minutes will show whether these pris so placed, facilitate reading; and, if they do, we know t the patient was previously exerting too much convergence the amount of his accommodation. If the prisms incre the difficulty instead of diminishing it, they should be tur so as to bring their bases outwards, when they will requir greater degree of convergence than was originally necessa If they give relief in this new position, we learn that with concave lenses alone the eyes were exercising too m accommodatiou for the degree of their convergence.

Under either of the foregoing conditions, it was once practice to use combinations of concave and prismatic glas but of late years, whenever the range of accommodation sufficient, I have adopted a more simple method. I assu convergence to fifteen inches to be an invariable requirem and modify the concave lenses in such a way that the dem for accommodation shall be such as can most easily be c bined with this invariable convergence. If the prism shows that the patient is exerting too much convergence the degree of his accommodation, I increase the demand accommodation by strengthening his concave lenses; and the prisms show that his convergence is too little for

accommodation, I diminish the accommodation to the level of the convergence requirement by weakening the concave lenses. Thus, if the patient in the case supposed were to read more easily with the addition to his lenses of prisms with their bases inwards—that is, with less convergence effort—I should redress the balance, not by diminishing the convergence effort, but by increasing the accommodation effort to keep pace with it: I should give him concaves of three dioptrics and a half, or of four dioptrics, or should even wholly neutralise his myopia; and the result would be, as a general rule, that the convergence effort to fifteen inches, which was irksome when combined with a less degree of accommodation effort, would become easy when the accommodation effort was increased. In like manner, if the patient was relieved by prisms with their bases outwards—that is, by increased convergence effort—I should say, "With this amount of accommodation he wants more convergence in order to bring the two functions into harmony." Hence, in order to maintain the convergence unchanged, he must be called upon for less accommodation, and his concave lenses must be reduced in strength. Lenses of two dioptrics and a half would render the accommodation almost passive for fifteen inches; and the patient might be perfectly well able to converge to fifteen inches with passive accommodation, although the effort of convergence to eight inches was more than he could continuously accomplish.

I assume, therefore, that insufficiency of the interni is a condition which has no real existence, that all unparalysed interni are strong enough to maintain convergence to fifteen inches, and that the difficulty sometimes experienced depends either upon an excessive convergence demand, as in a myopia which brings the far-point nearer than to fifteen inches, or upon a disruption of harmony between the accommodation effort and the convergence effort. In the former case, concave lenses which put back the reading distance to fifteen inches are all that will be required; and in the latter, taking the convergence distance as a fixed point, it is only necessary to vary the accommodation demand by lenses until the harmony between the two functions is restored. By this means we may in most cases relinquish the use of prismatic spectacles, and may cure our patients by glasses which are everywhere procurable.

Dr. Hansen has pointed out that, besides these cases of somewhat high degrees of myopia, we may have apparent insufficiency in other conditions. In emmetropia, in hypermetropia, and in minor degrees of myopia, we find a few persons who preserve the parallelism of their eyes in testing equilibrium for distance, but in whom an excluded eye (as by Von Graefe's first test) becomes divergent at reading distance. If the divergence is small, it means that the relative play of accommodation and convergence is large; so that, fusion being suspended, convergence cannot be maintained unchanged by accommodation alone. If the divergence is large, it means that the normal relation between accommodation and convergence does not exist; so that, although fusion produces convergence, accommodation without fusion cannot do so. In such cases the severance between accommodation and convergence is due to congenital or acquired central defect. He describes yet another form, in which there is the normal relation between accommodation and convergence, with absence of fusion. In these cases, which are also due to central defect, he describes as symptoms an exceedingly defective endurance alternating with diplopia, a small divergence at reading distance, and feeble adduction and abduction. Since I have been made acquainted with Dr. Hansen's views, I have been on the watch for examples of these two kinds of central defect, but I have not at present clearly identified either of them. Dr. Hansen's description of them is exceedingly graphic, and he speaks favourably of prismatic glasses as means of affording relief.

Putting aside these instances of central defect, which are few in number, and which certainly require a more careful examination than they have yet received, our plan of dealing with a case of asthenopia should be, in the first instance, to determine and to correct any obvious ametropia or astigmatism, even if only of small degree. If the symptoms are still unrelieved, we have next to consider whether accommodation and convergence stand in their normal relations to each other; and, if not, how these relations may be favourably modified. Wherever there is sufficient range of accommodation, the change should be made by altering the accommodation to meet an invariable convergence requirement—stronger convex or weaker concave lenses calling for less accommodation; stronger concave or weaker convex lenses for more. Sometimes, when the range of accommodation is very limited, this simple plan must be laid aside, and the convergence must be modified to suit the accommodation. Prisms with their bases inwards diminish convergence; prisms with their bases outwards increase it. When we employ prisms with their bases inwards to diminish convergence effort, there is always some liability to weaken the interni by diminished use; and in such cases it is generally prudent to use also prisms with their bases outwards, for a few minutes at a time and at regular periods, so as to strengthen the convergence muscles as if by gymnastic exercise. A convenient measure of the strength of the interni, by which they can be tested at any time, is furnished by their power to overcome the artificial diplopia produced by prisms with their bases outwards, when the eyes are directed to a moderately distant object.

In asthenopia of great severity or of long standing, even when we have corrected every discoverable ocular defect, and have brought the accommodation effort and the convergence effort into harmony, we shall sometimes find that the use of the eyes is as painful or difficult as before. For a time this will be so in most cases; and it is well to warn patients that their glasses call upon the eyes to work under new conditions, which, although better than those which they supersede, may yet be irksome so long as they are new. We must not, therefore, expect immediate relief as a rule; and it is best to insist upon diligent use of the prescribed glasses for at least a fortnight, before we attempt to form a definite opinion about their probable efficacy. After the lapse of that time, if the patient is still complaining, and if we are sure that we have placed the ocular mechanism under the most favourable attainable conditions, we have next to develope the powers of this mechanism by carefully regulated exercise. We often have to deal with the effects of that most pernicious of all recommendations, the recommendation to "rest the eyes"; and, consequently, with organs of which the whole nervo-muscular apparatus has been brought by disuse into a state at once of debility and of excitability. Such conditions can only be relieved by careful strengthening of the weakened muscles; and for this purpose the employment of the eyes must be so regulated as not to impede nutrition by occasioning fatigue. The indications for the fulfilment of the required conditions were first clearly laid down by Dr. Ezra Dyer, of Pittsburgh, whose rules for this purpose have proved so useful, and their value has been so thoroughly established by experience, that, in the United States, the process is commonly called "Dyerising." Dr. Dyer first corrects any hypermetropia or astigmatism, and generally prescribes such glasses as will place the eyes under the most favourable optical conditions. The remainder of his instructions I will give in his own words, which, on this side of the Atlantic, are not so well known as they deserve to be:—

"The exercise of the muscles is best accomplished by reading. The patient is directed to select a book of good type, but not too absorbing, and to read regularly with the prescribed glasses three times a day. He must determine by trial the number of minutes he can read without discomfort. He may find this to be thirty seconds, five minutes, ten minutes, or even more. He must, however, find the initial point. Starting at this point, he must read regularly, and always with the glasses. The first reading must not be until one half-hour after breakfast, the second at noon, the third finished before sundown. The periods of reading must be regularly increased from day to day. No other use of the eyes should be allowed. In cases where discomfort occurs in less than five minutes, the increase should not be more than one half-minute per day until ten minutes are reached. In other cases the patient may increase one minute each day until he can read thirty minutes three times a day without pain. If this can only be done with pain, the patient must be encouraged to persist, notwithstanding the pain; the surgeon, however, exercising his judgment in not pushing the treatment too rapidly. Should the pain continue from one period to the next, it is evidence that he has gone beyond the maximum of his ability, and that he should fall back to a period at which he can read without discomfort, should regard that as a new point of departure, and proceed as before. As said above, reading is the best exercise; but it frequently happens that the patient is very desirous to write or sew. This may be attempted when thirty minutes has been reached in the middle period. After the exercise has begun by reading ten minutes, sewing or writing may be tried for ten minutes, and the period finished by reading. From this point I permit an increase of two minutes a day, and a relative increase in the time of writing. This may be gradually introduced into the morning and evening period. I do not consider the treatment completed until an hour and a half is reached."

"I have found it of great assistance to explain the *rationale* of the treatment to the patient. These cases rarely occurring except in the educated classes, they readily understand their nature, and are anxious to assist the surgeon. I tell them that, in reading, pure muscular action is required as much as in lifting a weight; that, through want of use, debility, or some derangement of the system, they have lost the power to exert the reading muscle without fatigue; that they can strengthen this muscle and increase its power of endurance by regular, constant, and systematic exercises, as well as with any other muscle in the body. The course of treatment serves to distract the mind of the patient, and restores his confidence in his ability to use his eyes. He has become discouraged; he has had the horror of blindness carefully instilled by friends, and sometimes by well-meaning physicians, who, not feeling quite sure of their ground, err on the safe side, and prescribe entire rest. In these cases 'the safe side' is the wrong side. When the glasses are procured, and the patient is assured that there is no absolute disease of the eye as revealed by the ophthalmoscope, he commences his course of treatment with hope and zeal. The mere fact that he is told that he *must* use his eyes gives him, to a certain extent, the power to do so."

Dr. Dyer elsewhere lays great stress upon the importance of restraining impatience when improvement is beginning to be declared. The patient who finds that he can read for ten minutes without distress is very likely to go on for twenty minutes, or until pain warns him to stop; but to do this is to invite relapse. With an increase of only one minute a day, the duration of the treatment would be about three months: and it is better to submit quietly to this period of modified use, and of self-restraint, than to lose time at the beginning by fruitless endeavours to hasten a process which depends essentially upon the gradual improvement of muscular nutrition.

In many obstinate cases of asthenopia we shall find some derangement of the health, or some need for better regulation of the regimen and habits. Under such circumstances, the ophthalmic surgeon, if he should be so unfortunate as to be in the narrow sense a specialist, must call to his aid the advice of the general physician; and must not expect to render unnecessary, by the employment of spectacles, all the other resources of the healing art. When debility of the ciliary muscles and of the interni is a consequence of debility of a more general character, the condition of the eyes may, indeed, often be greatly improved by treatment specially directed to them; but complete functional restoration is hardly to be hoped for, except in conjunction with a correspouding degree of improvement in the state of the organism as a whole.

Effects of Working under Increased Atmospheric Pressure.—Dr. Lehwess read a paper at the St. Petersburg Medical Society, giving an account of these observed during the sinking of the *caissons* for a new bridge. The pressure varied between one and two atmospheres, and only exceptionally attained three atmospheres, the workmen passing two periods of six hours each daily in the *caissons*. From September, 1876, to March, 1877, there were employed 160 men in this manner; and of these there were treated in the outdoor dispensary 51 for so-called rheumatism, 40 for bronchial catarrh, 32 for so-called otitis, and 34 for various other affections. Into the hospital 38 were received for such causes as fever, febrile diarrhœa, injuries, etc. With respect to the so-called otitis, it is to be observed that the men frequently complained of pain in the ears on leaving or entering the *caisson*. The pains in the joints called "rheumatic" came on in from an hour and a half to two hours after leaving the *caisson*, and disappeared again on their return to it. They were usually only moderate, requiring about three days' treatment; but in some cases they were very severe. In one case, every joint of the body was affected—even the vertebral articulations. The workmen who had been only employed a short time were especially the subjects of these pains. No fever nor any trace of swelling being present, rheumatism is obviously a wrong name. Dr. Lehwess explains these pains by the occurrence of dilatation of the articular vessels after having been compressed in the *caissons*. Salicylic acid given in ten-grain doses every two hours proved very effectual. In three cases there were temporary symptoms of cerebral hyperæmia. Neither phthisis, heart disease, nor hæmorrhages of any kind were met with; and the use of alcohol did not give rise to any obvious mischief. When the men became well accustomed to the work the above-mentioned inconveniences ceased to be felt.—*Petersburg Med. Woch*, September 1.

ORIGINAL COMMUNICATIONS.

TWO CASES OF IDIOPATHIC TETANUS WITH CLINICAL REMARKS.

By C. HANDFIELD JONES, M.B. Cantab., F.R.S.,
Physician to St. Mary's Hospital.

Case 1.—*Non-traumatic Tetanus—Improvement under Physostigm —Death from Engorgement of Lungs.*

X. Y., female, aged thirteen, seen with Dr. Brisbane, January She was suffering from well-marked idiopathic tetanus, th first symptoms of which appeared about a month ago, con sisting in contraction of the neck and jaw muscles. Ther has been no wound or injury, but she has had wet feet. Fac is pale; shoulders raised; vertebral column arched backward The muscles of the neck and jaw are rigid, as well as those o thighs, but not those of calves or arms. At times she ha paroxysms in which the arms are contracted, as it seems clon cally, and the body is arched as in opisthotonos. In thes attacks she is apt to roll out of bed. She cannot open he mouth at present, but she manages to take a good deal o liquid food. Pulse 120, distinct; temperature 98°; it ha been taken three or four times before, but has never exceede 100°. Has been taking K. Br. and tinct. bellad. hitherto. It wa agreed to continue this, and to give besides ext. physostig matos liquid. gr. $\frac{1}{12}$ subcutan. more or less frequently. Thi treatment was markedly beneficial, lessened the spasms ver much, and great hopes were entertained that she would recover but the lungs became engorged and œdematous, and from thi she died.

Case 2.—*Non-traumatic Tetanus—High Rise of Temperatu from Warm Bath during Malady—No such Effect durin Convalescence—Use of Physostigma—Recovery.*

E. J. M., aged thirteen, admitted May 8, 1877. Says he ha always been fairly healthy, but has suffered from his teeth fo a long time, especially lately, during the last fifteen days. Hi mouth and tongue were then ulcerated, but do not appear t be so at present. His front teeth are large and crowded, an cause pain now. Twelve days ago he first complained of stif ness in the back, and two days later had a fit or attack o spasms, which has repeatedly occurred ever since. Pain i the back he affirms was the first symptom, not trismus. Hi body has often been arched. Has a peculiar expression o face, and grins now and then. Pressure on dorsal spine whe pain is felt causes an opisthotonic spasm. Neck is stiff. Mout cannot be opened. He cannot turn in bed. Chest moves ver little in breathing; an expiratory grunt is made every fe minutes. He can move his limbs, but the legs get stiff no and then. He is intelligent, and answers questions clearly Has never lost consciousness. Pulse 66, weak, soft; ten perature 99·2°; respirations 28. Face of a dull earthy tin Has taken nothing but cold tea. Bowels have been opened b enema, and a good deal of hard, lumpy fæces, free from smel have been brought away. Heart and lungs acting normally Potass. bromidi gr. xx., aq. ʒj., 4tis horis. S. diet.

May 9.—Pulse 74, distinct. Swallows fairly. Slept from to 10 p.m., but after that was calling out all night. Ha every half-hour, or oftener, paroxysms of opisthotonos; a present they occur every few minutes. Morph.-muriatis gr. atropia gr. $\frac{1}{60}$, glycerine ℥j., aq. ℥ix., subcut., bis die. A 8 p.m. a warm electric bath (at 98°) was given, the continuou current passing through the water. Attacks of spasm occurre frequently while he was in the bath. The temperature ro to 103·6° a quarter of an hour after the bath, and at midnig was 105·2°, pulse being 160. A cold pack was administere from 12.30 a.m. to 1.30 a.m. of the 10th, and at its close temp rature was 101·7°. A good deal of stimulant was given in th night—as much as eight ounces of brandy. Ordered ext. phy sostigmatos liquidi gr. $\frac{1}{15}$, aq. ℥x., to be given subcutaneous two or three times a day on 10th.

11th.—Pulse 104, distinct, soft; temperature 98·6°. H had three injections of physostigma, and five nutrient enemat Has been lying asleep most of the morning. A spasm occu every time an attempt is made to feed him.

12th.—Passed a very restless night; had a good many spasm but only two have occurred to day. Swallows better; ate egg. Pulse 78, distinct, rather weak.

14th.—Lies much quieter, and has had fewer spasms.

15th.—Says he is better, and seems so. Night was quiet; had no spasms. Moves his limbs naturally. Appetite for eg good.

16th.—Had severe spasms last evening—four in a short space of time; but after an injection of gr. $\frac{1}{2}$ of physostigma had a quiet night, and no more spasms. Has eaten nine eggs in last twenty-four hours.

19th.—Doing quite well; eats stewed eels.

21st.—Seems to be doing well, but his abdomen as he lies on his back is quite hard and boardy, and he can't open his mouth more than half an inch. No spasms. Has had only one injection daily last two days. Sleeps three hours at a time. Appetite voracious. Lies very quiet. Urine pale, watery, not albuminous, specific gravity 1014.

22nd.—The hard, board-like rigidity of the abdominal wall continues, and the back and neck also are rigid, but the arms and legs are mobile.

24th.—Abdominal muscles less rigid, and he can move his head from side to side freely. Ext. physostig. gr. $\frac{1}{10}$, aq. ℥ss., ter die.

31st.—Doing well; the belly does not feel so hard; he can sit up in bed, and open his mouth wider.

June 4.—Is quite unable to stand; when attempting to walk, supported on each side, his feet are pointed with the toes downwards and the heels drawn up. When, however, he is lying on his back he can exert considerable force in both the flexors and extensors of the legs.

11th.—Doing well. Capiat ol. morrhuæ ℥ij. bis die, loco physostigmat.

15th.—Is saucy and well, but looks pale; can walk now. He was put in a bath this evening, just such as he had on May 10; he struggled in it a good deal; was in fifteen minutes. Before bath his temperature was 99°; just after it was 100·4°, as soon as he got into bed. The temperature was taken twice subsequently, during the night about 1 a.m., and again later, but was never above 100·4.

He was quite well on 21st, and went out soon after.

Mr. H. Hayward examined his mouth while he was in the hospital, and found no other disease except considerable crowding of the teeth.

Temperature Table.

Date.	Morning.	Evening.
May 8 . . .	99·4°	98°
,, 9 . . .	98·8	103·6 105·2 (12 p.m.)
,, 10 . . .	100·2	98
,, 11 . . .	98·6	97·8
,, 12 . . .	97·6	97·9
,, 13 . . .	98·4	99·8
,, 14 . . .	98·4	99·6
,, 15 . . .	99·1	100·2
,, 16 . . .	99·2	99
,, 17 . . .	97·8	98·2
,, 18 . . .	97·8	98·6
,, 19 . . .	97·6	99·4
,, 20 . . .	98	98
,, 21 . . .	97·7	—

June 15.—Temperature just before bath, 99°
,, ,, after ,, 100·4

The opinion is held by some high authorities that severe tetanus is necessarily a febrile disorder, inasmuch as the chemical action occurring in the muscles during contraction is not, as in the normally acting organs, expended in the production of movement, and therefore appears as heat. Supposing the formula to hold good, that chemical action = heat developed + mechanical work performed, it is plain that if the latter be *nil*, the former must be increased. However, that mechanical work is not performed when free movement is prevented by opposing force (as of antagonist muscles) seems to be very questionable. Hermann, indeed, states (p. 266) that "during tetanus a muscle performs no external mechanical work, as no weight is lifted by it; the weight already lifted to a certain height being merely maintained at that height." Yet surely keeping a weight from falling after it has been raised by muscular power implies a continued exertion of that power. He proceeds to say—"As the chemical changes which go on in a muscle which is in a state of tetanus are greater in amount than in a muscle at rest, we must assume that a tetanised muscle actually does perform work, the muscle losing and immediately thereafter regaining the whole of its tension during the extremely short intervals between two successive stimulations; this sudden regain of tension must, whenever it occurs, lead to a development of heat."

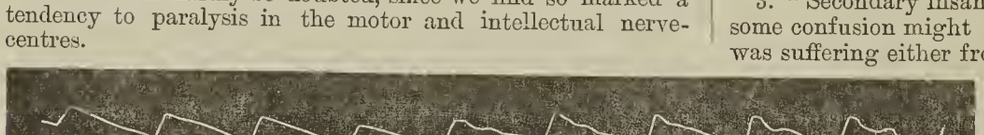
Admitting the above, I should imagine that a tetanised muscle would be in much the same situation as a muscle in ordinary contraction, *quâ* generation of heat. Heat is produced during ordinary contraction, and probably to a somewhat greater amount during tetanic, but not to the extent characteristic of severe pyrexia. Such temperatures may often occur in tetanus, but are no essential part of the process, and have their origin, not in the muscular contractions *per se*, but in paralysis of heat-regulating nerve-centres. Clinical observation seems to confirm this view. The lad E. J. M. had, even during the height of his malady, a temperature barely above the upper normal limit. Nearly the same may be said of Case 2, where the temperature had never exceeded 100°. In one case that recovered, recorded by Senator, the temperature varied from 98·6° to 110·7°; while in another, which proved fatal about the eleventh day, the temperature was almost the same during the tetanic period as during six days previous of wound fever. In a fatal case related by Nothnagel, the temperature was only 101·7°. Dr. E. Long Fox states (see *Medical Times and Gazette*, vol. i. 1870, page 601) that in tetanus the temperature may persist at or very little above the normal point until the fatal close of the disease approaches. This evidence is perhaps sufficient to show that tetanus is not essentially a pyrexial disorder, though it often becomes so.

The circumstance that all the contractions are attended with intense pain, with cramp, as Sir T. Watson writes, shows plainly that the muscular action is of an unnatural kind, for in no voluntary or reflex acts is any such sensation experienced. The sense of fatigue is a different matter, and so is the pain of myalgia, which is by no means confined to the periods of contraction.

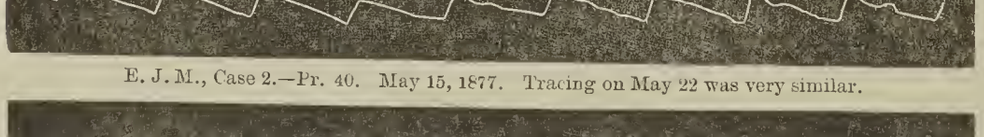
The occurrence of tetanus without any peripheral irritation or with only trifling, contrasted with its absence in states of severe neuralgia or other sensory irritation, indicates very strongly that the centric change is much more important than the peripheral. The visible part of this change consists in hyperæmic distension of the vessels of the cord, and effusion of their contents—of the liquid more than of the corpuscular. The relation of these vascular changes to the muscular spasms is not, I think, doubtful. Dr. Maudsley, noticing such lesions as the result of strychnia-poisoning, remarks very truly that the congestion is plainly a secondary result of the intense morbid activity of the directly poisoned nervous element. Its absence in some cases proves, I think, that this is so. The same view is quite applicable to tetanus and chorea. The hyperæmias and exudations in these maladies seem to me only illustrations of the general law that the activity of a tissue, and of the vessels which supply that tissue, is always in inverse ratio to each other. If the vessels—*i.e.*, their walls—are active they contract, and the tissue becomes anæmic and quiescent. If the tissue is active the vessels dilate and admit more blood, which ministers to the wants of the working tissue. If the activity of the tissue be excessive the hyperæmia becomes excessive too, and the small vessels give way. The rule seems to be that the capillaries follow the lead of the arteries, and lose their retentivity in proportion as the arteries lose their contractility. Hence the blood, either in its entirety or in its liquid part, is effused into the interstices or among the elements of the tissue. The relation of alternating activity between the tissue and the vessels is no doubt mediated by the vasal nerves and those supplying the tissue, which, as in the limbs, are often derived from the same trunk. When the nerve-force is, so to speak, absorbed by the tissue, this force in the case of muscles being converted into motor force, the arterial muscles are left in a *minus* state, and so relax.

The invisible part of the change cannot be described in detail, inasmuch as we have no opportunity of observing the cells during their period of action, and can by no means conclude that their post-mortem appearance truly represents their living. We have, however, good ground for believing that this change does not consist in a true increase of functional power in the cord, but rather in a loss of its faculty of remaining at rest. What I wrote four years ago with respect to paralysis agitans (see *British Medical Journal*, vol. i. 1873, page 248) is quite applicable to tetanus:—"In the construction of a motor nerve-centre it is requisite to create an apparatus which shall be always ready to evolve force, but which shall not do so spontaneously—not without the application of a stimulus of some kind or other, physical or mental. Now, the peculiarity of nerve-cells is that they possess these two qualities: they prepare material which, by undergoing oxidation or in some other way, generates force; and yet they can prevent this material from so acting, although blood is circulating all round it charged with oxygen. The cells of other organs, as of the kidney, the testes, and the liver, seem to be acting constantly; the only condition requisite for their action is that they should receive a due supply of blood. But the

motor nerve-cells may lie for hours ready to act energetically, and yet scarce act at all. Now, in states of spasm this property of the nerve-cell is lost or much impaired. It still generates force; it does so continuously, but not in obedience to appropriate stimuli. As long as blood is supplied, it works on blindly, draining away the nerve-force from other centres, till at last the heart is exhausted, and circulation ceases. If it should be thought that the action of the nerve-cells of the corpora striata and anterior spinal horns is regulated by those of the convolutions, which keep the former quiescent when this is desirable, yet the question recurs, How is the quiescence or regulation of these superior nerve-cells obtained? How is it that, while fully supplied with healthy blood, they can refrain or not from functioning? If we must refer this to a constant operation of the mind, how is it that the muscles are at rest during sleep and insensibility from narcosis or injury? Most of us, however, I suppose, hold that quiescence of the intellectual and volitional centres coincides with the same state of the motor centres, and *vice versâ:* so that more need not be said on this point. In states of cerebral excitement, mania, and delirium, this faculty of quiescence is lost in the cells of the convolutions, and in great measure in those of the motor centres too; and here also the pathological change is commonly induced by causes which depress and exhaust nervous energy." In their valuable paper on "The True Nature of Tetanus," Drs. Ringer and Murrell maintain the view that the tetanus produced by poisons depends essentially on loss of the resisting power of the cord, and not on excitation or stimulation of its cells. Strychnia no doubt produces an excessive discharge of nervous force in the cord, but this is not due to mere stimulation, for the normal reflex faculty is not rendered more vigorous and active, but is lost amid the general hyperactivity of the motor cells. The existence of the two faculties—the resisting or restrictive, and the motor—is well shown by the varying effects of agents, some of which act much more on one than on the other. Gelseminum produces considerable paralysis, with slight tetanus; box, strong tetanus, with slight paralysis; while strong blows on the back depress both functions very considerably. The affinity existing between tetanus and paralysis is well shown by the effects of box, which produces—(1) depression of the reflex faculty of the cord; (2) tetanus, the reflex paralysis still progressing; and (3) complete paralysis (see *Medical and Chirurgical Transactions*, 1877, p. 390). That this view is also very applicable to chorea can hardly be doubted, since we find so marked a tendency to paralysis in the motor and intellectual nerve-centres.



E. J. M., Case 2.—Pr. 40. May 15, 1877. Tracing on May 22 was very similar.



E. J. M., Case 2.—Pr. 90. June 15, 1877.

The remarkable elevation of temperature produced by the warm bath during the height of the malady deserves special notice. I know not how it can be accounted for otherwise than on the view that the warmth still further enfeebled the already weakened nerve-centres which regulate temperature, and allowed it to run up. The very same result ensues in fever when the patient is placed in a hot pack. And in both cases it is found that the rise produced by the same treatment during convalescence is very much less. The observation indicates very plainly that the condition of the cord in tetanus is one of enfeeblement, and also illustrates the effect of paresis of the cord on temperature.

The administration of physostigma was undoubtedly beneficial in Case 2. Whether it saved life is, perhaps, uncertain, but that it deprived the disease of its severity cannot be questioned. In Case 1 it also seems to have been decidedly useful. The drug must be reckoned a cardiac depressant, but it is probably a safer one to use than tobacco or aconite. All these agents need, for the most part, to be guarded by the simultaneous exhibition of stimuli, which were pretty freely used in Case 2.

The annexed tracings, which I believe are tolerably true, indicate that during the disease the arteries generally are in a state of contraction, which disappears during convalescence. Such certainly seems to be the case in some instances, as I have been informed of a case where the radial pulse was on several occasions imperceptible during the paroxysms, but became tolerably full and distinct during the administration of nitrite of amyl.

NOTE ON THE

PRUSSIAN SYSTEM OF CLASSIFYING MENTAL DISEASES.

By H. SUTHERLAND, M.D., M.R.C.P.

The number of the *Medical Times and Gazette* for April 7, 1877, contains an interesting paragraph on "Prussian Lunatics in 1875," in which the insane are classed under certain heads. These are—(1) melancholia; (2) mania; (3) secondary insanity; (4) insanity with paralysis: (5) insanity with epilepsy; (6) idiocy and cretinism; (7) imbecility; (8) delirium potatorum.

This classification of insanity adopted by the Berlin Statistical Bureau, appears to be based on the suggestion, contained in Dr. Bucknill's manual, that the subject must be approached from every standpoint. In this system at Berlin, the psychological symptoms and also the bodily causes of mental disorders are touched upon, thus meeting half-way the views of Esquirol and Skae, the deceased, and of Clouston and Crichton Browne, the living and energetic champions of these two principal systems of nomenclature.

Without pretending in any way to put forward a new classification of insanity, it appears desirable that the hints contained in this paragraph on Prussian lunatics should not be allowed to pass unnoticed, and that the classification here laid down may be advantageously compared with those systems suggested by the article itself.

1 and 2. As regards melancholia and mania, it need only be remarked that by adopting these terms the Prussian authorities agree so far with Esquirol and his subdivisions, although it must not be forgotten that the word "mania" is frequently made use of by Skae, apparently instead of the word "insanity," in his classification.

3. "Secondary insanity" appears to be a term about which some confusion might arise. It might imply that the patient was suffering either from a second attack, or from some form of insanity (as secondary dementia, *folie circulaire*), differing from the one with which he was previously afflicted.

4. The same remark will apply to insanity with paralysis. This term is very ambiguous. It might refer to general paralysis of the insane, or to paralysis dependent upon lesions of the brain, local contractions, etc., which are common to dementia, idiocy, and all forms of mental derangement.

5. Insanity with epilepsy is a most useful subdivision, but it is taken for granted that epileptic idiots and imbeciles are not included in this class.

6. Idiocy and cretinism would have been better separated. The ages at which these two disorders usually commence, the etiology and the prognosis, are different in both cases; and, above all, cretinism is, whereas idiocy is not, endemic.

7. Imbecility would have been better placed with idiocy. The lines of demarcation between these two forms are in some cases so very faint as to render it almost impossible to say whether the patient should be called an idiot or an imbecile.

8. Delirium potatorum. At the International Congress of Alienists, held in Paris in 1867, delirium tremens was placed outside the typical forms of mental disease (Blandford). Dr. Bucknill (*British Medical Journal*, March 3, 1877) has lately told us that the commonly accepted forms of insanity from drink are—mania *e potu*, chronic alcoholism, dipsomania, and delirium tremens. With regard to the last two, it may be said that it is very questionable if a man suffering from either of them could be at present legally detained as a lunatic in an asylum. It may therefore be concluded that this Prussian subdivision—delirium potatorum—is also somewhat obscure, as it leaves us in doubt as to whether or no a patient suffering

from it is really insane, or merely attacked by a love of drink or by delirium tremens.

Apart from these minor objections, the Prussian system of classification appears to be founded on sound and liberal principles. It acknowledges the mental symptoms (mania and melancholia), and also the somatic etiology of insanity (as insanity with epilepsy).

In the *Journal of Mental Science* for April, 1877, Dr. T. A. Chapman, in an exhaustive paper on the mortality of the insane, displays in a table the percentages of deaths among different classes of patients in the Hereford Asylum.

His sub-divisions are as follows:—1. Probably curable cases. 2. Congenital cases: (*a*) free from epilepsy, (*b*) with epilepsy. 3. Epileptics, non-congenital. 4. Organic brain disease: (*a*) general paralysis, (*b*) other forms. 5. Chronic insanity: (*a*) more or less excited (chronic mania), (*b*) quiet (dementia, monomania, etc.).

A committee of the Medico-Psychological Association, in 1869, put forth a table, as a specimen, in which cases might be arranged (Blandford). They enumerated four incurable forms of insanity—(1) General paralysis; (2) epileptic insanity; (3) senile insanity; (4) paralytic insanity. And to these four might almost have been added idiocy, in which form complete recoveries are, as is well known, very exceptional.

Finally, Griesinger enumerates two great sub-divisions of mental disease. The first includes curable forms—mania, monomania, and melancholia; the second incurable—chronic mania and dementia.

In these three classifications—Dr. Chapman's, that of the Medico-Psychological Association, and Griesinger's—we see that one great principle is kept in view. This is the division into curable and incurable forms.

But besides this principle being recognised by comparatively modern writers, we observe that the traditions of the past have not been altogether ignored. This is seen in the Nomenclature of the College of Physicians; there the classification of mental diseases proposed by Hippocrates is not disregarded.

Thus we have a past and a future influence to be considered with regard to the subject of nomenclature. It may be asked, What is the present influence which suggests the sub-divisions of insanity? The reply is, Asylum convenience. The attendants of asylums are every day unconsciously discussing the respective claims of Drs. Skae and Esquirol, when considering to which ward they shall request the superintendent to send a patient. Hence the terms epileptic, paralytic, etc., are acknowledged as being true sub-divisions even by the uneducated.

From the above remarks it may be concluded that we are gradually recognising the fact that a really practical classification of mental diseases must be founded on prognosis, whilst at the same time due consideration must be given both to the traditions of the ancients and also to the views of modern writers, founded on physiological research.

LARGE ABSCESS TREATED CHIEFLY BY THE ASPIRATOR—RECOVERY.

By JAS. D. GUNNING,
Surgeon, Army Medical Department.

B., aged fourteen, low caste, verydelicate, and wasted to a skeleton, presented himself on December 27, 1876, with a large fluctuating swelling in the left iliac region, and extending to the umbilicus. It was oval in shape, the long diameter being parallel to Poupart's ligament, about eight inches long and four inches broad. The margin was well defined. It was at once aspirated, and proved to be an abscess from which ten ounces of fairly healthy pus were evacuated, giving great relief. A compress was then applied.

December 30.—Great pain last night, having been comparatively free of it for two days. Aspirated, and withdrew nine and a half ounces healthy pus. Ordered two ounces of port wine and a pint of strong beef-tea daily.

January 2.—Nine and a half ounces to-day.

4th.—Four ounces to-day; pain in abscess last night, with slight fever. Temperature 101·6°. Had twenty grains of choral. General health, however, improving.

10th.—Up to this date has kept fairly well. Six ounces pus to-day. Ordered two grains quinine, ten minims tincture muriate of iron, and one ounce water three times a day. Walls of sac feel very thick and solid.

15th.—Six ounces to-day. Not so healthy-looking; complains of a good deal of pain. Treatment continued.

19th.—Five ounces, tinged with blood, but otherwise healthy.

25th.—Four ounces to-day.

30th.—Four ounces to-day. Anterior wall of sac thinning. The needle was accidentally tilted up, and caused an opening about an inch above the pubis.

February 1.—Abscess opened of itself at the place where the needle tilted.

3rd.—Two free openings were now made—one where the needle came through, and the other higher up. The sac was injected with carbolic acid and oil (1 to 10), and then stuffed with lint saturated with the same oil and acid.

From this time it began to close rapidly, and at the present date there is only a small superficial healthy granulating sore where the higher of the two openings was made. The lad has increased in weight, and looks plump and healthy, running about freely.

The abscess was situated entirely in the abdominal wall, and had no connexion with the spine. From December 27 to January 30 the aspirator was used nine times, and fifty-eight ounces of pus were withdrawn by it.

Had this abscess been opened in the ordinary way, I am convinced, owing to its size, the shock would have proved fatal. With the aspirator this was reduced to a minimum, and contraction of the sac proceeded so steadily, that when it was placed in the condition of a freely incised abscess, owing to the accident alluded to, no bad effects followed. Earlier this would not have been the case. I had hoped to have effected a cure entirely by the aspirator, injecting the sac when the boy's condition of health permitted, but was forestalled.

Fyzabad, India.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

ST. GEORGE'S HOSPITAL.

TWO CASES IN ILLUSTRATION OF THE EFFICACY OF CHRYSOPHANIC ACID IN THE TREATMENT OF PSORIASIS, AFTER FAILURE OF VARIOUS OTHER REMEDIES.

(Under the care of Dr. WHIPHAM.)

Case 1.—E. F. S., aged seven, was admitted into St. George's Hospital, under my care, on March 21, suffering from a copious eruption of psoriasis. His mother was a person of strumous habit. Of six brothers and sisters, one died in infancy; one, at ten months old, had an abscess on the cheek; the others are very healthy. The boy himself was brought up by hand. Had measles when three years old; no other disease. He was always pale and delicate, with a bad appetite, and subjec to vomiting after food; occasionally he suffered from headache. Has always lived well. He had never suffered from cough or glandular swellings; there is no history or appearance of hereditary syphilis. Has always been "nervous," and is less intelligent than his brothers and sisters. The present eruption of psoriasis began with one spot on the back in September, 1876; a month later it appeared on the legs. His general health has not been in any way affected.

On admission there were numerous patches of psoriasis, with thick masses of scales, and varying in size from that of a threepenny-piece to that of half-a-crown, upon the legs, arms, and trunk; one small one on the left upper eyelid. The patient is well nourished, but of markedly strumous appearance. General health good; no cough; tongue red, with prominent papillæ; bowels open. Ordered—Ol. morrhuæ 3 jss., syr. ferri iodid. 3ss., bis die. Picis Burgund., sapon. moll., sp. methyll., part æqual; to be rubbed into the affected skin. Pulv. rhei c. sod. gr. v. om. nocte.

March 27.—The scaliness has disappeared, and the subjacent thickening of the skin has diminished; while at the same time the redness of the patches has markedly subsided. The bowels have been confined for the last day or two, but are well open to-day; tongue as before.

29th.—The pitch ointment to be applied to the left leg, and to the right the ointment of nitrate of mercury.

31st.—The condition of the right leg is much improved,

whereas the patches on the left are very little altered. Ordered —Liq. potassæ ℥vj., haust. ciuchouæ ʒj., ter die. Pulv. rhei c. sod. ϑss. omni altern. nocte. The nitrate of mercury ointment to be used solely.

April 10.—Both legs are improved as regards scaliness, but there is no appearance of healthy skin iu the centres of the larger of the affected parts, although the smaller spots are gradually fading.

12th.—A drachm of cod-liver oil to be given with each dose of the medicine, and a soda bath every night.

Little or no improvement was observed up to April 28, when the following ointmcnt was ordered to be applied to the eruption:—Acid. chrysophanici ʒ ss., adip. ʒj.

On the eighth day after this application the eruption had almost disappeared; one or two minute spots only remained on the legs where the ointmeut had been too sparingly applied: these disappeared in the course of a few days. The patient suffered from incontinence of urine, and as the prepuce was very long, it was removed, and he remained in hospital under the supervision of the surgeon for a few weeks. The chrysophanic acid ointment was discontiuued on May 11, and he was kept under observation until June 29, up to which time no recurrence of the disease had takcn place. A few hours subsequently to the application of the ointment the unaffected skin became of a purple-red colour, which disappeared on pressure, while the sites of the patches of psoriasis, after the thickening had subsided, remained perfectly white. This dusky red colour speedily faded after the ointment was discontinued, and the skin gencrally, including that of the diseased parts, assumed a natural appearance.

Case 2.—In the spring of the year 1874, Selina W., aged fifteen, a domestic servaut, living in the country, came under my care as an out-patient iu the departmeut for diseases of the skiu at St. George's Hospital. She had then a copious eruption of psoriasis over the trunk, arms, and legs. The eruption had commenced two years previously, and, with partial remissions at different times, had been steadily on the increase, this increase being more especially marked in the spring.

She was a remarkably well-grown girl, and looked six or seven years older than her stated age; she was, moreover, in robust health, her only complaint being profuse and occasionally deferred catamenial periods. She, however, never exceeded six weeks.

Her family history was good, her parents lived in the country, and there was no account of syphilis either hereditary or acquired. The appearance of the eruption and the catamenia were contemporaneous, but, beyond the slight irregularity of the latter above mentioned, the girl was in perfect health.

The treatment consisted in careful attention to her diet; beer, which she had been in the habit of drinking in moderate quantity, was discontinued, and her food was to be of the plainest description. She was ordered—Liq. arsenical. ℥iij., dec. ciuchon. ʒjss., ter die. At first the treatment seemed to be productive of good results, more especially as regards the trunk, but eventually lost its effect as the autumn came on. No alteration was, however, made in the treatment until February 11 in the following year, when nitrate of mercury ointment was ordered to be rubbed into the affected parts.

On May 6, 1875, as the eruption was rapidly increasing, the treatment was altered with a view of increasing the action of the kidneys, and the following prescription was ordered:—Sp. æther. nitros. ʒj., tinct. scillæ ℥x., potass. acetat. ϑss., h. acet. ammon. ʒjss., t.d.s. Rep. unguent. hydrarg. nitrat.

This change produced speedy results, and on July 29 the note runs:—"Only one or two patches on the arms, but there is an increasing tendency to the formation of fresh spots, which, however, soon fade." It appeared that the disease was again on the increase.

On August 26 she was much better.

On October 21 the eruption had not improved, and it was deemed advisable to try a mixture containing tincture of rhubarb and bicarbonate of soda in infusion of cloves.

She continued stomachics, etc., with little or no benefit until January 20, 1876, when her treatment was again altered as follows:—Liq. hydrarg. et arseni. hydriodat. (Donovan's) ℥viij., inf. gent. co. ʒj., ter die; and upon this she again improved for a time, but in about six weeks the improvement ceased, and the eruption again began to spread. The medicine was continued for some months, until finally the gums showed decided evidence of mercurial poisoning, and all medicine was discontinued for a time. Before this the patient had ceased to attend the hospital, owing to a regulation of the Board limiting the period of attendance for out-patients.

At the beginning of March, 1877, I saw her again, and found that the psoriasis had recurred in all the original situations, and that she was as bad as when she first came under observation. I then ordered her to take three times a day a pill containing one-twentieth of a grain of phosphorus.

On April 1, I found that the psoriasis was rapidly disappearing. The improvement, however, was of very short duration; and on May 31, 1877, the eruption was rapidly extending on the limbs and trunks. I prescribed for her an ointment: Acid. chrysophanici gr. l., adipis præp. ʒj., to be rubbed well into the patches night and morning. At the end of a week I heard that the unaffected skin was "of the colour of a red Indiau," and that she had a running at the eyes and slight dimness of sight. I therefore directed the ointment to be applied every other night.

On June 21, exactly three weeks after the commencement of chrysophanic acid ointment, I saw my patient, and found that, with the exception of one or two scaly unthickened spots (each rather less than the size of a pea, on each wrist), she was quite free from all trace of the skin disease. Her skin at the time of this visit was of a dull purple colour, such as one sees when the face of a person with a florid complexion is sunburnt. Her health was excellent, and the catamenia were quite natural, both in time aud amount. She was directed to apply the ointment to the spots on the wrists once a day.

On July 22 I again saw her, and found all traces of the eruption gone, aud her skin natural. She had discontinued the ointment for some weeks.

Remarks.—Of the two cases, the second is a most striking example of the remarkable effects of chrysophanic acid in the cure of psoriasis. I have briefly alluded to it in the *St. George's Hospital Reports*, vol. viii., page 227, and the statement therein, that the disease had baffled all my attempts at cure, must uow be considerably modified. The "Notes from the Skin Clinique" were written many months before the publication of the volume, and at that time no remedy had produced any permauently good effects in my patients. In a footnote on page 227 of the *Reports*, mention is made of the fact that the psoriasis was disappearing under the use of phosphorus, which was commenced in March, 1877. By the end of May, however, the disease was nearly as bad as ever, and it was evident that the drug was of no use in relieving her ailment. After to many aud repeated failures (the majority of which have been mentioned in the necessarily curtailed notes of a case which had been under treatment for more than three years), it was not without a feeling of despair that I had recourse to chrysophanic acid; the result, however, and the rapidity with which that result was brought about, surprised me extremely—a surprise which is not lesseued by the recollection that the girl had suffered from the skin disease for five years and a quarter at the time when the acid was first employed, and that she was entirely free from psoriasis in twenty-one days. Possibly the psoriasis might have yielded to local applications of pitch, etc., but, as I have mentioned in the *Hospital Reports*, I had no opportunity of trying it, owing to the inveterate dislike of her mistress to the smell of such preparations. The case of the boy also illustrates the beneficial effect of the drug, though to a less degree. I have here placed the two cases together, because they *appear* to me to show that chrysophanic acid has some distinct action in certain forms of skin disease independently of the patieut's diathesis. The subjects of the above notes differed in almost every respect. The boy was pallid, of small stature, and very delicate in appearance; he was, in fact, as stated by Dr. Owen (Medical Registrar at St. George's, to whom I am indebted for the notes of the case), essentially a strumous child. Selina W., on the other hand, was a remarkably well-proportioned country girl with a florid complexion, who, with the exception of a trifling catamenial irregularity when she first came under notice, was in most robust health. In the case of the boy the eruption had disappeared eight days after the employment of the chrysophanic acid, aud so far this case contrasts favourably with that of the girl S. W. It must, however, be borne in mind that the scaliness of his disease had been greatly modified, if not entirely removed, by previous applications, while to hers no local treatment had been employed for a long time. In the case of S. W., certain irritating effects resulted from the use of the drug. Redness of the skin is a usual sequela of its local application, but this redness in the majority of cases seems to be limited to the neighbourhood of

the affected parts to which the acid has been applied. In the present instance the effects were more extensive; the face generally became swollen (it must be noted that the eruption did not involve the head or neck, and consequently the ointment was not used above the shoulders). Dimness of sight was also mentioned by the patient as one of the effects of the remedy, but on questioning her I was inclined to attribute this symptom rather to the "running at the eyes" than to any interference with the function of the eye itself, more especially as she recovered her natural powers of sight within a few hours of discontinuing the use of the acid. Failures will, doubtless, occur with this, as with all other remedies, which at first appear to be productive of such extraordinary results. At present our knowledge of the action of the drug is limited, and recorded cases are few in number. It is with a view of adding to these records that the above cases are published.

ST. PETER'S HOSPITAL.

STONE IN BLADDER—INTERNAL URETHROTOMY AND LITHOTRITY—RECOVERY.

(Under the care of Mr. TEEVAN.)

W. W., a saddler, sixty-one years old, was admitted into the hospital, on July 6, 1877, suffering from stone in the bladder. The patient was born at Ware, his father in Essex, and his mother in Shropshire. Last January he noticed that his water did not pass easily, and that he suffered pain at the end of the penis when he rode in an omnibus. Three months ago he began to experience a pain whenever he made water, and occasionally passed a little blood after riding. Never suffered from rheumatism, gout, gonorrhœa, or syphilis. On July 2 the patient sought Mr. Teevan's advice in the out-patients' room. After considerable difficulty, on account of the existence of a valvular fold situated two inches from the meatus externus, Mr. Teevan managed to introduce a sound having a short beak, and found a stone, apparently small.

State on Admission.—The patient, who was a healthy man, wanted to make water every quarter of an hour in the day, but not in the night, when he was rarely troubled. So long as he was quiet he suffered no pain. Urine contained some mucus.

July 11.—The patient having been put under the influence of ether by Mr. Knott, Mr. Teevan tried, without success, to pass different lithotrites; neither could he get any catheter, soft or metal, to pass the obstruction.

18th.—To-day Mr. Teevan divided the valvular fold from before backwards, the patient being under ether. At 8 p.m. Mr. Arthur Simon, the House-Surgeon, found the patient's temperature 99·2°, and pulse 90.

19th.—Patient suffers a good deal of smarting when urinating. Pulse 92; temperature 100°.

20th.—Pulse 80; temperature 99°.

21st.—A No. 26 olivary bougie was passed to-day, and again on the 23rd.

26th.—To-day at 3 p.m., the patient being under ether, Mr. Teevan passed a lithotrite scoop, found the stone (which was only half an inch in diameter), and crushed it. At 10 p.m., temperature 90°, pulse 88.

28th.—Passed some fragments to-day. Urine clear, but little pain. Temperature 98·4°; pulse 80.

30th.—Had a good deal of pain in the night from difficulty in passing urine. Temperature 99°; pulse 72.

August 1.—Has but little pain when he urinates. Pulse 84; temperature 99·2°.

2nd.—Pulse 76; temperature 98°. Lithotrity repeated to-day.

4th.—Several pieces of stone have come away. Is quite free from pain, and says he feels quite well.

6th.—Mr. Teevan sounded patient's bladder, and declared it free from stone.

7th.—To-day the man left the hospital quite well, free from pain, and able to hold his water for two hours. Urine pale, acid, specific gravity 1005. The stone was composed of lithic acid.

STONE IN BLADDER—LITHOTOMY—RECOVERY.

(Under the care of Mr. TEEVAN.)

Charles W., thirteen years old, was admitted into the hospital on April 9, 1877, suffering from stone in the bladder, detected the same day in the out-patients' room by Mr. Teevan.

History.—The patient was born in London, his mother at Honiton, his father at Monmouth. It appeared, from the report given by the boy's mother, that three years ago he began to suffer pain when he made water. Two years ago he commenced to wet his bed at nights, and for the past year his urine had dribbled away night and day.

Condition when Admitted.—The patient was plump, healthy-looking, and very cheerful. His water ran away from him night and day. If he rode in a cab or attempted to run he suffered pain.

On April 16, at 3 p.m., the patient was put under ether by Mr. Knott. Mr. Teevan then passed a rectangular staff, which he gave to Mr. Heycock to hold, and extracted, by the lateral operation, a phosphatic stone weighing two drachms. An hour after the operation the patient was chatting and laughing, and said he was quite comfortable.

17th.—Had a very good night. Holds his urine, and passes it freely through the wound. Expression good. Tongue clean and moist. At 9 a.m., temperature 100°, pulse 120 9 p.m., temperature 100°, pulse 100.

18th.—Some urine is passed through the penis. At 9 a.m., temperature 100·3°; 9 p.m., temperature 99·8°.

19th.—At 8 a.m., temperature 99°, pulse 105; 9 p.m., temperature 99·8°.

20th.—Going on well. Temperature 99·8°; pulse 114.

21st.—Wound contracting. Pulse 108; temperature 99·8°.

22nd.—All urine is passed by the wound. Temperature 99·8°; pulse 106.

23rd.—A little water comes by the penis.

26th.—Nearly all the urine passes by the penis.

28th.—All the water now comes through the penis.

May 1.—Patient left the hospital quite well, not suffering from incontinence. The wound was closed.

Mr. Teevan remarked that the first case presented a very unusual feature which he had not met with before, and which consisted in the presence of a valvular fold two inches down the urethra, which effectually barred the passage of the lithotrite. He had been able to pass a sound because its beak was only half the length of that of the lithotrite, and the sound moreover permitted of a degree of manipulation denied to a lithotrite. By dividing the obstruction from before backwards, no further difficulty was encountered. The second case formed the nineteenth boy on whom he had performed lithotomy without losing one. The lad was plump and healthy, and made a very rapid recovery.

Case of Imperforate Anus and Fistulous Opening into the Bladder.—Dr. Rowan relates the case, of which the following is an abridgment:—A male child was brought (April 11, 1876) for advice, three days after birth, having an imperforate anus, and the abdomen being very distended and tender. No depression or other sign of the position of the anus existed, and an incision was made at the centre of the fundament large enough to admit the index-finger as a guide. On cutting to a depth of about two inches and a half, a fluctuation in the line of the rectum could be felt. On opening this fluctuating mass a large quantity of meconium and gas escaped with immediate relief. Oiled lint was passed into the wound, and replaced every morning for about a week, after which a bougie was introduced every second or third day to keep the aperture open. Nothing was heard of the case from May until February 1, 1877, when the passage was found closed so that a probe could not be introduced. For two months nothing had passed by this aperture, the motions having come away during that time by the penis until the day before the child's arrival, when the foreskin had become so much closed that it could only pass water with great pain and difficulty. This was remedied by circumcision, and on February 6 an attempt was successfully made to restore the natural passage. The canal had closed about an inch from the orifice, which was now somewhat enlarged by incision, so as to get the finger in and divide some very tight adhesive bands. The rectum having been opened, was found to contain some very hard fæces. Since the second operation the finger was passed every day, and the canal seems now perfect—no fæces or flatus having been passed by the penis since two days after the operation. Dr. Rowan regrets that at the first operation he did not make the opening large enough into the rectum so as to be able to pass the finger into it, instead of trusting to a bougie. The case is extraordinary as showing that defæcation may be carried on through the bladder and penis during two months without causing inflammation or other serious effects.—*Australian Med. Jour.*, March.

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Medical Times and Gazette.

SATURDAY, SEPTEMBER 22, 1877.

ITALIAN HEALTH-RESORTS.

No. III.—Alassio, Pegli, Cornigliano.

The following notes deal with some Italian watering-places which are in a much less advanced stage of development than Cannes, Mentone, or San Remo, and in some respects even than Bordighera. They ought not, however, to be passed over undescribed; not only because their climate differs in some respects from that of the places above named, but also because, at present, at any rate, they are less expensive to live at than these latter. Moreover, owing to the opening of the railway, which now runs along the whole coast from the French frontier at Ventimiglia, a few miles east of Mentone, to Spezia, south-east of Genoa, the facilities for travelling are far greater than under the old system of conveyance by *diligence* or *vetturino*. Hence the numbers of northern visitors, valetudinarian and others, to the Riviera in winter are vastly greater than they were a few years back, and bid fair to continue to increase. Under these circumstances we need not be surprised if the railway along the north shore of the Mediterranean proves as powerful a stimulus to the progress of certain towns as it so often is in our own country.

Alassio, a town about sixty-five miles from Genoa, and sixty from Ventimiglia, with from 5000 to 5500 inhabitants, is situated at the eastern extremity of a bay about two miles wide, and protected by a complete semicircle of hills from east through north to west-south-west. The hills are nearest to the sea just behind and to the east of the town, and recede towards the centre of the bay, so as to leave a plain of some extent thickly covered with olives between them and the sea. Their height is from 1000 to 1500 feet, the highest points possibly reaching 2000 feet. They are not barren at the summit like the Mentone mountains (which are, however, much higher), but are fertile nearly to the top, and covered with fine olive woods, beech-trees, and pines. Compared with the east bay at Mentone, Alassio is less shut in between the hills and the sea. The orange is cultivated largely, both at Alassio and at Laiguiglia—a small but picturesque town which lies under the hills on the western side of the bay. The lemon is said to flourish also, but it did not seem to us to be very abundant. The town itself consists of one long, narrow street, parallel to the shore, and only separated from it by the sandy beach. The street, though dark from the height of the houses on either side, is clean and well paved with stone. A high wall, anciently used for purposes of defence, has until lately surrounded the greater part of the town and the gardens at the back, but it is now being rapidly blasted away and removed. There are plenty of shops, including the indispensable druggist's. Good fish and vegetables are to be obtained, but at present poultry and meat are difficult to procure. The water-supply is good, and the quality of the water said to be, if anything, superior to that of the other towns of the Riviera.

Dr. Schneer, a German physician, who has practised for about five years among the inhabitants of the town and district, has, with great kindness, furnished us with the results of his observations on the climate. They are embodied in the following remarks; and we here take the opportunity of expressing our best thanks to him for his courtesy in responding to our request for information.

The inhabitants of Alassio as a rule enjoy excellent health, and this we can well believe, judging from the opportunity which their habit of sitting at their doors and working affords of seeing large numbers of them in passing through the streets. The mortality on the average of ten years from 1866-1876 was 25 per 1000. There is no fever, and epidemic diseases are rare; hereditary phthisis, however, occurs in certain families. Bronchial catarrh is not uncommon in winter, owing to the absence of proper warming apparatus, and to the use of tiled floors, and too thin clothing. Pneumonia is rare. In the hot weather diarrhœa is common. Acute rheumatism with consecutive heart-disease seldom occurs, and kidney diseases are also rare.

The following table gives the mean temperature for the different months, the mean differences between the temperature at 9 a.m. and 3 p.m. during the winter months, and the *maxima* and *minima* mean temperatures for each month. The thermometer had a north aspect in shade.

For greater accuracy we have preferred to retain the Centigrade scale which Dr. Schneer used.

	Mean day temperatures.	Difference between temperatures at 9 & 3 o'clock.	Maximum.	Minimum.
January	9·00°	2·40°	15·00°	—2·80°
February	11·20	2·45	20·00	—2·10
March	12·10	2·14	22·20	—1·30
April	14·90	1·92	23·10	—2·90
May	19·00	—	29·00	7·10
June	22·10	—	31·00	6·70
July	24·50	—	31·60	12·80
August	24·10	—	32·60	12·80
September	22·30	—	29·40	12·30
October	14·00	1·60	27·00	0·30
November	12·90	2·20	23·80	0·00
December	10·00	2·24	18·70	—2·00

The mean barometric pressure for the whole year is 761·67 millimetres. The mean pressure for each month is given below:—

January	764·10	May	761·80	September	761·30
February	766·20	June	761·00	October	761·00
March	759·00	July	760·75	November	761·20
April	762·00	August	760·20	December	761·40

The greatest oscillations in pressure occur in February and March. The mean relative humidity of the air is 65·2, 100 being taken as saturation point. The driest month is March; the wettest months are February and September.

Wind is little felt. The north wind is warded off by the hills, but the *tramontana* or north-east wind occasionally blows.

In summer the sea-breeze helps to keep the heat from becoming oppressive.

Dr. Schneer sums up his impressions of the climate of Alassio by saying that it is tonic and invigorating, moderately dry, and enjoying a comparatively warm and even temperature in winter. Fogs and mists are rare near the sea. Dew falls abundantly; snow very seldom, and it never lies.

It is probably owing to its salubrity that Alassio has been selected as the site of a large seminary or college for Italian boys, the fine new buildings of which are an ornament to the town.

At present the great want at Alassio is proper accommodation for visitors. However, the old Hôtel de Londres, to the east of the town near the sea, has lately been considerably enlarged and improved, and we understand that a second hotel is in process of construction. No doubt the number of villas, which at present is very limited, will be increased. Two well-built houses a short distance behind the Hôtel de Londres are practically unavailable for winter visitors, owing to the view of the sea being quite shut out by the adjacent houses. One or two English families have already settled at Alassio and built villas, and no doubt they will form a nucleus for more. The hope for Alassio depends very much on the wisdom displayed by the hotel and other proprietors. If they choose to keep the prices moderate, and to abstain from the rapacity which is so characteristic of similar individuals further west, they will attract and retain visitors and invalids. But if the prices are at once assimilated to those of the Grand Hôtel du Louvre at Marseilles or Paris, although nothing to correspond is offered in the way of comfort, Alassio will deservedly fail to develope. These remarks are prompted by the remembrance of an exorbitant bill which we were called on to pay at the Hôtel de Londres last December, and by complaints which have reached us from other and reliable quarters.

The cost of living at Alassio is as yet moderate, judging from the market prices. The inhabitants, it should be stated, are civil, cleanly, and respectable, and ready to do all that they can to oblige strangers.

The scenery in the neighbourhood is very picturesque, and there are pleasant walks, with well-paved causeways, by which the hills can be ascended without difficulty. The view over the plain and bay looking west towards Laiguiglia is by no means a common one, and the curious island of Gallinaria just outside the bay to the east cannot fail to attract attention. Moreover, the neighbouring town of Albenga, with its quaint brick towers, will repay many a visit.

Between Alassio and Genoa there are two other places which are more or less frequented by English visitors in winter and spring—Pegli and Cornigliano; the former about half an hour distant by rail from Genoa, and the latter still nearer. We shall say a few words about each.

Pegli is built on the sea-shore, with a southern aspect; it is a town of about 4000 inhabitants, whose chief employment is fishing and shipbuilding. The interest of the place for visitors concentrates itself chiefly on the beautiful gardens which are attached to the villas of several Italian noblemen behind the town, under the shelter of the northern hills, which are comparatively near, and range up to 700 or 800 feet. The garden of the Villa Pallavicini is justly celebrated, and probably is unique in its extent and in the admirable way in which every part of it is kept up. Here all kinds of delicate plants and tropical trees grow in the open air, and the number and variety of rare palms, aloes, and ferns in the shrubberies near the Palace speak volumes for the mildness of the climate. We noticed, however, that the banana, which grows uncovered between the Cap St. Martin at Mentone and Monte Carlo, here required protection in winter. The hills behind Pegli are covered with fir, which in the Pallavicini woods is mixed with laurel, cedar, and various southern trees, among others the camphor tree. The shelter which Pegli enjoys is a local one, and within a mile to the eastward there is a valley running from north to south, which allows the descent of the cold winds on the portion of coast opposite its entrance. On the east and west there is a fair amount of protection from the hills which skirt the bend of the coast, but the *tramontana*, or cold north-east wind, makes itself felt severely sometimes near the shore. Much more rain falls here, as far as we can learn, than at the health-resorts further west; but, owing to the slaty or schistous character of the soil, the latter probably soon dries. Pegli is already far better equipped for the wants of visitors than Alassio. There are three good hotels, and we were told that a fourth was to be opened shortly. For invalids only the Hôtel Gargini and Hôtel de la Méditerranée are to be recommended, as the Hôtel Michel, opposite the railway-station, though in other respects excellent, has no south rooms with a sea-view, nor any garden. The two former hotels face the sea, the Méditerranée being somewhat raised above the street. They both have good dining- and drawing-rooms, and comfortable bedrooms, and a garden at the back. The prices at Gargini's are a little the lower—7 fr. a day (*pension*) on the second, and 8 fr. on the first floor, but the rooms and the general style of the Méditerranée are better, and it is under Swiss management. The *pension* prices are 10 fr. a day on the first floor, 10 fr. 50c. on the ground and second floors, and 9 fr. 50c. on the third floor. One objection to living close to the sea at Pegli is the hammering of the shipbuilders, which begins about daylight; and a second is, that the near proximity of the native population in *deshabille* is unpleasant to some people. However, private rooms can be rented further from the sea—for instance, in the street at the back of the hotel gardens, not far from the railway cutting, and we believe also in one or two villas. Carriages can be hired near the railway-station. There is an English church and resident chaplain, and the proximity of Genoa renders the attainment of any extra comforts, such as may not be found in the hotels, a comparatively easy matter.

Pegli would certainly be a much more desirable place for the winter than it is at present if the extensive grounds belonging to some of the villas already mentioned were not practically closed to the general public. For instance, an order has to be obtained every time the garden and woods of the Villa Pallavicini are entered, and no one can go a step without a guide to prevent his doing mischief to the plants and summer-houses, etc. For this reason the resident at Pegli has his rambles much restricted, and access is denied to the places which are most sheltered and best adapted for invalids.

Cornigliano, about four miles from Genoa, a small fishing town of no internal pretensions, is mainly noticeable on account of the excellent hotel, the Villa Rachel, which has been opened there in the last three years. The town itself lies on the shore, and is fully exposed (as we can testify) to the north-east wind, but the hotel is more under the shelter of a ridge a few hundred feet high, and stands about a third of a mile from the sea. It is, however, inadequately sheltered from northerly winds, owing to the fact that a valley comes down from the north almost immediately behind it. Hence it cannot be so warm as Pegli, and we should fancy that it must be at least four or five degrees colder than Mentone. The same amount of rain probably falls at Cornigliano as at Pegli. On December 14, 1876, camellias were in flower in the open air. The Villa Rachel faces south-west, and consists of the hotel proper, which has three storeys of equal height, with rather deep windows, and mostly without outside shutters, and a wing in which some of the rooms have a south-easterly aspect. There is a sheltered garden planted with orange, eucalyptus, and other trees, and well provided with seats. Internally the fittings are very good. There are capital *salons* (two) and a billiard-room in the English style, and plenty of newspapers

are provided—a not unimportant point, for we have frequently noticed that hotel-keepers who are stingy in supplying their guests with papers, are stingy in other respects, and *vice versâ*. The bedrooms are comfortable and well-furnished, and the only drawback we noticed was the absence of fireplaces in some, which is accounted for by the house being warmed by a *calorifère*. The same remark applies to the sitting-rooms, and the deficiency should certainly be remedied. The closets have an abundant water-supply, and we heard no complaints of bad smells. The food is good, and the number of complimentary expressions in the visitors' book, in English, German, and Italian, as well as the favourable reports which we heard from English people in the hotel, all testify to the way in which things are managed. The *pension*, it should be added, is eight francs a day.

We have spoken at some length about the Villa Rachel because, though there are other warmer and more sheltered places available for mid-winter, it seems to be well adapted as a place at which invalids may rest, either in spring or autumn, on their way to or from the Riviera by way of Italy; and we can conceive that when the weather begins to get warm in the end of March or middle of April, a change to the cooler climate of Cornigliano might be of service.

The attention of Madame Rachel in cases of sickness we have heard very highly and gratefully spoken of, and it is only right that the medical profession should be aware of the existence of her establishment.

In concluding this notice of the less known health-resorts of the Western Riviera, it may be well to state that not only Pegli and Cornigliano, but also Alassio, are much frequented in summer, chiefly by Italians, as bathing-places. At Alassio especially there is as fine a sandy beach as could possibly be wished for, and at a later stage of the development of this latter sanatorium, for which a more or less prosperous future may safely be predicted, English invalids also, and others for whom sea-bathing is advisable, and who do not object to the moderate heat of the early summer months, may perhaps also utilise the facilities which are thus offered them.

THE EXCRETION OF INDICAN AND LIME IN DISEASE.

In an interesting communication to the *Centralblatt Med. Wiss.* (Nos. 20-22, 1877), Professor Senator, of Berlin, sums up the main results of a series of observations on the excretion of indican by the kidneys which he has made in more than a hundred cases of diseases of various kinds. He also adds some remarks on the excretion of lime in the urine in various diseased conditions. We may premise that these researches have a direct bearing on diagnosis, and are therefore of clinical as well as of scientific interest. "In general terms it may be stated," says Professor Senator, "that an abnormal excretion of indican occurs much more frequently in chronic than in acute diseases, and it is especially in consumptive states and wasting diseases that it is observed. Patients who can scarcely eat anything, and who either vomit part of their food or else digest it badly, frequently pass enormous quantities of indican in the urine, especially in comparison with healthy persons taking the same or even a larger amount of food. The greater the anæmia, the greater the excretion of indican generally becomes." Indican excretion is enormously increased in diffuse peritonitis, and to a less extent in subacute, and in certain cases of circumscribed peritonitis it is also considerable. In other febrile diseases (pneumonia, pleurisy, meningitis) the amount of indican in the urine is frequently very large when compared with the small amount of nourishment taken by the patients; and in typhoid fever there may even be an absolute increase, whether diarrhœa be present or not.

Among chronic diseases, *cancer of the stomach*, whether the neighbouring organs be involved or not, is attended by the largest excretion of indican, and this independently of the condition of the stools. Professor Senator examined twelve cases of this disease, and in all the amount of indican was enormous. In ulcer of the stomach the indican is also present in abnormal quantity relatively to the food ingested, especially if there have been recent hæmorrhages; the amount is, however, generally smaller than in cancer. Next to cancer of the stomach, the largest increase in the excretion of indican is caused by multiple *lymphomata* and *lympho-sarcomata*, especially when situated in the abdominal cavity. The urine of children with glandular swellings and the symptoms of the so-called *tabes mesenterica* is also often extraordinarily rich in indican, and it may be stated generally that in a number of children's diseases indican is present in large quantities. In advanced phthisis, especially where there is violent diarrhœa and amyloid degeneration of the liver, spleen, and kidneys, indican is generally much increased. Amyloid degeneration of the kidneys due to other causes, *e.g.* syphilis, causes *no* increase in the amount of indican in the urine; and the same is true of acute or chronic diffuse parenchymatous nephritis. On the other hand, in four cases of granular kidney, a large amount of indican was found to be excreted. In chlorosis, in the various forms of *leukæmia* and *pseudo-leukæmia*, and in progressive pernicious anæmia, there is a moderate increase in the indican excretion; but even when the amount of wasting and the loss of strength in pernicious anæmia exceed those in cancer of the stomach, as far as Professor Senator's observations go, the excretion never attains the same proportions as in the latter disease. The diagnostic value of this fact, if confirmed by other observers, is self-evident. Intestinal obstruction dependent on mechanical causes, or on intussusception, appears (in the absence of cancer or peritonitis) *not* to cause much excretion of indican. In some cases where there is an abnormal excretion of indican there is a simultaneous increase in the amount of lime in the urine. This is the case in phthisis, even where very little food is taken, and in spite of the presence of diarrhœa. It also occurs in children with multiple swellings of the glands and with rickets. In acute febrile diseases, however, such as pneumonia or typhoid fever, the excretion of lime and that of indican appear to diverge from one another, that of the former being diminished, and that of the latter increased. In pleurisy with effusion alone has Professor Senator several times observed that there was an increased excretion of lime, notwithstanding the presence of fever.

The method adopted in testing for indican in the above research was the following:—The urine is, if necessary, to be freed from albumen in the usual way, and ten to fifteen cubic centimetres are to be mixed with an equal quantity of fuming hydrochloric acid in a rather large test-glass. A concentrated solution of chloride of calcium is then to be added gradually, drop by drop, until the blue colour of indigo is fully developed, and the whole is then to be shaken up with chloroform. The latter takes up the freshly precipitated indigo, and sinks with it to the bottom of the glass, where the amount can be estimated with a little practice, in the same way as albumen is usually estimated, but far more accurately. This remark applies to *pale* urines (which, as a rule, are the richest in indican). Highly pigmented urines must be first decolourised by acetate of lead, avoiding an excess of the latter reagent before applying the indican tests.

POISON IN THE PERAMBULATOR.

During the last three years a kind of perambulator with a collapsible head of "American cloth" has been in great favour with the German public, both in Berlin and elsewhere. From the fact of a number of healthy children having suffered of late

from symptoms of lead-poisoning, attention became directed to the American cloth as the source of the lead, more especially as there was a unanimous agreement in the reports, from a number of widely separated places, that the cases of poisoning had been almost all observed since the beginning of the hot weather, and that there was a distinct connexion between their number and the intensity of the sun's rays. The German Health Office, from one of whose reports (No. 28) we derive our information, at once had a number of samples of the cloth (chiefly from factories at Leipsic, Zeitz, and Hamburg) analysed, and in all an extraordinary amount of lead was detected. In one specimen, bought in a Berlin shop, as much as 42·7 per cent. of metallic lead was found, or 4·27 grammes in ten grammes of the cloth. From a small piece of the latter, lighted and allowed to smoulder away like tinder, globules of metallic lead, reduced by the ignited carbon, could be seen to run out. Further examination showed that exposure of the cloth to direct sunlight for six hours rendered its coating friable, and made it scale off. "When we consider," says the report, "that many children pass the greater part of their first year in this carriage (which also serves as a cradle), and are exposed in it in summer to the destructive action of the sun and rain, and in winter to the heat of the stove; and when we remember the amount of friction which the cloth undergoes when the head is opened and shut, and the cloud of lead-dust which must be thus inhaled, not to mention the possibility of the children sucking or chewing the cloth itself, it is our urgent duty to warn the public against the use of perambulator hoods made of American cloth in the sanitary interest of the child-world." The British public may also benefit by this advice, and keep "American cloth" from their perambulators. Whether the said cloth is equally injurious when used for covering arm-chairs (which generally stand in winter near the fire) and other chairs, or for lining carriages, we cannot say. Those who employ American cloth for such purposes should, at any rate, be on their guard; and the knowledge of the fact that it may be a source of lead-poisoning may help medical men to detect a hitherto unsuspected cause of chronic disease.

THE WEEK.

TOPICS OF THE DAY.

SOME idea may be formed of the importance of sanitary supervision in the City of London by briefly examining the report recently presented to the Commissioners of Sewers by Dr. Sedgwick Saunders, the Medical Officer of Health. The report sets forth that during the recess 1579 houses had been inspected, of which 176 required sanitary improvements in various particulars; 288 of the sanitary orders of the Commission had been executed, and 80 were in hand. These included cases of smoke nuisance, overcrowding, cellar-dwellings, defective drainage, improper storage of live stock, tallow-melting, and deficient water-supply. Fifteen bodies had been received at the mortuary during the period, and kept in decent custody until the time of burial. The general health of the City during the recess had been satisfactory, and the deaths below the average of the last four years. The number of cases of small-pox have been steadily decreasing, and none have been reported for upwards of a fortnight. In the metropolis generally the same tendency existed, as was shown by the diminution in the number of deaths, the figures for the last seven weeks being 27, 22, 20, 23, 11, 20, and 8. In the City, 8 cases had been reported, all of which were promptly removed to hospital, with one exception. Edmunds-place continued to supply fresh cases of diseases of the zymotic class; in the last few weeks 9 cases of small-pox occurred there in succession, and on the 15th ult. a case of fever was removed thence to hospital which proved fatal on the following day. Having previously noticed the unhealthiness of this place, Dr. Saunders made special surveys of the different houses. The houses exteriorly have a modern appearance, and are fairly clean, but this is only facing; internally they are defective from great age in many particulars. In some of the houses the water-supply is insufficient, and in many the drains and back yards are out of repair and dilapidated. These, with other defects of a cognate nature, are being remedied, and in the meantime every conceivable precaution has been adopted to prevent the spread of contagious diseases, and continuous exertions are applied in ferreting out the cause. During the last seven weeks 139 deaths were registered, and 151 births.

The public announcement of the intended formation of a medical club at Eye, Suffolk, has, as we expected, brought prominently forward a statement of the main reason why such institutions have hitherto been found to be practically impossible. The Rev. Samuel Barnett, of St. Jude's, Whitechapel, in a letter addressed to the *Times*, says:—"Last year we drew up rules and a scale of fees, similar to those to be used in Suffolk, for the institution of a similar club. The doctors best known in the neighbourhood agreed to be on the staff, and a collector has been employed. Everyone has worked well, but as yet the scheme is not a success. The cause of failure is the facility with which the working-people can get attendance at the London Hospitals, and Free Dispensaries. It is hopeless to expect that they will put aside even a penny a week for medicine and a doctor's attendance, when they can obtain as much for the mere asking. As long, therefore, as hospitals give their relief so freely and indiscriminately, we must expect that the people will use this 'stepping-stone to pauperism,' and be deprived of that 'happiest of results, the healthy feeling of self-help and independence,' which belongs to those who do their duty in providing for the necessities of life." When the increased wages earned by the working-classes in the present day are taken into consideration, it is evident that the time has arrived for instituting inquiries into the means of those applying for relief at the great metropolitan hospitals, before admitting them as patients, except under urgent circumstances. If this can ever be fully carried out, there may be some prospect for the ultimate success of medical clubs; but, in the metropolis, not before.

Dr. Collier, the Medical Officer of Health to the Fulham District Board of Works, having recently reported that there had been an extensive outbreak of small-pox, and several deaths, at Rectory-place, Walham-green, in consequence of the first case not having been reported to him till a fortnight after it appeared, the Fulham District Board of Works, at their meeting held last week, resolved "to put themselves in communication with the Home Secretary with a view to the Government providing in the proposed new Public Health Bill a clause making it compulsory upon medical men to give notice to local authorities of the occurrence of cases of infections or contagious diseases." Mr. Brown, in seconding the resolution, observed that it hardly went far enough, as other persons besides medical men should be compelled to give the information. We quite agree with Mr. Brown; for obvious reasons the medical man is not the channel through which the information should be conveyed to the authorities. In many instances the services of a medical man are not obtained, although the relatives of the patient are perfectly aware that he is suffering from an infectious disease. The onus should be placed by the law upon the householder, and, as we remarked only last week, the weight of public opinion will eventually impress this important fact upon the members of the Government.

During the absence of her Royal Highness Princess Louise

from town, the milk from two cows belonging to her Royal Highness has, by her order, been given daily to the Victoria Hospital for Sick Children, of which institution the Princess is Patroness. This has proved a most acceptable gift, as necessarily in a children's hospital containing sixty beds the quantity of milk consumed is very great.

At a recent meeting of the Commissioners of Sewers, a long discussion took place as to the steps to be taken to destroy the large quantities of diseased meat seized by the City inspectors. It was stated that during last month fifty tons of meat were so seized. The Sanitary Committee recommended that tenders should be invited for the removal of the meat for destruction to a distance not less than four miles from the Guildhall. Mr. Game thought that this would not be the most effectual means of preventing the meat being improperly used either for human consumption or as food for animals. The Medical Officer of Health (Dr. Saunders) said he had been experimenting for some time, and had at last succeeded in producing a fluid which, while acting as a deodoriser, would turn the meat black, and cause it to taste so that no one would eat it. Three hundred gallons of the fluid could be produced for 17s., and any quantity of meat could be destroyed by it. The subject was eventually adjourned for further consideration. Meanwhile we will suggest a trial of scientific cremation.

It is difficult to imagine that anything short of official misunderstanding can have delayed a reply to the application put forward by the Corporation of Rochester to the War Department, for the grant of a suitable site on the outskirts of the city on which to erect a hospital for the reception of patients suffering from infectious diseases. The subject was discussed at a recent meeting of the Corporation, and gave rise to some strong animadversions on the part of several of the members. The Government holds all the land in Chatham and Rochester which is suitable as a site for such a hospital; but, although repeated applications have been made to the War Department by the Corporation to grant a suitable site, no attention has been paid to these representations. It was stated at the meeting that, in the event of the Government still remaining silent, the compulsory powers of the Corporation would be put in operation.

The Duke of Cleveland, who owns a racecourse in the centre of Wolverhampton, which the people want for a public park, offers fifty acres in the middle on lease, at a little over £300 a year for sixty-three years, with the option of purchase then at £400 per acre. The offer was read at a special meeting of the Town Council held last week. The terms were pronounced to be extremely liberal, and his Grace was warmly thanked. The offer is to be formally accepted forthwith.

The Hertford bench of magistrates have awarded the sum of ten shillings to a boy named Patmore for an act of bravery brought to notice by Superintendent Jarrett. On the previous Sunday a dog in a rabid state was observed at large in the streets at Hertford, and after it had bitten three persons, and upwards of twenty dogs, the boy Patmore caught it, and held it firmly until its brains were knocked out by a policeman. Which required the most courage—the action of the lad; or that of the magistrates in thinking ten shillings a fitting reward?

On Monday last the *Andaluza* (Captain Anderson), of Glasgow, arrived at Falmouth from the West Coast of Africa, with most of the crew sick from scurvy. The vessel left Rotterdam for the outward voyage on March 11. When at Oporto several of the men suffered from ague, and scurvy broke out as early as the beginning of July. One man died at sea on August 20. The captain put into Terceira for medical advice on September 4. Four of the crew are now very ill, and will be brought ashore to hospital.

THE ASTLEY COOPER PRIZE.

It will be remembered that we announced, a month ago, that this triennial prize of £300 had been awarded to Professor Albert Eulenburg, of Greifswald, and Privat-Docent Dr. Paul Guttmann, the author of an excellent work on Physical Diagnosis, for their essay on "The Physiology and Pathology of the Sympathetic Nervous System." The *Berliner Klin. Wochenschrift* naturally expresses its satisfaction at this intelligence; and it seems only too probable, looking at the present restrictions on English scientific work imposed by our Legislature, that the future prizes will also go to Germany. But we must further add that unhappily the award made on this occasion has excited not a little dissatisfaction at home—not, we hasten to add, because of any doubts as to the ability and entire good faith of the judges, or as to the merits of the selected essay, but because the prize has been adjudged to a joint composition—to an essay written by *two* authors. We must confess that it does appear to us that the award is on this ground a mistake. Unless we are much mistaken, the notice issued to intending competitors of the conditions of the competition states that "the prize will be awarded to the *author*" of the best essay or treatise, etc., and that each essay or treatise must be accompanied by a sealed envelope "containing the name and address of the *writer*"; and in the original conditions drawn up by the testator it is provided that the essay or treatise of "the successful *candidate*" shall be the property of Guy's Hospital. The italics are, of course, our own, used to mark that in none of these instances is the word italicised used in the plural number. We do not pretend to say what the legal right in the matter may be, but we greatly doubt whether English workers in science would ever have thought, much less hoped, that any two or more of them would be accepted as "a candidate"; and we are quite sure of this, namely, that if joint compositions are to be admitted into the competition,—and if an essay by two authors is permissible, one by half a dozen or any other number must be,—if treatises by joint authors are admissible, it ought to be clearly so stated in the conditions. As the matter stands, all the writers of single-handed essays on the recent occasion seem indisputably to have a grave grievance.

ABERDEEN UNIVERSITY COURT.

Owing to the Rev. Dr. Christie being appointed to the chair of Church History, a vacancy occurs in the University Court of Aberdeen. Since the death of Dr. Kilgour, the first elected Assessor of the General Council, there has been no medical representative in the governing body of the University. The present occasion seems a good opportunity for remedying this defect. The medical members of the University Council are greater in number than the clerical, whilst the medical school has undergone such development that the medical undergraduates are nearly ten times more numerous than the divinity students. It is manifestly to the best interests of the University that the most active and popular faculty should have an official representative of its own profession in the Court, instead of, as heretofore, a member of another faculty. The name of the ex-Dean of the Medical Faculty, Dr. Macrobin, the Emeritus Professor of Medicine, has been mentioned as likely to be brought forward. There is little doubt that Dr. Macrobin would be welcomed by the professorial body—his long associated colleagues—and the general body of medical members of the General Council. Dr. Macrobin was for five years the representative of the University in the General Medical Council, where his large experience and business habits were much valued. There is probably no one who, from long and intimate acquaintance with the affairs and interests of the University, could so fitly represent the medical faculty in the University Court as Dr. Macrobin. The election

is named for October 10, and, should there be no contest (no name but Dr. Macrobin's has hitherto been mentioned), will be completed on that day. Should, on a show of hands, a poll be demanded, the Registrar is required to send voting papers to all members of the General Council, who can thus make their influence felt without being put to any expense.

DR. CHARLES MAYO.

We greatly regret to have to announce the death of Dr. Charles Mayo, M.A. and M.D. Oxon., and Fellow of New College, of that University. He is reported to have died on board ship, somewhere near the Fiji Islands, where he went as soon as the Islands were ceded to England, in 1874. Dr. Mayo had seen much foreign war service, and had received several foreign orders and distinctions. He was also for some time Coroner for the University of Oxford. We hope to be able next week to give a fuller account of his active and useful life.

THE FLESH OF OXEN SUFFERING FROM PLEURO-PNEUMONIA.

The Public Health Committee of the Corporation of Dublin have addressed the following queries to every registered medical practitioner in Dublin, asking for replies and observations on them:—"1. Do you consider the flesh of oxen killed whilst suffering from contagious pleuro-pneumonia fit for food for man? 2. If you consider that such flesh may be used under certain circumstances, please state whether or not it is fit for food in the second stage of the disease, in which the lungs are usually much increased in size, partially hepatised, and sometimes more or less infiltrated with pus?" While we give the Public Health Committee credit for their laudable desire to gain information on an all-important hygienic question, we cannot but think that the mode of conducting the inquiry is far from satisfactory, and that the results will, unfortunately, have little or no scientific value. Would it not have been much better to have referred the question to a small committee of sanitary experts, or to the Irish Colleges of Physicians and Surgeons—corporations which have ever displayed an intelligent interest in the progress of sanitary science. As it is, we are at a loss to understand of what practical value a mere majority of "ayes" or "noes" will be on one side or the other of the question. If most of the replies are discarded as valueless, and tho (necessarily) few of real scientific merit are made public, then only will some practical results redound from the inquiry.

GLASGOW ROYAL LUNATIC ASYLUM.

We have received a copy of the sixty-third annual report of the Glasgow Royal Asylum for Lunatics at Gartnavel, for the year 1876. The indefatigable Physician-Superintendent, Dr. David Yellowlees, after recording the usual statistics, remarks that there is nothing new to report as regards treatment, but he gives the history of two or three prominent cases which have made good recoveries during the past year, and the means adopted for bringing about such satisfactory results. In compiling a table which is attached to this report, showing the causes of insanity in the patients admitted, Dr. Yellowlees remarks that the causation of insanity is a very complex question, and the cause assigned is often palpably absurd. Very frequently an early symptom or some coincident circumstance is fixed on by the friends, which has in reality nothing to do with the matter. The real cause is to be found in the unstable nervous system of the patient. This instability may be inherited or acquired, but its degree is the true measure of liability to insanity. This explains why some minds are upset by apparently trivial causes, while others remain calm and unshaken through a lifetime of affliction and sorrow. This nervous instability is ignored every day, and is rarely thought of in connexion with marriage, even by those who would recoil from entering a family afflicted with cancer or consumption. An objectless, luxurious life, with frivolous, restless excitement, late hours, and sensational reading, inevitably developes a nervous irritability, which is the first step towards instability, and of which headaches and neuralgia, hysterical fancies, and uncontrolled emotions are the significant indications. How to rectify and how to avert nervous instability are large questions, which, Dr. Yellowlees thinks, have never yet received a tithe of the attention they deserve.

THE CHAIR OF PHYSIOLOGY, ABERDEEN.

We are glad to learn that Dr. Stirling has been appointed by the Crown to the vacant chair of Physiology, or, as it is in Scotland called, of the Institutes of Medicine, in the University of Aberdeen. Dr. Stirling, who was acting as assistant to Dr. Rutherford in Edinburgh, had already made his mark both as an observer and a teacher in physiology; and when speaking of the vacant chair in Aberdeen some weeks ago, we observed that the Crown could not do better than confer it on Dr. Stirling. We congratulate all parties—the University, Dr. Stirling, and the Government—on the appointment.

DEATH UNDER THE BICHLORIDE OF METHYLENE.

We have heard with regret of another fatal case under anæsthesia at the Radcliffe Infirmary, Oxford. A young man was operated on for disease of the bones of the foot, and amputation was performed above the ankle-joint. Bichloride of methylene was administered on lint. Before the dressing of the stump was completed, it was observed that the patient was pulseless, and that respiration had ceased. Artificial respiration was attempted, but, unhappily, without success. A case of death during anæsthesia occurred at this Infirmary about five years ago.

INCREASE OF INSANITY.

The Controller of the Post-office Savings Banks notices, in his report on the year 1876, that the number of cases in which depositors were shown to be insane averaged only about twenty-nine in the first three quarters of the year, but suddenly rose in the last quarter to forty-eight, and that the increase was to a great extent maintained in the first quarter of 1877, there being thirty-nine cases in that period. He adds that the experience of the department, therefore, seems to justify the somewhat prevalent idea that there has lately been a rapid increase of insanity, particularly among the working-classes. It may be observed, however, that if the last quarter of the year 1876 had not shown a decided increase, the total for the year would have been less than in 1875. Still, it is worthy of remark that the number for the entire year 1876—namely, 136—was more by thirteen than the number in the preceding year, and that 1875 had shown precisely the same increase over 1874.

SUICIDE IN GERMANY.

The statistics of the second quarter of 1877 give the total number of deaths by suicide in 147 of the largest towns of the German Empire as 667, or 1·3 per cent. of the deaths from all causes. That this is a large number is shown by comparing it with the percentages of deaths from certain diseases. Thus small-pox only gave 0·02 per cent.; measles, 1·1; scarlet fever, 1·8; whooping-cough, 1·4; typhus, 0·1; dysentery, 0·1; typhoid fever, 1·4; and puerperal fever, 0·5. In Berlin a good many suicides are reported every week. Thus, taking cases at random, we find that in the week ending June 9 there were 2 suicides by drinking mineral acids, 1 by shooting, 1 by hanging, and 2 by drowning; in the week ending July 14 there were 2 by mineral acids, 1 by shooting, 1 by hanging, and 4 by drowning. Suicide by mineral acids seems

rather a favourite form of death, as are also hanging and drowning. The existence of so large an amount of misery and despair as must be prevalent in Germany to cause so many persons to put an end to their lives is not a very good sign of internal contentment and prosperity. It is not pleasant to be "ruled with a rod of iron," and perhaps the remorseless demands of an overwrought military system may have more suicidal victims to account for in the dismal list than the German Government would care to confess.

ROYAL COLLEGE OF SURGEONS.

THE following is the report from the Court and the Board of Examiners of the number of candidates who have presented themselves for the primary and pass examinations for the diploma of Member of the College during the collegiate year 1876-77, showing the number who have passed and have been rejected from each medical school during that period:—

Primary Examinations.

Medical School.	Totals.	Number passed.	Number rejected.
St. Bartholomew's	119	82·50	36·50
University College	100·50	69	31·50
Guy's	80	70	10
St. Thomas's	60	38·50	21·50
London	42·16	24·3	17·83
St. George's	40·6	26·3	14·3
King's College	33·50	24·50	9
St. Mary's	27·50	18·50	9
Middlesex	24	20	4
Charing-cross	20·6	15·3	5·3
Westminster	11	8	3
Manchester	35·50	23·50	12
Liverpool	30·50	25	5·50
Bristol	23	8	15
Birmingham	21	15	6
Leeds	20	15	5
Sheffield	7·50	3·50	4
Newcastle-on-Tyne	13	9	4
Cambridge	9·50	7·50	2
Dublin	20·50	7	13·50
Belfast	3	3	—
Cork	2	1	1
Galway	0·50	—	0·50
Edinburgh	25	18·50	6·50
Glasgow	4	2	2
Aberdeen	0·50	0·50	—
Montreal	3·50	2·50	1
Toronto	3	2·50	0·50
New York	1	—	1
Ohio, Cincinnati	1	1	—
Laval	0·50	0·50	—
Bombay	5·50	4·50	1
Calcutta	2	2	—
Madras	1	1	—
Berlin	1	1	—
Leipsic	0·50	0·50	—
Totals	792	546	246

Pass Examinations.

Guy's	83	68	15
St. Bartholomew's	72	63	9
University College	64·3	51·3	13
King's College	45·50	32·50	13
St. Thomas's	42·6	32·6	10
St. George's	27	24·50	2·50
London	26	19	7
St. Mary's	19·3	14·50	4·83
Middlesex	15·16	11·3	3·83
Charing-cross	7·83	6·50	1·3
Westminster	7·83	3·83	4
Manchester	25	18	7
Birmingham	24	19	5
Leeds	20·3	14·50	5·83
Liverpool	10·16	4·83	5·3
Bristol	9·50	4	5·50
Newcastle-on-Tyne	6·3	2·3	4
Cambridge	3·50	1·50	2
Sheffield	2	1	1
Dublin	9·50	5·50	4
Belfast	2	2	—
Galway	0·50	0·50	—
Cork	0·50	—	0·50
Edinburgh	23·16	13·3	9·83
Aberdeen	5·3	4·3	1
Glasgow	1	1	—
Bombay	2·50	1·50	1
Calcutta	2	1	1
Caraccas	1	1	—
Liége	1	1	—
Toronto	3	3	—
Montreal	3	2·50	0·50
New York	1·3	1·3	—
Ohio, Cincinnati	1	1	—
Totals	569	432	137

In the above lists candidates who are indicated by a fraction have received their education at more than one school of medicine. The report is signed by William Scovell Savory and John Birkett, as Chairmen respectively of the Board and Court of Examiners.

YELLOW FEVER IN JAMAICA.

AN occasional correspondent of the *Times* reports that there is at present, unhappily, not only a very general epidemic of fever in its more or less dangerous form in Kingston, Jamaica, but that several deaths have occurred from true yellow fever. Mr. Rushworth, C.M.G., D.C.L., who has been Lieutenant-Governor of Jamaica since the departure of Sir William Grey from the colony, and who has served in the tropics since 1855, has fallen a victim to yellow fever after a very short illness; and two members of his family died of it before this. His stepson, Mr. Crichton, an Oxford undergraduate, who had gone to Jamaica for the Long Vacation, was the first to die from the disease. Miss Rushworth followed him within twenty-four hours; and her father fell ill and died in the next week. Major-General Mann, who succeeded him as Lieutenant-Governor, had hardly taken the oaths of office before he also, and his wife and daughter, were attacked by the same malady; but they happily are reported to have all recovered. Various rumours as to the cause of the disease are afloat in the island: it is attributed to a clogged drain in the late Lieutenant-Governor's house, and it is said that Mr. Crichton was very much out of health when he landed; but though either of these conditions will predispose people to fever, neither will cause yellow fever. The illness in General Mann's family is said to have been caused by the presence in his house of some soiled linen left there by Mr. Crichton; but we do not know that it has ever been *proved* that yellow fever can be communicated in that manner. There will probably be an outcry now against Jamaica as an exceptionally unhealthy place; but for a place within the tropics it is far from being unhealthy, and it is said that the country districts of the island, with the exception of a few swampy places, may justly be regarded as indeed exceptionally healthy places of residence, even for white men, though the island is not to be recommended as a health-resort.

"THE SCIENCE OF TEMPERANCE."

A LECTURE on this subject was delivered by Dr. B. Ward Richardson, F.R.S., in the Ancient Concert Rooms, Dublin, on Thursday evening, the 13th inst. The chair was occupied by Dr. Samuel Gordon, President of the King and Queen's College of Physicians. The points made by the lecturer were briefly the following:—*First:* That the substance now called alcohol, and which had been so called for some three centuries, could not be considered as a food, as most people supposed—standing alone in the world as something which was to be taken as if it were a food. *Secondly:* That common alcohol was, therefore, not a special gift sent to them to be used as a food any more than the other chemical bodies coming under the head "Alcohol." *Thirdly:* That when, as physiologists and biologists, they looked on the construction of the animal kingdom, and considered how it was made up of certain fluids and solids, they were struck with the fact that there was no provision whatever made for the use of such an agent as alcohol. Nature had produced the organisation simply of one fluid, and that fluid was water. *Fourthly:* That ethylic alcohol acted on the bodies of men and animals in the same manner as other chemical substances. It did not act after the manner of a food at all, but produced effects which were phenomenal in their character. He found that a fatal dose meant a proportion of a drachm of fluid to the pound weight of the warm-blooded animals. In a man weighing 120 lbs., a dose of fifteen ounces would certainly be fatal unless scientific means averted death. The lecturer then graphically described the phenomenal effects of various doses of alcohol on the organism, and remarked, in conclusion, that if alcohol did anything that was of use in the animal organisation, it was in the first stage of this action, and to that point he would ask to direct attention at his next lecture. This was delivered on Thursday evening, the 20th inst., and was on "The Promotion of Temperance."

REGISTRATION OF MEDICAL STUDENTS.

THE Society of Apothecaries have given notice that as the registration of medical students is now conducted by the General Medical Council, students will not be required to attend for the same purpose at the Apothecaries' Hall. We regret that a similar notice has not been issued by the Royal College of Surgeons. "As soon as possible" after December 31 in each year, a list of all students registered is to be prepared and printed by the Registrar of the Medical Council, and copies of it are to be supplied to each of the bodies enumerated in Schedule (A) to the Medical Acts, and through the branch registrars to the medical schools and hospitals. We cannot see, therefore, why medical students should be required to waste time and labour in getting registered at the College; and we trust that the Council of the College will, after this year at any rate, follow the good example set by the Apothecaries' Hall. The preliminary Examination in Arts at the Hall will take place on the 28th and 29th inst.

AN EPIDEMIC OF LEAD-POISONING.—An event has just occurred at Paris which has filled a whole *quartier* of the town with alarm. This arose from large numbers of the customers of a baker at Batignolle becoming the subjects of lead-poisoning, owing to the oven having been heated with painted wood derived from the demolition of houses. One practitioner of the *quartier* had under his care no less than sixty patients suffering from lead-colic, while some thirty others were under treatment at Beaujon and other hospitals. A curious circumstance occurred regarding two *eonciergcs*, husband and wife—one of whom, only eating the crumb of the bread, owing to bad teeth, suffered no injury; while the other, who consumed all the crust, had violent colic.—*Révue Méd.*, August 27. [Lead was detected by Prof. Carnot in the bread sold by this baker.]

THE PROSPECTS OF A QUALIFIED PRACTITIONER.

WHEN writing a week or two ago for students, the thought struck us that it might not be amiss to say something on the professional prospects of one who has succeeded in qualifying himself, and is looking about him for some means of making a livelihood by his professional acquirements. For the time that was deferred, but we still think that a few words may not come amiss on the prospects of a qualified practitioner.

These, it must be confessed, are not brilliant. To a man who has no real love of his profession they might well be deterrent. The average medical income throughout the country has been roughly calculated at £400 a year. This, of course, includes the large incomes, and we may say fortunes, that are made by a few; consequently, in the majority of instances, the income is less than this. It may be laid down as a broad rule that men do not make money in our profession, and as an illustration of this fact we would refer our readers to a little apologue published in these columns some years ago. But the little apologue was fact.

Should a man make up his mind to encounter the risks of private practice, we should advise him, above all things, if he loves his own peace, to eschew "assistantships with a view to partnership." For the most part they are snares. How, then, is a man to start? That is most difficult to say. In any shape or form, it requires, as in all matters of business—grocers, butchers, and bakers will not concede the claims of a profession without cash,—money-capital. And this capital must be made somehow. It may be that a man has capital of his own, that he marries a rich wife, or that he has well-to-do and kind relations. Such a man starts fairly in the game of life if he is not foolish. But to make a capital, and to live at the same time—more especially with those hostages to fortune supposed to be necessary for a medical man's respectability—is hard indeed. Instances occur to us, as we write, where men have been tied down as partners or assistants under most galling conditions, in order to make their capital; and when they find themselves in a position to cast off their shackles—when their capital has been worked for, as did Jacob for Rachel,—they find themselves bound hand and foot. What, then, is to be done? We fear we must go back to Carlyle's advice to a young gentleman who had come to London for the purpose of becoming a leading star in the literary world. He asked Carlyle's advice; this was soon given in his own particular form of language, which we do not venture to attempt—"Why don't you become a carpenter or a stonemason, where your work will be real and tangible,—not the mere manufacture of words which have not even got sound in them?" It is not good for a poor man to enter a poor profession; and rich men as a rule don't. If they do, they, as a rule, leave it, or pursue it only in a *dilettante* fashion.

But suppose a man possessed of a moderate capital: how best to dispose of it? Neither is this a question easily answered, but we shall try to give the benefit of a tolerably wide experience of all sides of the question. We have over and over again been consulted by young men as to what is the best thing to do. It is never easy nor yet safe to answer such a question, for such an answer requires great and intimate knowledge of things and circumstances. We shall give three illustrations applying to three different conditions, and these will probably be more useful than abstract didactics.

A sudden death-vacancy occurred, and a gentleman, who was dissatisfied with his position as "assistant with a view to partnership," made inquiries. He had not a large capital at command, and the risk of failure would have been disastrous. He was leaving what he could make, in course of time, a good thing, for a risk. In this case, however, the *elientèle* belonged to a somewhat clannish community, who were prepared to help the widow and aid her in getting what she could for the practice. A knowledge of this fact enabled us to give the advice that the risk was worth running. The risk was run, and the practice is now better than it ever was. It was the special knowledge which aided us in giving the advice; without this it would have been worse than useless. A case comes up before us again: A sudden death-vacancy occurred; the practice was a *personal*, not a *local* one. An ill-advised young man eagerly snatched at the apparent chance, and lost

all he had, for the practice was broken up into a score of fragments.

Take another illustration. A gentleman whom we knew well determined in disgust to work his way unaided into practice, preferring to spend capital in living rather than in buying a risky practice. He selected, as he thought, a good suburban neighbourhood, apparently rapidly increasing. Things took a wrong turn; the neighbourhood did not increase, save with those who preferred a moonlight "flitting" to the more usual way of paying debts. Thus, at the end of seven years, and after the expenditure of about £700 over and above professional earnings, he was still in a position of difficulty, finding it hard to make both ends meet. This, too, it must be remarked, with an exceedingly plain and moderate style of living.

Still another plan of starting. A gentleman was in search of a partnership—many are in search of partners, and one was soon found. In this he invested all the money he could command, including some belonging to his mother and sister, who were anxious to have a home with him. In a very short time he found that the practice was not enough for one; that the booked debts had been in some cases imaginary, and in others impossible. The partner, who a few years before had been the soul of honour, had been driven by circumstances to such extremities that he had not hesitated at the use of these means to secure money. What is the moral in this case? We should not like to draw it as some would, but to the would-be partner it is this: have the books audited by a regular accountant before entering into partnership.

The outcome of the whole is, that except a man inherits, or somehow becomes heir to, a practice, money must be spent in acquiring it. But how to lay out money to the best advantage we cannot undertake to say. What may seem folly or madness in one case, may appear the most consummate prudence in another. The case varies with the circumstances.

But there is one mode of making an honest, and what used to be an honoured, livelihood by the profession of medicine, where little or no capital was required; where sound professional knowledge and gentlemanly conduct were the chief, if not the only, requisites: that was in the service of the country. But these days seem to have passed away. Each of the three most important Services—the Army, Navy, and Indian—has drawbacks; but in the Army, or Queen's, Service these seem to have culminated. The Navy never was a popular service with our profession. Within the narrow walls of a vessel so much depends on the men with whom one is of necessity brought in contact, that everything conducing to personal comfort may be said to be under the control of others. In the Army this was never so much the case. In the Navy, however, a careful man could save a good deal of money, which he could not in the Army; and if he had a pleasant set of messmates and a good captain, life could be made very tolerable; but all depended on the *if*. A brutal captain has driven many a good man to despair, and worse. Again, in the Navy, no man could look forward to marriage for many years; and this has drawn some of the best men from the Navy. Finding themselves engaged, the prospect of long waiting was too hard to bear; and the position of a wife left for years alone on shore was not one to be envied. Then, when the husband did return, the period of leave was so short that a further application would often be asked for, ending in the conferring and accepting of that curse of the naval system—half-pay. A ship comes home after years of foreign service, is paid off, and so many days or weeks of leave granted. Then follows half-pay. This does not press so hard on unmarried men—they can live on half-pay; it is hard for a man with a family to do so. Promotion comes; increased pay should come with the new rank, but instead of that—half-pay again. It is cheaper to employ men who earn a smaller income. And so some men rust out, and some men wear out, though it must be confessed that there are numerous fairly good appointments on shore even for naval doctors when they become seniors. It would seem almost passing to the ridiculous to mention next certain little drawbacks which seem to embitter men's lives. The naval medical officer, though wearing her Majesty's uniform, is never saluted, except it may be by his own men; and some feel this keenly. There are scores of little irritations of the most absurd kind which might be easily removed, but which remain and fester, apparently only to keep open that ill-concealed feud which has long existed between ordinary combatants and men of science.

If we turn to the Army, matters are still worse. In the olden time, when service was regimental, the surgeon next to the colonel, or often before him, was the "father" of the regiment. To him and in him all things were confided. He knew all his men personally, knew what maladies they were subject to—in fact, was in a similar but far superior position to that of an esteemed and skilful family doctor. But all this is no more. The Army is no longer even a career, for by the new regulations a man only enters for ten years, and may never reach a higher grade than that of surgeon. His pay—adequate, it may be, for a young man—is utterly inadequate for a man who is married; and marriage may appear to be the only relief to the solitude which promises soon to be the fate of aspirants for honour in the Army Medical Service. The ten most important years in the practitioner's career are to be squandered,—and for what? A miserable pittance by way of pay, and £1000 at the end of his career! But how many will have their £1000 intact. There are plenty of gentlemen who will be most happy to advance money on the contingency,—but at what rate? A good many men used to join the Army Medical Service for the sake of a pleasant life among pleasant companions. Where are they now? Cursing their fate, eager to withdraw from the Service, but unable to do so save at a loss they cannot afford. They have no longer their regiment as a home; they are driven about from place to place; in most garrisons they are simply honorary members of the mess, for the combatants only grant them the use of their mess out of charity,—they refuse to allow surgeons to pay like themselves. If any entertainments are going on, the surgeon has no share or lot in them, though a good-natured committee may send him a ticket, not personally, but merely to the surgeon for the time being. This may be looked upon as an extreme view, but it is not, for it is not long since a regiment in Ireland passed a resolution that thereafter no medical man should be even an honorary member of their mess. With such prospects how can men come forward to help to fill the vacancies in such a service? They must be wonderfully constituted. Of hope they must have much, of self-respect little. Where they come from, a table we published will help to show. We took the trouble to analyse the qualifications of those who had been successful at the recent examinations. These speak for themselves, but it may be useful to add that at the time of passing two were not even registered. We have no doubt they will meet from their brethren that cordial reception accorded by a starving man to another who comes to share his last crust. What of the Indian Service? Alas! that too is doomed. The advantages it presented were too patent when Queen's and Indian men were serving side by side; so that too is to be, it is said, "unified." The result is not doubtful. Good pay and good allowances enticed many men into a service which entails many privations and a good many discomforts. Prospects like these now offered by the British service will not induce men of capacity to enter on such a career. There is only one way of enforcing the claim of the profession on the military authorities—that is, abstention. Our advice is simple:—Keep out of such service.

Thus, unfortunately, we must end as we began. We may lament the fact, but fact it is: the prospects of the newly and duly qualified medical practitioner are not brilliant.

Syphilitic Cerebral Arteritis.—Under this name, M. Lancereaux read a paper at the late meeting at Havre, in which he stated that the special anatomical character of this affection is localisation at certain points of the arterial wall, the lesion commencing in the connective tissue of the artery, and proceeding on, in different cases, either to contraction or obliteration at such points, or to aneurismal dilatation. It varies from ordinary endarteritis by its tendency (like all syphilitic lesions) to remain circumscribed, and by its disposition to symmetry.—*Gaz. Hebd.*, September 7.

The Hospital Saturday Fund.—The amount collected in the boxes placed in the streets and large establishments of London on Hospital Saturday was £835, being a slight increase on the sum realised in the same way last year. Of this amount £685 12s. 5d. was contained in the boxes lodged at Messrs. Hoare's bank up to 11.30 p.m., and was made up as follows:—Gold, £60; silver, £461 18s. 5d.; copper, £163 14s. The boxes placed in the steamboats brought in £31 17s. Those kindly put up by Messrs. Spiers and Pond on the counters of their various establishments realised £26 13s. 6d., and those put up by Messrs. Faulkners £1 10s. 11d. The remainder was made up of money deposited in boxes at Covent-garden Theatre, Holborn Restaurant, sundry hospitals, etc.

FROM ABROAD.

Salicylic Acid in Rheumatism and Gout.

In July last, Prof. Germain Sée read an elaborate paper upon this subject at the Academy of Medicine, the conclusions of which are published in our number for July 21, page 72. These have been regarded by most persons as furnishing an exaggerated estimate of the benefits of the remedy—such as, in fact, is of frequent occurrence with most new medicines in the hands of sanguine experimenters; and the short discussion which has followed the reading of the paper has not given much encouragement to their unqualified adoption. Prof. Sée, however, is as confident as ever of the accuracy of his deductions, and attributes the want of corroboration which he has met with from some other observers to their faulty mode of dealing with the substance in question.

At the commencement of the discussion M. Oulmont (*Bulletin de l'Académie*, July 24) called attention to the antifebrile or antipyretic power of salicylic acid and the salicylates, which Prof. Sée seems to have overlooked. Given in large doses, they determine in from two to four hours a fall of the pulse from ten to twenty beats, and a diminution of temperature which may range from five-tenths of a degree to 2° or 3° C. It was at Basle that M. Oulmont had first observed these results produced by Prof. Immermann. He has himself since administered the salicylate of soda to a great number of patients suffering from a variety of febrile affections. Four or five doses of a gramme each are taken at intervals of half an hour, the temperature and pulse being examined every four hours. The medicine may have to be continued for several days, which, as it is easily eliminated, it can be without danger. So administered, M. Oulmont regards the salicylate as a very efficacious antipyretic in different febrile affections, and a specific in acute rheumatism. M. Guéneau de Mussy, as the result of the trials which he has made during two years, gives a guarded approbation of the salicylates in rheumatism, and does not venture to employ them in the large doses sometimes recommended; and he suspects that the greater frequency of cerebral rheumatism in recent times in some measure arises from the unguarded use of modern remedies. In gout, M. Guéneau de Mussy prefers the practice of watching and alleviating suffering rather than attempting to cut short the paroxysm; and in typhoid fever he uses the salicylate rather as an antiseptic than as an antipyretic, having found it in moderate doses very useful in several cases which threatened to prove fatal. In gangrenous sores of typhoid cases the external application of a solution of salicylic acid has proved rapidly beneficial. Upon the whole, M. Guéneau de Mussy has derived sufficiently beneficial results to encourage him to make additional trials. Prof. Jaccoud has employed the salicylate of soda in twenty-one cases of acute rheumatism, giving it in doses of from eight to twelve grammes distributed over the twenty-four hours; and he sums up the results of his experience as follows:—1. In febrile articular rheumatism, unaccompanied by any complication, it is one of the most powerful therapeutical means which we possess, producing a cure more rapidly than any other. 2. Although its action is sometimes so prompt as to effect a cure in from two to four days, yet we cannot assign a uniform duration of three days for the treatment. This would only cause disappointment, and damage a really valuable remedy in the cases indicated. 3. The salicylate does not prevent the cardiac, pulmonary, or cerebral complications of acute rheumatism. 4. When these complications exist before the remedy is employed, it exerts no influence upon them. 4. In spite of its antipyretic properties, the salicylate does not prevent the thermometrical ascension which reveals visceral complications in the course of the medication already instituted. 6. In febrile rheumatism with only very slight complications we may still employ the salicylate in order to take advantage of its antipyretic and analgesient power; but in order that nothing may be compromised, we should adjoin to this treatment the employment of revulsives, and even of stimulants. 7. In febrile rheumatism accompanied by serious complications, the salicylate cannot be relied on, and other means must be had recourse to.

In his reply (*Bulletin*, August 21 and 28), Prof. Sée observed that the five weeks which had elapsed since he read his paper had only corroborated by additional facts the views which he had brought forward, while the objections which had been made to these were chiefly of a theoretical character. He would first observe as to the method of employing the remedy. It was generally acknowledged now that the salicylate of soda is the best preparation to employ, and all it requires is to be dissolved in ten parts of water without any other addition. The salt should be absolutely pure, and free from carbolic acid, with which it is sometimes contaminated. The administration of salicylic acid in the solid form is a dangerous practice to be cautiously avoided. Large doses given at short intervals are not to be administered; but they should be spread over pretty equal intervals during the day. Less than three grammes daily (forty-five grains) of the salicylate are of no avail; but large doses given at one time, although they may reduce the temperature and the pulse, do so only for a few hours. In acute rheumatism the true dose is from eight to ten grammes in the twenty-four hours, and these doses must be begun with at once, and not gradually reached. In this disease abundant statistics show that in rheumatism so treated from the beginning, complications are of very rare occurrence, while the duration of the disease is enormously abridged. As to the specific antipyretic power claimed for the salicylate in rheumatism, Prof. Sée cannot admit it, for most of his cases were apyretic, and all he can say is that the remedy rapidly abates the pain, diminishes the swelling, and favours the elimination of urea and the urates. For these properties, and especially the first, it is that he has also employed it in neuralgia and all painful affections. He can also bring additional testimony in favour of its efficacy in chronic rheumatism, and especially in those acute accidents which graft themselves on chronic rheumatism; and if Prof. Jaccoud and others have not been so fortunate, it has been owing to their want of perseverance or the employment of insufficient doses. The fears of suppressing gout, entertained by M. Guéneau de Mussy and others, Prof. Sée regards as hypothetical and unfounded. At all events, the salicylate is no repercussive agent, but an eliminator of uric acid accumulated in the blood, as well as of extractive matter. In acute gout, as in acute rheumatism, eight grammes of the salicylate should be given per diem. Thirty grammes may be dissolved in 300 of water, of which four spoonfuls may be taken in water daily. When the pain diminishes, three spoonfuls may be taken per diem during a week or a fortnight longer; and then only two. In chronic gout we may commence with, but never exceed, three spoonfuls, continuing them until the swelling has diminished and the pains have ceased; two spoonfuls being then continued during an indefinite period. In this way relapses are almost certainly warded off. If the remedy has to be continued during a long period, it is better to give it at mealtimes; and if it gives rise to nausea, it may be diluted with Vichy or Seltzer water, or a spoonful of brandy may be added. Prof. Sée has received additional confirmatory evidence of the utility of the salicylate in neuralgia and other painful affections.

The Paris Hospital Mortality Returns.

M. Besnier, in his report for the quarter April to June (*Union Méd.*, August 9 to September 1) observes that the mean temperature has been the same as that of the corresponding time of year for several years; but that the variations between the maxima and minima have been remarkable. The *general mortality* in the hospitals is still greater than the mean of the quarter of prior years, but much less so than in the preceding quarter. The total mortality amounted to 3241, the mean of the quarter in the preceding six years having been 3043.

1. *Affections of Respiratory Organs.*—These have undergone the favourable influence observed at this time of the year—4000 cases having been admitted, with 1083 deaths. Of these, 1481 were cases of phthisis, with 745 deaths; 568 pneumonias, with 177 deaths; 1542 bronchites, with 120 deaths; and 409 pleurisies, with 41 deaths.

2. *Articular Rheumatism.*—As usual at this time of the year, there has been remarkable benignity in this disease. Nor is this the case in Paris alone; for at Toulouse the benignity of the disease and of the general medical constitution induces M. Bonnemaison to exclaim, "What a happy quarter! What mild diseases! What a magnificent time for the success of remedies, whether old or new!"

3. *Diphtheria.*—Although the diphtheritic affections have undergone their habitual attenuation at the approach of summer, the serious epidemic paroxysm dwelt upon in last

quarter's report has not yet passed away. The 728 deaths for all Paris during the first quarter of 1877 has descended to for all Paris during the first quarter of 1877 has descended to 592 for this second quarter. As to the hospitals, "there is always the same lamentable series; the same increasing progress of the number of cases; the same insufficiency of therapeutical agents; the same frightful mortality; the same disasters produced by the promiscuity of the children; and the same want of success of all demands for isolation." In this second quarter there were admitted 232 cases, furnishing a mortality of 184, or 79·31 per cent. The total admissions for the same quarter of the seven preceding years amounted to 788, with 566 deaths, or 71·82 per cent. Of 73 cases treated by M. Bergeron at the Ste. Eugénie, on 34 tracheotomy was performed, 5 only recovering; 39 cases of diphtheritic angina which did not invade the larynx were admitted, and of these 10 recovered. In M. Cadet's wards in the same hospital, of 36 cases 1 was an example of buccal diphtheritis, 10 were cases of diphtheritic angina without croup, and 25 were cases of croup, in 5 of which there was angina; of the 10 anginas, 9 succumbed; of the 25 cases of croup, 9 were cured; of 21 operations for croup, 7 were successful and 14 unsuccessful—*i.e.*, 33 per cent. of cures; of 4 not operated upon, 2 died and 2 recovered. M. Cadet is convinced of the utter uselessness of chlorate of potash in diphtheria and croup; but he has no better substitute to offer. At the Enfauts Malades, M. Archambaut had 18 cases of croup, 16 of which were operated upon, with only 1 recovery. These cases were all preceded by angina, and in all of them there was albuminuria present, sometimes in large quantities. Of 16 cases of diphtheritic angina without exteusion to the larynx, 5 died. One of M. Jules Simon's wards at the same hospital was invaded by a diphtheritic epidemic, only 2 out of 15 cases recovering.

4. *Variola.*—Not only has this undergone its habitual seasonal diminution, but it was also considerably below its mean prevalence as compared with the general mean since accurate records have existed. When the present mild epidemic began in 1875 there were for this quarter 181 admissions, with 36 deaths; in 1876 there were 170 cases, with 28 deaths; and in 1877, 105 cases, with 13 deaths. Partial as is the isolation carried on in the Paris hospitals, it still has been of great service in diminishing the number of cases; but it is an illusory measure as a means of preveuting the propagation of the disease, which can only be accomplished by the construction of separate hospitals.

5. *Typhoid Fever.*—According to the well-proved law of its progress, the epidemic of typhoid has reached in this second quarter of the year the lowest point of its seasonal curve, following in this a line that may be traced in advance, and that even in the severest epidemics. From 992 (the number of deaths from typhoid in Paris for the last quarter of 1876) the number descended to 361 during the first quarter of 1877, and then to 196 during this second quarter. The lowest point of the habitual curve is now attained, and the month of July will serve as a period of oscillation, and from the month of August the curve will mount up agaiu, to descend no more until the arrival of winter. We may affirm without hesitation that during August and the following months the number of deaths from typhoid will again increase. The existence of such increase is invariable, although its amount differs.

6. *Intermittent Fever.*—As is always the case, there has been in this spring quarter an increase in the frequency of intermittent fever, the *fièvre tellurique nostras*, which, usually benign, is sometimes pernicious in certain conditions of the individual or of the infection—localised in a *quartier*, a street, or usually in a dwelling, around which operations that have disturbed the infiltrated soil have been goiug on. M. Jules Simon has been much struck by the number of cases of intermittent fever occurring among children, aud relates some obscure cases of apparent cerebral disease which rapidly yielded to large doses of quinine.

7. *Scorbutus.*—The cases of scorbutus which have been met with in this and the preceding quarter bear much resemblance to those which may be termed prison scorbutus—*i.e.*, scorbutus due to confined and humid air, misery, and insufficient oxygenation and alimentation, without leaving out of sight the prevailing atmospheric constitution. M. De Beauvais states that since the cellular arrangement has been adopted at the Mazas Prison in 1852, the present is the second epidemic of scorbutus that has beeu observed, the first appearing during the severe winter of 1871, at the time of the siege, and the other during the first quarter of 1877. This last appeared quite unexpectedly, and attacked nineteen individuals, and seems to be explicable on no other supposition than epidemic influence. But neither at the St. Pélagie, where there are from 500 to 700 prisoners, nor at the St. Lazare, which contains from 1300 to 1600 female prisoners, was a single case of scorbutus observed. M. Lereboullet had a few cases which soon recovered, and the origin of which he attributed to the extremely damp coudition of the prison of the Chèrche-Modi. Two cases treated by M. Desnos at La Pitié also came from a prison.

7. *Puerperal Affections.*—These presented no great peculiarities this quarter. M. Siredey has contributed a note concerning the 458 lying-in women who were admitted during the first six months of 1877 into the Lariboisière Hospital. Of this number 12 died, but of these there were 3 whose deaths have to be abstracted from the general account. One died with hemiplegia occurring after an attack of typhoid; another of meningeal apoplexy and rupture of the liver after eclampsia, the day of her admission; and the third died also of meningeal apoplexy following eclampsia three days after delivery. The remaining 9 give, therefore, a mortality of 2 per cent. In 5 of these cases obstetrical interference, of more or less violence, was required; and the other 4 died after natural labour, proceeding apparently under the most favourable circumstances. An examination of these figures shows the considerable effect of obstetrical intervention on mortality. Thus, the 15 operations or manœuvres were followed in the six months by 5 deaths—*i.e.*, 1 in 3; while, abstracting the 3 cases mentioned above and this 15, there remained 440 deliveries, followed only by 4 deaths—*i.e.*, 1 in 10. Women in the poorer classes, when the subjects of abnormal conditions, are generally brought to the hospital, and that frequently after the failure of unskilful attempts at delivery.

Erysipelas of Infants.—In an interesting note M. Siredey relates his discovery of how this disease became endemic at the Lariboisière. For a long time past he has had numerous fatal cases (15 cases during this half-year, with only 2 recoveries), and has in vain sought for the cause of a prevalence which did not exist at the other hospitals. The disease did not affect exclusively cachectic and exhausted infants, but those who were robust aud healthy-looking. Every care had been taken with the infants, as with the women, to prevent washing in commou, each being supplied with separate implements. In spite of these and various other precautions, not a fortnight ever passed without a new case occurring. When beginning to despair of ever discovering the cause of this endemic prevalence, M. Siredey observed that in several of the cases the erysipelas did not commence around the umbilicus, but on the genital organs, the buttocks, the belly, and the loins. Now, at this time there was also a great number of infants suffering from diarrhœa, in whom erythema rapidly supervened, extending from the margin of the anus to the buttocks, genital organs, etc. From the wellnigh constant contact of urine and fæcal matters, the softened epidermis became removed, exposing the dermis aud giving rise to great suffering. The difficulty in so large an establishment, with an insufficient number of nurses, of bathing and changing the infants sufficiently often, induced M. Siredey to recommend that after they had been washed all the parts of the infant which were the seat of erythema should be smeared with cold cream or fresh cerate, and abundantly powdered with starch-powder, the napkins then being put on. The cerate having been found to be too liquid and difficult of application, fresh lard was substituted with the most excellent results. One of the nurses having observed this success, proceeded to apply the lard as a preventive, covering with it at each changing the buttocks and genitals of any infants whom, right or wrong, she suspected were about to have diarrhœa, aud usiug for this purpose old rancid and almost yellow lard. After this was discovered, and the old lard was discontinued, the endemic of erysipelas entirely ceased.

Death of Professor Gerlach.—This distinguished veterinarian and scientific observer died, after a long illness, on August 29. He was Director of the Royal Veterinary College at Berlin, and one of the first authorities on veterinary medicine. He was one of those who helped to place our knowledge of scabies on its present basis, and he investigated *inter alia* the effects of the meat and milk of tuberculous cattle on the human organism. He also wrote on hygienic subjects, and on "meat as a food for human beings."

REVIEWS.

Cyclopædia of the Practice of Medicine. Edited by Dr. H. von Ziemssen. Vol. VI., Diseases of the Circulatory System, etc. Translated by George W. Balfour, M.D., of Edinburgh; Edward G. Geoghegan, M.D., of London; Thomas Dwight, M.D., of Boston; J. Haven Emerson, M.D., and George G. Wheelock, M.D., of New York; and J. Solis Cohen, M.D., of Philadelphia. London: Sampson Low, Marston, Searle, and Rivington. 1876.

The first article in this volume is by Professor Rosenstein, of Leyden, and deals with the methods of physical examination of the heart. In a narrow compass it seems to us to contain all the most essential information on this subject, and the student may be interested in the descriptions of the "*pulsus trigeminus*" and "*pulsus alternans*" of Traube, and the "*pulsus paradoxus*" of Kussmaul and Griesinger. Professor Rosenstein also gives us the chapter on Diseases of the Endocardium, which he divides into—(1) acute ulcerative or diphtheritic endocarditis; (2) acute and chronic subacute verrucose endocarditis; and (3) chronic sclerotic endocarditis. A most excellent account is given of ulcerative endocarditis, a disease of quite modern discovery, and which appears to have been first described by the late Dr. Senhouse Kirkes. Rosenstein considers that the most important etiological factors in its development are—rheumatic fever, which is present in the great majority of the cases; puerperal processes, in which diphtheritic matter is found on the genitals; wounds whose surface is similarly affected; chronic valvular disease; and pyæmia. The existence of one of these factors he regards as the most important point in deciding whether ulcerative endocarditis is present in a given case. He decidedly thinks that we must only regard those cases as parasitic where there is the possibility of the introduction of diphtheritic matter *from without* through the surface of a wound. Acute or chronic nephritis appears to have no causal relationship to diphtheritic endocarditis.

In the section on acute endocarditis we notice with some surprise Dr. Rosenstein's dictum, that "the disposition to endocardial affections (especially after rheumatism) is, on the whole, smaller in childhood than after puberty." He refers to Dr. West, and other distinguished authorities, as opposed to his view; and, if our memory serves us rightly, an authority of equal weight—Sir William Jenner—would be also a member of the opposition. Certainly, in English children's practice the connexion between rheumatism and endocarditis is a very constant one; but there are striking exceptions, as in the case of a girl who was under the writer's care for her *ninth* attack of rheumatic fever, and who had not a trace of cardiac disease, although she had not exceeded her eighteenth year. In the treatment of acute rheumatism, Rosenstein inclines to the belief that Dr. Herbert Davies' blistering plan has the greatest claim to further trial, as a preventive of endocardial complication. In recent cases of endocarditis itself he recommends that Gerhardt's treatment by the inhalation of carbonate of soda should be further tested.

The subject of chronic endocarditis is fully treated, but there is nothing in the article to call for special remark. There are some thoughtful sentences under the head of treatment of valvular diseases, such as the following:—"Olympian calm, when its attainment is possible, should be warmly recommended as the mental dietary of a heart-disease patient. The patient's attention should never be attracted to his disease, either by those about him or by the physician" (page 167). Digitalis and iron (and especially the former) are the sheet-anchors of the practitioner in valvular disease, but Rosenstein speaks favourably also, from his own experience, of Waldenburg's treatment with compressed air in "correcting the symptoms of a deranged compensation."

Changes in the Position of the Heart and Diseases of the Heart-Substance are ably handled by Professor Schroetter of Vienna, well known to many Englishmen and Americans in his capacity of lecturer on the laryngoscope in the General Hospital. In the section on cardiac hypertrophy we notice that he rejects Traube's theory that the hypertrophy of Bright's disease is due to the elimination of a part of the renal capillary system, and that for reasons he gives he is inclined to the view that its true cause is to be sought in other concomitant conditions, such as disease of the heart-substance, an improper quality of the blood itself, and hence depraved nutrition, etc The observation that "the diagnosis of *dilatation* is just as difficult as that of hypertrophy is, as a rule, easy and sure," is one whose truth is at once felt when it is expressed, though it is perhaps too little insisted on in clinical teaching. It is worthy of passing note that Professor Schroetter considers *tea* of special value as a stimulant in the treatment of acute dilatation occurring in the course of inflammatory diseases, and where the object is simply "to maintain the *energy* of the heart's contractions only through a short period of time."

There is a good article on Fatty Degeneration of the Heart, in which, however, no mention is made of chloroform inhalation as an exciting cause of death in cases of fatty heart. Wounds of the Heart are treated at some length, but there seems to be little hope for anyone whose heart's wall has been perforated. "In the whole rich collection of cases (*here summarised*) there is no authenticated case of the cicatrisation of a ruptured heart" (page 275). We would especially recommend the article on Nervous Palpitation to our readers. The physiology of palpitation is very well done. Professor Schroetter seems to rely most on cold, applied either in the form of wet compresses or of an ice-bag, to relieve this troublesome symptom, the cause, of course, if possible, having been previously removed.

Congenital Diseases of the Heart are described by ex-Professor Lebert, and Diseases of the Vascular System (arteries, veins, and lymphatics) by Professor Quincke of Berne. Under the head of mesarteritis, or inflammation of the middle coat of the arteries, we find the following remarks on the antagonistic views of Dr. G. Johnson, and Drs. Gull and Sutton:—"Further observations of numerous cases are required to reconcile these contradictory observations, and the investigation is rendered all the more difficult that we have no positive knowledge of the actual size of the smallest arterioles in the various organs, while the varying degrees of contraction of these arterioles, and the varying amount of cadaveric rigidity (quite irrespective of diversities in the methods of preparing the specimens), introduce serious complications into any attempts at comparative measurements."

Aneurism, and the methods of treating this disease, are considered at considerable length, but Professor Quincke's survey of the latter is not encouraging. "It seems," he says, "that of all the local methods of treatment, next to ligature and compression, galvano-puncture is most deserving of confidence; but in most cases we are restricted to indirect and palliative treatment."

The section on Diseases of the Lymphatics is very complete, and we may especially call attention to the part dealing with rupture of the lymphatics, or lymphorrhagia. In the bibliography of chyluria we see that medicine is chiefly indebted to British observers for its discovery, and for the elucidation of its nature.

To Dr. Bauer, extraordinary professor of the Propaideutic Clinic at Munich, have been entrusted the articles on Diseases of the Pericardium. Our space will not allow us to do more than to say that few more graphic and carefully written accounts of pericarditis have appeared, especially in the important matter of physical signs. The subject of indurated mediastino-pericarditis and paradoxical pulse, here treated *in extenso*, will interest many scientific practitioners.

This gigantic volume—it exceeds a thousand pages—also contains a most comprehensive article on Whooping-Cough, by Dr. Steffen of Stettin; a long section on Diseases of the Lips and Cavity of the Mouth, by Professor Vogel of Dorpat; and an article on Diseases of the Soft Palate, by Professor Wagner of Leipsic.

Dr. Steffen rejects the idea that whooping-cough is either a neurosis or a zymotic disease, and considers that all we can at present say of it is, that "a catarrh of the respiratory organs lies at its foundation, and that this catarrh arises from infection, though we do not know of what kind the infectious substance is" (page 688). As to treatment, he considers that the results of inhalation of various substances (petroleum, carbolic acid, etc.) decidedly urge us to further experiment, and he believes that there is distinct proof that large doses of quinine (nine grains *bis die*) moderate and shorten the spasmodic stage.

Vogel's article closely resembles that on the same subject in his "Lehrbuch der Kinderkrankheiten," of which Dr. Jacobi of New York has published a translation, but it is fully brought up to the present time by the incorporation of the results of several new researches. The section on difficult dentition seems to us a particularly good one.

Among the diseases of the soft palate which Wagner describes, the greatest interest attaches to pharyngeal diphtheritis or diphtheria, the article on which is based on the writer's personal experience of about a hundred fatal cases, and a number of mild cases observed either in his own or Wunderlich's Clinic at Leipsic. We mention this because diphtheria has been already described by Oertel in vol. i. of this Cyclopædia; and Wagner, whose opinion on pathological subjects must carry great weight, differs from Oertel *in toto* on several theoretical points. Wagner's views of the essential nature of diphtheria may be summed up as follows:—"The specific poison which produces it is still entirely unknown; the evidence in favour of its parasitic nature is very weak. There is an intimate relation between croup and diphtheria." He has nothing better to offer in the way of treatment than Steiner in a previous volume had in the case of croup.

In conclusion we may say that Vol. VI. is quite up to the mark of the others which have come under our notice. Full justice is done to British authors, by whom our knowledge of the diseases included in it has been in no mean degree furthered. The appalling catalogues which embrace the whole literature of each subject will be of extreme value to future generations, though, if the truth were known, the credit of compiling them is probably mainly due to the editors of Canstatt's *Jahresbericht*.

Hints on Ophthalmic Out-Patient Practice. By Chas. Higgens, F.R.C.S., Ophthalmic Assistant-Surgeon to Guy's Hospital. London: J. and A. Churchill. 1877. Pp. 87.

This is a very useful little book, and a very practical one. It is just the sort of book a second year's man requires as an introduction to the subject of ophthalmology. It teaches, in very simple language, the most essential points of this all-important subject, and anyone who has got up this book well will be able to treat the ordinary forms of eye disease which he will meet with in practice, while he will learn sufficient of the more complicated and serious forms to diagnose them, and at the same time to see the importance of sending them off to a man who makes ophthalmology a specialty. The book is well got up, and its low price, no less than its subject-matter, will recommend it to a large number of readers.

Sanitas, Sanitatum, et omnia Sanitas. By Richard Metcalfe, F.S.S. Vol. I. London: Co-operative Printing Company, Plough-court, Fetter-lane, E.C. 1877. Pp. 334.

The author of this work states that he has often been an eye-witness to the discomfort and inconveniences to which the poor are subjected in washing and drying their clothes in the apartment in which they live and sleep; and he asserts that he knows that the evils resulting from the want of bath and washhouse accommodation are often far greater than the consequences of sanitary defects whose removal the law peremptorily enjoins. He has therefore been induced to invite public attention to the question, and he hopes by showing what has been done in providing baths and washhouses from the rates, Government may be induced to make the Bath Act compulsory. This is a very laudable object, but the author must be more sanguine than we are if he imagines that his volume will have any decided effect in promoting the object he has in view. The mass of statistical information which confronts one on opening its pages is not calculated to attract a large number of readers; and, moreover, the belief of the author as regards the relative prevalence of small-pox before the introduction of vaccination, etc., does not excite confidence in his idea or comprehension of statistics. And it would perhaps be the happiest thing for all parties if those into whose hands the work falls were to cast it aside unread. The author is harmless enough, although very wearisome, when writing on baths and washhouses; but after he has had his say on this topic he runs off on the subject of small-pox, and here he becomes positively and extremely mischievous, railing against vaccination and those who practise it. Small-pox, he says, was dying out when vaccination was introduced, and since its introduction consumption has increased, other diseases have been introduced into the body with vaccine matter. He would treat small-pox by means of the fluid sulphur bath, Condy's fluid bath, and the wet pack, and would be only "too glad to have an opportunity to practically illustrate the treatment of small-pox under the supervision of the medical board in any hospital." From small-pox the author descends to "dipsomania," and would have us believe that he is an authority on this subject also. But his style and tone of treatment will not command the respect of any who wish to consider the subject dispassionately.

OBITUARY.

JOHN MOLLAN, M.D. (Hon.) Dub., F.K.Q.C.P. etc.

Died at his residence, 60, Fitzwilliam-square, Dublin, in the eighty-seventh year of his age, on Monday, September 17. Dr. Mollan, a highly esteemed and respected member of the profession, had long since retired from practice. In his day he was much thought of, and in 1855 and 1856 he filled the presidential chair of the King and Queen's College of Physicians, to the Fellowship of which body he was elected in 1839. He was Consulting Physician to the Richmond Lunatic Asylum. He was also a member of the Royal Irish Academy.

MEDICAL NEWS.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, September 13:—

Low, Charles Arthur, 233, New Cross-road, S.E.
Pickup, William James, Bacup, Lancashire.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Nicod, Louis Charles Napoleon, St. Mary's Hospital.
Wells, Charles, Middlesex Hospital.
Wolfe, James Lovett de, Charing-cross Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Barr, James, M.B.—Visiting Surgeon to the Kirkdale County Prison, Liverpool, *vice* W. Mitchell Banks, F.R.C.S. Eng., resigned.

Turner, Francis Charlewood, M.A., M.D. Cantab., Assistant-Physician to the London Hospital, and formerly Resident Physician at St. Thomas's Hospital—Physician to the North-Eastern Hospital for Children, Hackney-road, E.

NAVAL, MILITARY, &c., APPOINTMENTS.

Militia.—Medical Department.—Surgeon-Major George Curme, Dorset Militia, resigns his commission.

War Office.—Medical Department.—Deputy Surgeon-General Thomas Best to be Surgeon-General, *vice* R. Bowen, retired upon half-pay; Surgeon-Major William Sim Murray, M.B., to be Deputy Surgeon-General, *vice* Thomas Best, promoted.

BIRTHS.

Cox.—On September 12, at Theale, near Reading, the wife of Richard Cox, M.D., of a daughter.

Douglas.—On September 14, at Wootton Bank, Bournemouth, the wife of Justyn G. Douglas, M.D., of a son.

Farnfield.—On September 12, at Fir Grove, North Brixton, the wife of Walter E. Farnfield, L.R.C.P. Edin., of a son.

Flood.—On September 15, at Hopeton House, Reigate, the wife of A. W. Flood, L.R.C.P. Edin., L.R.C.S. Edin., Surgeon R.N., of a son.

Galton.—On September 13, at Woodside, Anerley-road, Upper Norwood, S.E., the wife of John H. Galton, M.D. Lond., of a daughter.

Haward.—On September 6, at Luton, Beds, the wife of F. R. Haward, M.R.C.S. Eng., of a daughter.

Perigal.—On September 14, at Lorne Villa, Nairn, N.B., the wife of Arthur Perigal, M.D., of a daughter.

Rolleston.—On September 15, at Oxford, the wife of George Rolleston, M.D., Professor of Anatomy and Physiology, of a son.

Southey.—On September 17, at 6, Harley-street, London, the wife of Reginald Southey, M.D. Oxon., of a daughter.

MARRIAGES.

Chant—Dibbin.—On September 13, at Capel, Surrey, Thomas Chant, M.R.C.S., of Lowestoft, to Laura Ormiston, second daughter of the late F. W. Dibbin, Esq., of Burton, Somersetshire.

Davies—Reed.—On September 12, at St. Leonard's Church, Streatham, Thomas Davies, M.D., of Machynlleth, N. Wales, to Marian, youngest daughter of Thomas German Reed, Esq., of Oakfield, Balham.

Iles—Hopkinson.—On September 13, at St. Mary's, Willesden, Alfred Robert Iles, L.R.C.P. Edin., M.R.C.S., of Taunton, Somerset, to Jane, eldest daughter of T. B. Hopkinson, Esq., of The Grove, Neasdon, Willesden, N.W.

Madden—Chadwick.—On September 10, at Holy Trinity Church, Birchfield, near Birmingham, Edward Monson Madden, M.B., M.R.C.S., of Birmingham, son of Henry R. Madden, M.D., to Elizabeth Leman, daughter of the late F. R. Chadwick, surgeon, of Burnham, Somerset.

PLETTS—BINKS.—On September 13, at St. Bartholomew's Church, Sydenham, John Menham Pletts, M.D., M.R.C.S. Eng., of Ryde, Isle of Wight, to Frances Harriet, only daughter of George Binks, Esq., of West Hill Lodge, Sydenham.

DEATHS.

BLACK, PATRICK ABERCROMBIE, Commander R.N., second son of Patrick Black, M.D., of 11, Queen Anne-street, at his father's residence, on September 13, in his 32nd year.

BRIDGE, S. F., M.D., F.R.C.S., at Old Court, Wellington, on September 12, in his 88th year.

BRUMWELL, JOHN ROBERT, M.D., at Homelands, Ryde, Isle of Wight, on September 7.

JONES, JOHN, M.R.C.P., F.R.C.S., at 53, Blenheim-crescent, Notting-hill, on September 13, aged 69.

MOLLAN, JOHN, M.D., Fellow, and formerly President, of the King and Queen's College of Physicians in Ireland, at 60, Fitzwilliam-square North, Dublin, on September 17, in the 87th year of his age.

TETLEY, JAMES, M.D., F.R.C.P., at Belmont, Torre, Torquay, on September 18.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BEDFORD GENERAL INFIRMARY.—Resident Surgeon. Applications, with testimonials, to the Chairman of the Weekly Committee, on or before September 27.

EAST SUFFOLK AND IPSWICH HOSPITAL.—House-Surgeon. Candidates must be single, qualified both in medicine and surgery, and registered according to the provisions of the Medical Act. Applications, with testimonials, to the Secretary, on or before September 26.

ROTHERHAM HOSPITAL.—Resident House-Surgeon. Candidates must be M.R.C.S. Eng., and Licentiates of the Society of Apothecaries or of the Royal College of Physicians, London, registered, and unmarried. Applications, with testimonials as to professional ability and moral character, to the Honorary Secretary, on or before October 15.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Newent Union.—Mr. R. W. Ceely has resigned the Redmarley District; area 10,519; population 2956; salary £60 per annum.

Wellington (Salop) Union.—Mr. John Morgan has resigned the First Northern District; area 14,941; population 2500; salary £45 per annum.

APPOINTMENTS.

Alresford Union.—Joseph W. Ekens, M.R.C.S. Eng., L.S.A., to the Second District.

Guiltcross Union.—W. E. Soffe, M.R.C.S. Eng., L.S.A., L.F.P. & S. Glasg., to the Third District.

Oswestry.—David H. Richards, F.C.S., as Analyst for the Borough.

ROYAL COLLEGE OF SURGEONS.—The following analysis of the Calendar of this institution, which has just been published, will, no doubt, be read with great interest by some of our readers. It appears that the *Board* of Examiners in Anatomy and Physiology, which consists of nine members, annually elected by the Council from the Fellows of the College, have held four meetings for the Fellowship, and thirty meetings for the Membership. The following is a statement of the number of candidates who presented themselves for the Fellowship and Membership respectively, with the results of the several examinations, viz.:—At the Primary Examinations, for the first-named distinction there were 87 candidates; of this number 44 passed, and 43 were referred for six months. At the Pass Examination there were 37 candidates, 27 of whom were successful, and 10 the reverse. The *Court* of Examiners, which consists of ten members, also elected by the Council from the Fellows of the College, have held two meetings for the examinations for the Fellowship, and twenty-nine for the pass examinations for the Membership, during the collegiate year. At the Primary Examination in Anatomy and Physiology 792 candidates presented themselves, of which number 546 passed, and 246 were referred to their studies for three months. At the Pass Examination in Surgical Anatomy and the Principles and Practice of Surgery and Medicine there were 569 candidates, 356 of whom passed, and 76 were approved in surgery and required to qualify in medicine; only 50, however, did afterwards qualify in medicine, making the total number of diplomas granted amount to 406. Rejected candidates numbered 137. The Board of Examiners in Dental Surgery have examined 27 candidates during the past year, 20 of whom passed to the satisfaction of the Board. During the past collegiate year there have been sixteen meetings of the Council or governing body of the College. An *official* return of the number passed and plucked from the various recognised metropolitan and provincial hospitals appears in another column.

HUNTERIAN MUSEUM.—An interesting and valuable addition has just been made to this collection by the Hon. Charles B. F. Berkeley, in the presentation of the skeleton of a gigantic crocodile, shot by himself last winter near Hagar Silsilis, in Egypt. As every Nile voyager knows, these animals, once forming such a characteristic feature in the scenery of the ancient river, have become of late exceedingly scarce below the cataracts; and this one, which had long been known to the natives of the district in which it had taken up its abode, must have been one of the last survivors of its race—at all events, the last to attain such dimensions as this one, viz., nearly sixteen feet. Perhaps their absence will be less regretted by the inhabitants of the river banks than by naturalists and artistic travellers, considering the illustration of the manners and customs of this formidable creature afforded by the contents of its stomach, viz., the hoofs and halter of a donkey, and a boy's ear-rings. The natives stated that it had never been known to seize a woman, confining its attentions to the sterner sex. When examined, the animal was found to have been engaged in many a deadly strife, judging from the severe scars it exhibited, and also in the loss of one of its feet, leaving however, a very formidable stump.

COMPOSITION AND QUALITY OF THE METROPOLITAN WATERS IN AUGUST.—The following are the returns (by Dr. Meymott Tidy) of the Society of Medical Officers of Health:—

Names of Water Companies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, etc.	Nitrogen: As Nitrates, etc.	Ammonia.		Hardness. (Clarke's Scale).	
				Saline.	Organic.	Before Boiling.	After Boiling.
Thames Water Companies.	Grs.	Grs.	Grs.	Grs.	Grs.	Degs.	Degs.
Grand Junction .	18·40	0·024	0·099	0·000	0·007	12·1	3·0
West Middlesex .	16·00	0·048	0·090	0·001	0·007	12·6	3·0
Southwark and Vauxhall . .	16·70	0·052	0·105	0·000	0·007	12·1	2·4
Chelsea . .	18·60	0·021	0·133	0·000	0·009	13·2	3·0
Lambeth . .	17·70	0·077	0·125	0·000	0·008	13·2	3·3
Other Companies.							
Kent . . .	28·00	0·003	0·375	0·000	0·002	19·4	5·6
New River . .	17·90	0·024	0·129	0·000	0·009	12·6	3·0
East London .	17·90	0·063	0·105	0·000	0·006	12·1	3·7

Note.—The amount of oxygen required to oxidise the organic matter, nitrites, etc., is determined by a standard solution of permanganate of potash acting for three hours; and in the case of the metropolitan waters the quantity of organic matter is about eight times the amount of oxygen required by it.

The water was found to be clear and nearly colourless in all cases but the following, when it was very slightly turbid—namely, in that of the Southwark and Vauxhall and the Chelsea Companies.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

An Anti-Vaccinationist.—Mr. F. Pearce, photographer, Andover, has just been fined for the forty-third time for non-compliance with the Vaccination Acts. He appealed to the Bench to impose a nominal fine, but the full penalty of 20s. in each case, with costs, amounting altogether to £4 2s. 6d., was inflicted.

Artisan.—The first Factory Act ever passed (42 George III., c. 73) was called specifically "The Health and Morals Act," and while the immediate cause of its enactment was the alarming spread among the manufacturing population of epidemic disease, this condition of things, it was stated, was chiefly brought about by the new conditions of industrial labour. The Factory Act, 1833 (3 & 4 William IV., c. 103), still forms the basis of all subsequent legislation on the subject. This is the statute often quoted as Lord Althorp's Act.

A Parent.—Bombay Island itself, though in general cooled by the sea breeze, is oppressively hot during May and October. From June to October travelling is difficult and unpleasant, except in Sindh, where the monsoon rains have little influence.

Botanist.—One of the earliest attempts at a methodical arrangement of plants was made in Florence by Andreas Cæsalpinus, a native of Arezzo, some time professor of botany at Padua, and afterwards physician to Pope Clement VIII. He is called by Linnæus *primus verus systematicus.*

Edmund.—Dr. W. S. W. Ruschenberger, while in charge of the United States Naval Hospital at Brooklyn, New York, 1843-47, organised the naval laboratory for supplying the service with unadulterated drugs, and in 1849 was made a member of the Board to draw up plans and regulations for the United States Naval Academy. In October, 1854, he sailed as Surgeon of the Pacific Squadron, and retired with rank of Commodore, September 4, 1869. He has written much on medical and scientific subjects, in various periodicals.

Sista.—Yes; The method of procedure for recovering the apparently drowned, as given in the Chinese official Medical Jurisprudence, is, like that which was formerly in common use in the Western World,—calculated to extinguish life; but Dr. Macgowan, the medical missionary in China, has recently published a pamphlet in Chinese, the English title of which is, "Directions for Resuscitating the Apparently Drowned, and for Recovering those Poisoned with Opium," which probably will be useful in saving life.

Hetty.—Miss Veitch's sensible warning against a sentimental view of the office of nurse was:—"To ladies who intend to make nursing a profession, I would say, do not undertake the work with any romantic ideas of being a 'ministering angel,' moving about your wards in a very becoming hospital dress, and followed wherever you go by loving looks and murmured blessings from grateful patients, or you will never have courage to face the reality of finding yourself always a hardworked, often a weary, worn, and sorely harassed woman."

THE NOXIOUS WEED.

Dr. M'Kendrick, of Glasgow, in conjunction with Professor Dewar, of Cambridge, has for some time past been conducting a series of investigations into the physiological action of what may be called the tobacco-smoke alkaloids, and their congeners. The complete series of researches is to be published. From official returns it appears there are eighteen manufactories of tobacco in France, 357 depôts, and 40,210 licensed shops for its sale.

COMMUNICATIONS have been received from—

THE SECRETARY OF THE APOTHECARIES' HALL, London; Dr. SPARKS, Crewkerne; Mr. JOHN INGPEN, London; COMMANDER CHEYNE, London; THE SECRETARY OF THE VICTORIA GALLERY, London; Mr. WHEELER, Nottingham; Dr. ROBERT LAWSON, Banstead; Mr. A. L. MEADE, Cavan; Mr. T. M. STONE, London; Dr. J. W. MOORE, Dublin; Dr. J. W. ROSEBURGH, Canada; Mr. C. F. MAUNDER, London; Dr. S. MACKENZIE, London; Dr. R. DRUITT, London; Mr. R. BRUDENELL CARTER, London; Dr. BARLOW, London; Mr. J. CHATTO, London; Dr. BYROM BRAMWELL, Newcastle-on-Tyne; Dr. C. HANDFIELD JONES, London.

BOOKS AND PAMPHLETS RECEIVED—

Thomas B. Peacock, M.D., F.R.C.P., On the Prognosis in Cases of Valvular Disease of the Heart—George Paddock Bate, M.D., Report on the Sanitary Condition of the Parish of St. Matthew, Bethnal-green—Elements of Chemistry, Theoretical and Practical (part 1, Chemical Physics), by William Allen Miller, M.D., D.C.L., LL.D., revised by Herbert McLeod, F.C.S.—Fownes' Organic Chemistry, revised and enlarged by Henry Watts, B.A., F.R.S.—Alfred Carpenter, M.D. Lond., Preventive Medicine in relation to the Public Heath.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Cincinnati Clinic—Medical Enquirer—Indian Medical Gazette—Monthly Homœopathic Review—Home Chronicler—Canada Lancet—Boston Journal of Chemistry—New York Medical Journal—New Orleans Medical and Surgical Journal—La Province Médicale—Students' Journal and Hospital Gazette.

APPOINTMENTS FOR THE WEEK.

September 22. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

24. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

25. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

26. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex. 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

27. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

28. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

QUEKETT MICROSCOPICAL CLUB, 8 p.m. Meeting.

VITAL STATISTICS OF LONDON.

Week ending Saturday, September 15, 1877.

BIRTHS.

Births of Boys, 1189; Girls, 1179; Total, 2368.
Average of 10 corresponding years 1867-76, 2154·5.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	648	613	1261
Average of the ten years 1867-76	651·6	624·1	1275·7
Average corrected to increased population ...	...	...	1365
Deaths of people aged 80 and upwards ...	...	...	43

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	2	1	3	...	1	...	2	1	12
North	751729	4	9	6	3	6	...	10	...	18
Central ...	334369	...	2	7	...	4	...	4	1	10
East	639111	1	6	13	2	16	1	3	...	19
South	967692	3	5	9	2	5	2	4	2	27
Total	3254260	10	23	38	7	32	3	23	4	86

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·769 in.
Mean temperature	58·9°
Highest point of thermometer	73·4°
Lowest point of thermometer	49·1°
Mean dew-point temperature	51·9°
General direction of wind	Variable.
Whole amount of rain in the week	0·16 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, September 15, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Sept. 15.	Deaths Registered during the week ending Sept. 15.	Temperature of Air (Fahr.): Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.): Weekly Mean of Mean Daily Values.	Rain Fall: In Inches.	In Centimetres.
London	3533484	46·9	2368	1261	73·4	49·1	58·9	14·94	0·16	0·41
Brighton	102264	43·4	46	29	67·2	52·0	59·6	15·34	0·23	0·58
Portsmouth ...	127144	28·3	67	36	...	...	...	...	...	...
Norwich	84023	11·2	56	32	68·5	47·8	58·7	14·83	0·12	0·30
Plymouth	72911	52·3	43	28	63·5	51·0	57·5	14·17	1·55	3·94
Bristol	202950	45·6	125	54	68·9	49·9	58·0	14·44	1·51	3·84
Wolverhampton ...	73389	21·6	55	36	63·4	44·0	54·2	12·33	0·59	1·50
Birmingham ...	377436	44·9	284	151	...	...	...	...	...	...
Leicester	117461	36·7	71	46	67·8	47·5	57·5	14·17	0·77	1·96
Nottingham ...	95025	47·6	61	38	71·5	47·8	56·7	13·72	0·95	2·41
Liverpool	527083	101·2	358	283	63·8	46·5	55·3	12·95	1·11	2·82
Manchester ...	359213	83·7	211	159	...	...	...	...	...	...
Salford	141184	27·3	112	70	67·2	41·2	54·9	12·72	1·28	3·25
Oldham	89796	19·2	68	32	...	...	...	...	...	...
Bradford	179315	24·8	125	54	62·6	45·1	54·3	12·39	1·64	4·17
Leeds	298189	13·8	234	112	66·0	45·0	55·6	13·12	1·46	3·71
Sheffield	282130	14·4	185	74	65·1	47·0	55·2	12·89	1·34	3·40
Hull	140002	38·5	130	64	67·0	41·0	55·3	12·95	2·02	5·13
Sunderland ...	110382	33·4	95	45	66·0	52·0	56·9	13·83	0·33	0·84
Newcastle-on-Tyne	142231	26·5	109	55	...	...	...	...	...	...
Edinburgh	218729	52·2	139	75	67·5	38·0	54·6	12·56	0·59	1·50
Glasgow	555933	92·1	392	255	64·2	40·5	55·4	13·00	0·83	2·11
Dublin	314666	31·3	163	120	67·7	40·8	57·3	14·06	1·16	2·95
Total of 23 Towns in United Kingdm	8144940	38·3	5497	3109	73·4	38·0	56·4	13·55	0·98	2·49

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·77 in. The lowest reading was 29·57 in. on Tuesday afternoon, and the highest 30·00 in. at the end of the week.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

SELECT LECTURES ON MEDICAL JURISPRUDENCE.

By FRANCIS OGSTON, M.D.,
Professor of Medical Logic and Medical Jurisprudence in the University of Aberdeen.

Lecture XVIII.—WOUNDS, *Continued.*

Having concluded what I had to say of the *Diagnosis* of Wounds, as the term wound is understood in Legal Medicine, it now falls to me to notice, in addition, certain other inquiries calling for settlement by the expert in this extensive and important class of injuries.

These inquiries admit of being arranged under two heads; those deducible from, first, the progress of the cases in hand during life, where the injuries have not proved immediately or speedily fatal; and secondly, from the inspection of the body where death has resulted from their infliction: or, in other words, *the Prognosis of Wounds*, and *the post-mortem inspection*. The two lines of inquiry, I need scarcely add, may have to be combined in the same case where the party has been seen both before and after the fatal event. To begin with the *Prognosis of Wounds*. Here it behoves the medical jurist to have not only a familiarity with the more usual results of such injuries as they progress in the living, but also to be aware of, and to be prepared to take into account, the circumstances which may be found in certain cases to influence and control, so as to modify, their natural and accustomed course.

Taking up in succession these two points, I shall advert in the first place to the character and results of injuries in the living under ordinary conditions, or apart from the modifying circumstances to which I have just referred. And here it may be premised that little is to be gained by following the course of some medico-legal writers, especially abroad, of laying down for their guidance, in their prognosis, arbitrary and artificial schemes of classification, founded on the degree of danger of various injuries; such as *slight, severe, dangerous*, and *fatal wounds*—characteristics which are of too fluctuating and uncertain a kind to serve as a fixed and available basis for reliable distinctive tests. Thus, in practice, it is known that a slight wound may be converted into a dangerous one; a wound not usually considered mortal may terminate life, and *vice versâ*, from the occurrence of certain circumstances. In preference to this, I shall take for my guide in the prognosis the data deducible from the seat of the injury and the parts of the body which it may have involved, or both sources of information combined.

And first of the prognosis of *injuries of the nervous system*, including the brain, spinal cord, and the nervous ramifications. Injuries of the nervous system, I need scarcely say, deserve the greatest attention from the expert, as a frequent cause of both sudden and lingering deaths. Sometimes also they are found closely to resemble the effects of natural disease. Their progress is likewise occasionally influenced by natural causes affecting these organs. They may prove fatal, too, without leaving any very distinct trace of altered structure in the dead body.

The frequency of *railway accidents* has, of late, by multiplying this class of injuries, given added importance to them, both as regards the medical jurist and the profession generally, and, what is to be regretted, been the occasion of bringing out not a little conflict of professional opinion on the part of witnesses cited on trials originating in such accidents. This undesirable result has arisen from the circumstances of their serious character not being always apparent at the time of their occurrence; and from proper allowance not being always made for the possibility of their giving rise to secondary effects in individual instances.

(1.) *Wounds of the head* are important, chiefly from their liability to disturb the functions of the brain, or to involve that viscus in active disease. When strictly local, they heal without much trouble; but even in these circumstances they may be complicated with diffuse abscess, erysipelas, or irritative fever.

When the irritation such wounds give rise to is considerable, or even when they appear slight, the brain and its membranes may sympathise with injuries of this sort; or the party may be attacked with tetanus; and in either of these ways an injury, at first inconsiderable, may prove unexpectedly fatal. A *simple blow on the head*, with or without a scalp-wound, may sooner or later lead to mischief about the bones of the calvaria. Sometimes the diseased action thus set up ends in hypertrophy of the bones, which may go on for years, and the calvaria thus become enormously thickened. Again, the diseased action thus set up may lead to caries and necrosis of the calvaria. Here the disease may be limited to the original seat of the injury, or it may spread widely, affecting either one or both tables of the bone. Again, a blow on the head may be followed by acute inflammation, with its starting point in the diploë, the consequence of extravasation of blood, or of the breaking-down of the cancellous tissue, without injury to the cranial tables, though liable to spread to these or to induce pyæmia.

In either of these cases, the patient may not appear to suffer much, or not at all, *at first*; the illness, when it occurs either in a few days or only after weeks, may assume the chronic form, or it may prove rapidly fatal.—(Holmes, vol. ii., pages 298-9.)

Instances of such effects of apparently slight or trivial injuries, from their occasionally unexpected character, are apt to take the practitioner by surprise. They are by no means of very unfrequent occurrence, and such instances have been cited from my own practice in a previous lecture.

(2.) *Contusions of the head*, as a rule, are not dangerous, if unattended with such symptoms of violence as are set down by most surgical writers as the effects of concussion of the brain, but which, as we saw formerly, are by some recent authorities attributed in every case to contusion and mechanical injury of that organ.

(3.) *Punctures*, or even *simple fractures* of the bones of the head, when *unaccompanied with injury of the brain*, are not in general followed by bad consequences, though a guarded prognosis should be given, even in apparently slight cases, as the exact state of matters cannot always be known at the time. The brain, however, may be reached in this way, with or without much injury of the soft and hard parts encasing it. Death, as we saw under "Infanticide," may be caused in infants by punctures through the fontanelles, or the base of the skull. Again, the brain may be reached by penetrating instruments through the orbits or nostrils.

An interesting case of the latter kind led to a trial here in 1855. A person in Peterhead had been thrust at by "a walking-stick, not by any means a stout one, but armed with a small iron ferule, having a knob at the extremity about the size of a large pea." The stick had passed through the right lower eyelid, partially displacing the orbit. The man survived till the third day, at first conscious, but suffering great pain, though afterwards becoming comatose. On dissection, the instrument was found to have passed through the orbital plate of the frontal bone, and to have led to unhealthy inflammation of the membranes and surface of the right anterior lobe of the brain, in the vicinity of the fracture.—(*Monthly Journal of Med. Science*, June, 1855.) (The fractured bone, for which I am indebted to Dr. Jamieson, of Peterhead, is now in the museum.)

I had an opportunity some years ago of seeing a case at Banchory which terminated favourably, where, from the symptoms, it was probable that a large needle used for making farm-sacking had been pushed up through the nostrils and the cribriform plate of the ethmoid bone.

In those cases of *instantaneous death* which are usually known as *concussion*, but by some as *contusion of the brain*, death is found to be caused by syncope from the depression of the cerebral functions. Compression of the brain, where death follows more slowly, leads to death by *coma* or *comato-asphyxia*, the arrest of the respiration following the depression or arrest of the functions of the brain. At a later period, death may follow as the result of inflammation of the brain, originating in the injuries received—superficial injuries; commotion, whether without or with contusion; fractures of the skull, succeeded either by inflammatory or irritative fever, or compression from the products of the inflammation,—resolving itself into death by *coma*. In the same way, death is often produced by *disorganisation of the brain*, which does not necessarily imply compression of its substance. We have seen already that it was till lately held generally, that death may result from *the mere commotion of the brain*, without either *fracture of the skull*, *effusion of blood* within the head, or *any other change* being to be observed in dissection; and that this is denied by some later authorities. The dispute, however, is not of much practical importance; as, while the latter contend for the existence of structural change having actually occurred in every such instance, the former parties admit that such lesion may be inferred, though the suddenness of the fatal event has not allowed time for such subsequent changes as

hæmorrhage or inflammation, or the establishment of reaction. Injuries of this sort, whether we term them cases of *concussion* or of *contusion of the brain*, may prove fatal *instantly* and *directly*, or *indirectly*, after a lapse of days or even weeks, or still longer periods, from the consequences of the original violence. Thus, chronic inflammation and its sequence may go on progressively and terminate fatally, after the lapse of several weeks, months, or even, it is believed, of years. A case of this sort was given in a previous lecture.

Effusion of blood within the cranium, either upon the surface of the brain, into its substance, or into the ventricles, from laceration of the brain, or the rupture of one or more blood-vessels by a fractured bone, or by separation of its membranes, is a very common cause of death from violence producing commotion of the brain. This has even been found to occur when there was no external mark of injury on the head; and the frequency of *effusion within the skull without any apparent external injury* may lead to a very important medico-legal question in many cases of sudden death—viz., *whether the effusion has arisen from violence or from natural disease*. In some cases, particularly where the vessels of the brain are in a diseased state, or where there is a tendency to softening of the brain, continued intoxication, or a sudden burst of passion, or struggling with another person, or a fall, may occasion the bursting of a bloodvessel within the head, and cause a fatal effusion of blood. Such effusions, when *spontaneous*, are most usually in the *substance of the brain*, while *effusion from the effects of violence* is most commonly on *its surface*, or between the brain-matter and the skull.

4. Next in importance, though not in frequency, are similar *injuries of the spinal cord*. Those which wound, divide, compress, or disorganise any part of the spinal cord in general prove fatal either immediately or after an interval of more or less duration, according to the situation, extent, or nature of the injury. When the cord is deeply penetrated or injured at its upper part, death takes place immediately. But if the lesion is superficial, and at a point lower down in the cord, the injury, though not immediately fatal, is followed by less of pain and feeling below the injured parts, by which the patient sooner or later dies. Wounds of the medulla oblongata, or pressure from effused blood, or fracture and destruction of the vertebræ, prove instantly fatal in consequence of the circulation and respiration being brought to a stand. Hence the importance in all such cases of a careful inspection of the spine after death—a point too little attended to. It is important, however, to be aware of the fact that extravasation of blood upon the spinal cord is not necessarily the result of violence, but may occur spontaneously, as has been shown by Dr. Abercrombie.

It may be well here to direct your attention to a circumstance which bears chiefly, if not exclusively, on the class of injuries under consideration. I refer to the emptiness of blood in fresh bodies on both sides of the heart, and that so complete that the endocardium is not wet enough to stain a white cloth applied to it. The first instance of this sort which attracted my attention was in a man fifty-five years of age, who died instantly from the fall on the back of his head and the upper part of his spine, while in a stooping posture, of a chimney from the third floor of a house which was being pulled down in Castle-street, Aberdeen, in August, 1839. At the inspection, several fractures at the base of the skull appeared to have radiated upwards from the foramen magnum as a centre. The appearances otherwise were those of death by syncope. I have since met with two cases almost parallel with the above—one from the fall of a railway-arch, crushing the occiput and two of the cervical vertebræ; the other after a railway collision, dislocating the dorsal vertebræ.

(5.) The effect *on the nerves* of concussions received on the trunk have been already sufficiently illustrated. It may be proper, however, to remark here that blows on this part may be instantly fatal, by leading to the arrest of the heart's action, and consequently death by syncope, as in concussion of the brain, without leaving any morbid appearances in the body.—(Watson on Homicide, pages 27 to 88, *pass.*)

I have now to notice, in *the second place*, the effects of *injuries of the circulatory system*. Injuries of the circulatory system are frequent causes of sudden death, and are often the subject of medico-legal investigation. The fatal issue arises from the extreme exhaustion and depression of the vital powers consequent on extensive hæmorrhage, and the death is by syncope. Injuries of the circulatory organs may, however, prove fatal otherwise. Thus, a less effusion than would destroy life may prove fatal from the pressure of the effused blood impeding the functions of organs essential to life, such as the brain, the spinal cord, the heart, or the lungs.

By *the admission of air into the veins*, a wound of a blood-vessel may instantly destroy life.

It is impossible to say beforehand what amount of blood may be lost without leading to fatal syncope, as this varies with different states of the constitution, and with the habits of the party. The *rupture of a varicose vein*, or even *the extraction of a tooth*, in spanæmious individuals, may lead to dangerous, or even fatal, hæmorrhage; both of which occurrences I have witnessed in practice. I have twice had the opportunity of examining the bodies of persons who had bled to death from suicidal wounds of *the veins at the bend of the arm*. One, a seaman, was found dead some years ago in a court in the Gallowgate, Aberdeen, lying in the recumbent position in bed, with the wounded arm hanging down in front of it. The other, a cattle-dealer at Strathdon, in the spring of 1867, was found on a hillside, in a pool of blood, with a small superficial wound on the *right* side of the neck; and the left *median basilic vein* cut across with a penknife, a strap of leather surrounding the arm above the part, as in ordinary venesection. In the case of Christian Davidson, previously referred to, for causing whose death a person was tried here in 1854, *the division*, with the points of a pair of scissors, of *the frontal branch of the temporal artery* on one side had led to fatal syncope.

In each of these cases the parties were known to have been of very intemperate habits. From the state of matters, it is notorious that cases of slight wounds of the scalp, or incised wounds of no great depth in the limbs, lead to so copious a flow of blood that, if left to themselves, the parties, if they did not perish in this way, as in the two cases above, if unattended, would be left thereby in a state of great prostration. Such cases are not unfrequent at our police-stations, or in taverns where fighting has been going on.

The proofs of death from hæmorrhage are deducible from (1) the indications of the wound having been produced *during life*; (2) the *absence of blood* in the *larger vessels* and *important viscera*; and (3) *the healthy state of the principal organs of the body*.

So much for the prognosis of wounds *in general*. I have now to consider the consequences of *wounds* in *different parts of the body*.

I have nothing to add to what I have said of *wounds of the head*.

Wounds of the neck are often the subject of medico-legal inquiry. Cases of murder by wounds in this situation occasionally occur, though death from this cause is oftener the result of suicide than of homicide. In the Cults case, previously adduced (1854), the spinal cord was divided through the intervertebral substance betwixt two of the cervical vertebræ, which at once decided that the case was one of homicide. It should be borne in mind, however, that the extent of injury inflicted by a determined suicide may sometimes be very considerable.

In a seaman on board a vessel in Aberdeen harbour, to whom I was called some years ago, it was found that he had divided all the soft parts in front of the vertebræ, and the mark of the edge of the razor was noticeable on the surface of one of these bones.

In a sweep at Justice-street, Aberdeen, two such incisions and *two such impressions* were seen on the body of one of the cervical vertebræ.

Punctured wounds are occasionally, though rarely, made in this region with suicidal intent. It was in this way that Castlereagh destroyed himself, by plunging the penknife through the carotid artery (Holmes, page 466-7). In a previous lecture I mentioned a suicidal case which united the characters of an incised and a penetrating wound on the front of the neck.

Wounds of the chest may prove fatal in different ways. The most frequent cause of death is syncope, from the hæmorrhage occasioned. A less effusion of blood than would destroy life in this way may lead to the same result by compression of the heart, as when effused into the pericardium; or of the lungs, when the effusion is into the chest. A *rupture* of the heart or large vessels within the chest may take place, either from pressure or a blow upon it, without any appearance of external injury. The same injuries, however, it should be known, may occur spontaneously. I have already related one instance of spontaneous rupture of the aorta in a person free from aneurism or other previous apparent disease. *Wounds* of the heart and large vessels are not *necessarily instantly fatal*. Thus, in the case of a woman at Old Meldrum, in July, 1857, for the murder of whom a man (Booth) was tried and executed at Aberdeen, the heart had been transfixed with a deer-knife, notwithstanding which, the victim, after the receipt of the

injury, left the apartment (a shop), ran across the street, returned to the shop, and to the back of the counter there, before falling down dead.

In *injuries of the abdomen and pelvis*, death sometimes follows the division of the arteries of the viscera.

Wounds of the organs of generation occasionally lead to fatal hæmorrhage, without any of the larger vessels being divided.

A few years ago several remarkable cases occurred in Edinburgh and Glasgow from wounds in the labia of the female.

In 1826, a person of the name of Pollock was tried at Edinburgh for the murder of his wife, by inflicting two wounds of this sort. Two incisions of the inner side of the right nympha, penetrating to the depth of two inches and a half, were observed on dissection, and the clothes in the vicinity were stained with blood. The woman was intoxicated at the time of receiving these wounds. Pollock was convicted, and would have suffered death, but hung himself before the day of execution.

Two persons were tried in Edinburgh in 1831, for inflicting a wound in the labium of a woman. It was three-quarters of an inch in length, and three inches in depth. She died from loss of blood soon after its infliction. The parties escaped from a charge of murder from want of proof as to which of them had given the wound.

Two persons were tried in Glasgow in 1830 and 1831, for causing the deaths of their wives in this way, and both were convicted and executed.

A case of this kind was tried at Aberdeen in the autumn of 1849, but, from the impossibility of determining which of the two parties tried had inflicted the fatal wound in the vagina, a verdict was returned of "not proven." In this instance two incisions were discovered, one at the left labium, the other at the entrance of the vagina at its upper part, and the female (who was pregnant) did not survive above ten minutes.

In connexion with this subject, it is important to notice that at a discussion which took place (December 1, 1849) in the Edinburgh Obstetrical Society, it was suggested by the late Sir James Simpson that *the spontaneous origin* of such wounds in *pregnant females* is not by any means *impossible*. In support of this view, he refers to a case reported to him by Dr. Kyle, of Dundee, where a pregnant woman died from a rupture in one of the labia, communicating with a large vein, produced apparently by straining while on the night-stool. On the same occasion, Dr. Thomson brought forward a case from his own practice, where a woman, six weeks after delivery, had nearly perished by hæmorrhage from a wound "in the anterior wall of the vagina, at the union of its upper with the middle third," large enough "to admit the finger to a depth of about half an inch." It was believed by the narrator that the wound had occurred during an intercourse of the woman with her husband, (?) without any violence on his part.—(*Monthly Jour. of Med. Science*, February, 1850.)

Be this as it may, it should not be forgotten that it is quite possible that wounds of the *labia* may be produced *accidentally*. Several years ago I was called to a young woman who, while in drink, had fallen upon a chamber-pot and wounded this part, which bled profusely, and required to have the hæmorrhage arrested by pressure.

A curious anomaly occurred in the case of the woman Harvey, at Cults, in 1854, previously referred to as an instance of homicidal cut-throat. The assassin, after the girl's death from the extensive and deep wound in the throat, had inflicted a deep, penetrating wound of the vulva, from which, unlike that on the neck, which had bled copiously, only a little bloody serum had oozed. At the trial in the High Court of Justiciary in Edinburgh, I was asked by the judge (the late Lord Justice Clerk Hope) how I could account for this genital wound. The only hypothesis I could offer was that the assassin had wished it to be supposed that the woman had been violated, which, in case of the discovery leading in his direction, would avert suspicion from him, as it was known that the girl was his own concubine, whom it would not be supposed he would force.

I now come, in the third place, to make some remarks on the prognosis of *injuries of the respiratory system*. Amongst the most important of these are *wounds of the chest and lungs*. Contusions and fractures of the ribs, and wounds of the pleuræ and lungs, are not unusual forms of homicide, and prove fatal from the shock, by way of syncope; by the interruption to the functions of respiration, causing death by asphyxia; or they lead to the same result from the consequent hæmorrhage ending in syncope; or the inflammation and pain which are occasioned by the violence, destroy life more gradually. In penetrating wounds of the chest, the entrance of the air may cause collapse of the lungs, and death by asphyxia. The lungs may also be compressed from blood or other fluids in one or both cavities of the pleura. Wounds of the lungs, likewise, by broken ribs or other means, which produce emphysema of these organs, cause death by suffocation. Pneumothorax from lungs wounded in consequence of fractured ribs, or the decomposition of blood or other fluid effused into the chest, is speedily fatal by asphyxia when both sides are affected; when confined to one side, the patient may recover. "When both sides of the chest are open by penetrating wounds," even without injury of the lungs, "death takes place almost immediately by collapse of the lungs," and consequent asphyxia. "Wounds laying open the larynx and trachea are not necessarily fatal, but they may be so though no other important part is injured, by asphyxia from the hæmorrhage filling up the passage"; "or in cases of the complete division of the trachea by the retraction of the lower orifice impeding respiration. When the wound is situated between the os hyoids and the thyroid cartilage, fluids which are swallowed are apt to fall into the larynx and cause suffocation. Wounds of the larynx, particularly lacerated wounds, may also prove fatal by violent inflammation of the parts. Wounds of the larynx and trachea are rendered much more dangerous when the pharynx or œsophagus has also been wounded, in consequence of matter, either attempted to be swallowed or that may be ejected from the stomach, filling up the trachea. But even injuries of this kind are not necessarily fatal." "When death takes place from self-inflicted wounds in the throat, it is in general owing to injury to some of the large bloodvessels or nerves which lie contingous to the wind-pipe, also wounded in the attempt" on life.—(Devergie, pages 178-82 *pass.*, and 165-8 *pass.*)

This brings me, in the last place, to notice shortly the prognosis in *injuries of the abdomen*. Homicide has frequently been committed by injuries of the parts contained in the abdomen and pelvis by contusions and other injuries. These prove fatal in different ways: (1) by the shock or impression made upon the nervous system; (2) by hæmorrhage; (3) by inflammation; and (4) by interfering with the nutrition of the system. To some of these modes of death I have already alluded; to others I shall now briefly advert.

We have seen that blows or other injuries of the abdominal parietes, either without or with lesion of the deep-seated organs, may prove fatal immediately, or after a lapse of some time, without inflammation or other reaction having been set up. We have also seen the effects of exhaustion of blood on the contents of the viscera, in leading to death from sinking of the powers of life without reaction being established, or the occurrence of inflammation, in those cases in which these viscera have been injured seriously. In these instances the death is by way of syncope. Contusions from blows, and other injuries of the belly and pelvis, are likewise sometimes fatal by inducing inflammation, though the internal organs are not injured. Penetrating wounds of the abdomen, even where the intestine is wounded, are not necessarily fatal, for the effusion of their contents into the belly does not necessarily follow, and the consequent inflammation may be inconsiderable. The same remark applies to rupture of the intestines without external wound. It is to be kept in view by the medical jurist that, in some cases, death happens very suddenly from a *spontaneous* rupture of some part of the bowels, even without any previous disease. Injuries of the liver, spleen, kidneys, and bladder are often attended with the same fatal consequences as injuries of the bowels.—(*Id.*, pages 183-96 *pass.*)

This brings me, in the next place, to the consideration of, *circumstances which* are *occasionally* found to *interfere with the natural progress of injuries* in the living, so as to control and modify their accustomed course.

Such of these modifying circumstances *generally* as are applicable, more or less, to the whole or the greater number of the injuries which we have included under "Homicide," were considered under that head. Those which require to be adverted to here are such as specially refer to the subject under discussion (Wounds).

1. Of the first of these modifying circumstances, *age*, little need be said. It is known that while, on the one hand, children readily succumb to certain forms of violence, on the other, they show a wonderful power of recovery from the consequences of others of them; and it is equally known that adult age presents a better chance of escape than does old age from the severer forms of injury.

2. Equally marked differences distinguish the *sexes*, particularly during the child-bearing period of the female, who at other times, as a rule, succumbs less readily than the male to many forms of violence.

3. *Certain constitutional peculiarities*, natural or acquired, render injuries much more serious to some individuals than the same injuries would be to others. Thus, *the bones* in some are so *thin and brittle* as easily to be *fractured* by slight blows or falls. Two such cases have been already adduced. A skull in our museum is that of an old man, extensively fractured on one side by a blow, the skull being unusually thin at the seat of the fracture. Some people are of a preternaturally *phlogistic* or *hæmorrhagic diathesis;* hence dangerous inflammation or hæmorrhage may follow trifling blows or wounds. The same serious consequences may follow similar slight injuries in *persons of intemperate habits* or *broken-down constitutions*, besides the liability of the one to delirium tremens, and the other to gangrene. In such parties, too, and in *persons suffering under previous injuries and diseases*, death not unusually occurs suddenly in drunken quarrels, in which it may be difficult to say what share should be attributed to the blows which may have been received, what to passion, intoxication, the struggle, the enfeebled constitution, or previous disease. Cases of this sort might easily be multiplied, where dissection has pointed out a ruptured aneurism, apoplexy, with diseased state of the arteries at the base of the brain, disease of the heart, advanced phthisis, pneumonia, etc. *Subsequent injury or disease* may modify the result of the injury, as may the *neglect* of treatment or of hygienic precautions on the part of the patient or his medical attendant.—(Watson, pages 197-237, *pass.*)

Having now concluded our remarks in regard to the proper *diagnosis* and *prognosis of wounds*, and other injuries included in law under that designation, it only remains to treat of the *medico-legal inspection after death* from wounds. In cases of death from violence, several medico-legal questions may arise which can only be settled by a general survey of the body, and a carefully conducted external examination of the corpse and its accessories, in addition to the ordinary dissection of its internal cavities. The first point for the medical jurist to ascertain in those cases is *the nature of the wound*, whether contused, lacerated, incised, or otherwise. Secondly, he should endeavour to ascertain whether the wound has been *recently inflicted*, or has been of *longer standing*. Thirdly, he has to determine whether it had been *inflicted during life* or *after death*. Fourthly, any *weapon* found should be *compared with the external wound*, and *with the clothes* where they have been penetrated by it. Fifthly, any *foreign body* found in the wound should be *carefully preserved*. Sixthly, the length, breadth, and depth of the wound are to be carefully examined. Seventh, *the situation and direction of the wound* demand attention as affording evidence of the *intent* of the person who inflicted them, the manner in which the wound had been inflicted, and the relative position of the individuals concerned at the moment of their infliction. The situation and direction of wounds has been also of importance in ascertaining whether the fatal injury was inflicted by *another*, or by the *individual himself*. Eighth, the *probable manner*, *force*, and *weapons employed* for their infliction are to be ascertained by the nature and extent of the wounds, together with the known effects of certain weapons or wounding bodies, when applied with different degrees of force. Lastly, the question whether death has been the result of *accident*, *suicide*, or *homicide* may sometimes admit of being decided by the medical examiner.

Many of these various points have been necessarily anticipated; and others of them belong to the *legal* proof rather than to the *medical*, though they cannot be properly overlooked by the medical jurist, who is by his position best fitted to form a correct estimate of their bearing on the case in hand. Besides, *general rules* cannot be laid down which shall be applicable to the varying circumstances of individual instances of suspected homicide. Still, there are some data of a general nature which require the attention of the medical examiner, and are certain to be of essential importance towards the elucidation of the several points we have enumerated. These I shall therefore pass in review, as briefly as I can, not in the precise order in which I have stated them; but as they may be expected to come under the notice of the examiner at the post-mortem examination.

First, then, some *preliminary observation* may be demanded before proceeding to the *examination proper*, which may throw light on the case where little or nothing is known of the previous history, and when a body is found under suspicious or doubtful circumstances, such as (*a*) the precise *position of the corpse;* (*b*) *the sex;* (*c*) *the apparent age;* (*d*) *the general conformation of the body;* (*e*) *the clothing*, whether complete or otherwise, undisturbed or displaced in any way; if torn, soiled, stained with blood, dirt, or mud, or otherwise; (*f*) *the locality*, whether an open spot, or a concealed place; (*g*) *the ground*, whether showing traces of a struggle, marks of footprints different from those which might have been left by the deceased, and if so, in what direction they admitted of being traced; (*h*) *the probable period the corpse may have lain at the place*, etc. The data for the settlement of several of these points have been already discussed; as also certain inferences to be drawn from them; while to some of them we shall have again to recur presently.

This preliminary observation over, the

External examination of the body may be proceeded with; and first, the *nature of the wound*, whether incised, punctured, contused, etc., is to be determined by the data already laid down; as also, second, whether it had been inflicted *recently* or *more remotely*, and whether *during life* or *only after death*. Third. *The weapon*, if any had been found near the body, has to be compared with *the exterior of the wound*, and also with *the clothes* where these had been penetrated by it; these, along with the weapon, being carefully preserved and labelled for subsequent identification. Fourth. Any foreign body found in the wound must be noted and preserved, and note taken of its nature; whether clothes, fragments of wood, wadding, or otherwise. Fifth. The amount of blood which may have escaped frem the wound, and its distribution round its edges, on the clothes, or on the articles on the ground in the vicinity of the corpse, deserves attention. Sixth. In *gunshot wounds*, any *stains from gunpowder* should be looked for and noted, if present, either about the *lips of the wound*, or the *fingers and mouth of the corpse*. Seventh. The *size of the wound* should be carefully measured and noted. Eighth. Its *direction and depth* (points of great importance) demand a methodical course of procedure. For this purpose the inspection should not proceed *at random*, but *in a systematic manner*. A circular incision should with this view be carried around, about three or four inches from the wound, taking care not to interfere with it, and the integuments then dissected off from the circumference to the centre. The same mode of procedure should be adopted with the muscles, bloodvessels, nerves, and bones; in short, all the parts interested in the traject of the wound. In this way only can an accurate idea be formed of the tissues involved in the wound, the direction in which they have been divided, the foreign bodies which may have lodged there, and the relative position of the assassin and his victim at the moment of its infliction. By this means also, and by them alone, the examiner can ascertain whether the wound has, or has not, been necessarily mortal; how and by what instrument it has been caused; what period of time has probably elapsed between the receipt of the injury and the death of the party; and whether the person has suffered pain to any great extent or otherwise.

This stage of the examination completed, the inspector has only further to proceed to the dissection of the body, for which no special directions require to be given, in so far as the cavities are concerned. The distribution of the blood and the traeing of the extent of the wound or other injury are the chief things to be attended to. By carefully ascertaining the state and distribution of the blood in the heart, lungs, and brain, the mode of death will be learned—a point of some importanee.

Lastly, the *nature* and *circumstances* under which the body is found may enable the medical examiner sometimes to decide the question whether death has been the result of *accident*, *suicide*, or *homicide*. Thus:—

(*a.*) *Contusions* are very rarely *self-inflicted*, though exceptions to this occur. Suicide, for instance, is sometimes committed by the party easting himself from a precipice or window, instances of which we meet with in maniaes and drunkards. Prisoners and maniacs have also been known to dash themselves against a wall. A fatal accident of this kind occurred at Union-place, a few winters ago, by a tradesman, during a snow-storm, while running fast, coming forcibly against a projecting iron paling. Although, as a rule, contusions are very rarely self-inflicted, yet it is often very difficult, in many cases, to determine whether they have been the result of accident, or of injury inflicted by another person. The assailant usually strikes about the face or upper part of the chest, but these parts also suffer in an accidental fall. The ease is different when the contusion is met with in a part of the body which could not have been injured accidentally, as on the inner side of the arms or legs, on different sides of the legs, and the like.

Very severe eontusions or lacerations, which could only have been inflicted by means of an axe, hammer, or other such ponderous weapon, are almost always inflicted by another for the purpose of murder. In such cases, accident and suicide are generally both out of the question.

(*b.*) *Lacerated wounds*, as a rule, are the result of accident,

though maniacs have been known to inflict severe injuries of this kind on themselves.

(*c.*) A penetrating *wound* in a *concealed* part is highly suspicious of murder. The part of the body struck at by the assassin will be influenced by the character of the weapon he employs, and the mode in which it is handled by him. Thus, he will strike with a dagger or poniard, which he holds with the point undermost, downwards and inwards at the bottom of the neck or upper part of the chest of his victim; while, if he stabs with a long knife, he aims at the region of the heart.

Death by *stabbing* is generally the deed of another person for the purpose of murder. It occurs rarely for the purpose of suicide, and still more rarely by accident.

(*d.*) Incised wounds of a serious kind are very infrequent in purely medico-legal practice, except in instances of *suicide*.

It has been conceived that, in cases of suicide, wounds are seldom made steadily, so as to form a clean cut, unless the person is in a state of delirium. But few persons commit suicide who are not either in delirium, or in a state resembling it, at the time. Besides, a very clean cut may be inflicted with a sharp knife by a determined suicide without any delirium; while, on the other hand, a wound made by an assassin may be ragged and uneven from the struggles of his victim. No great reliance, therefore, is to be placed in this indication of suicidal wounds; neither is any confidence to be placed in the evidence deduced from the number of the wounds, which, in suicide, are said to be generally few in number. Suicidal wounds are, as a rule, very seldom inflicted in the back or left side of the body unless the individual is left-handed. Self-inflicted wounds also very rarely occur in a concealed part of the body. In cases of suicide, the situation of the wound varies with the kind of weapon used. Thus, if a suicide *shoots himself*, he generally shoots himself through *the head;* if he *stabs* himself, he does it in *the chest* or *belly;* if he effects his purpose by a cutting instrument or incisions, he selects the throat. Suicide *in females* is seldom, if ever, accomplished by *cutting instruments* or *firearms*. If there is a wound upon the body, and no weapon is found near it, or if the weapon is found concealed where it could not have been concealed by the deceased, accident and suicide are both out of the question. Murderers often use several weapons to despatch their victims, first employing one to stun, and then another to stab, shoot, or strangle them. Suicides, on the other hand, seldom use more than one method, though to this there have been some exceptions. If *gunshot wounds* occur in the back, they cannot have been self-inflicted.—(Watson, pages 249-78, *pass.*)

Oleo-calcareous Liniment in Fissure of the Anus.—Dr. Carrère relates a case of very painful fissure of the anus, in which, after failing with the usual means, it occurred to him to try the above liniment, which is found useful in burns. By means of a small hair-pencil the fissure was painted over with it three or four times a day, a few shreds of charpie moistened with it being also left in at night. The fissure was completely cured in a week.—*Rév. Méd.*

Glasgow Southern Medical Society.—The thirty-fourth annual meeting of this Society was held on September 20, when the following gentlemen were elected office-bearers for the ensuing year:—*President:* Eben Duncan, M.D. *Vice-President:* John Niven, L.F.P.S. *Treasurer:* Ed. McMillan, L.R.C.S. *Secretary:* Thos. F. Gilmour, L.R.C.P. *Editorial Secretary:* Andrew J. Hall, M.B. *Seal Keeper:* Robt. S. Wallace, L.F.P.S. *Court Medical:* John Dougall, M.D. (Convener); A. L. Kelly, M.D.; Neil Carmichael, M.D.; James Morton, M.D.; Robert Park, L.F.P.S.

Temperature of the Eye.—Dr. Galezowski read a paper at the Havre meeting, in which he stated that the temperature of the healthy eye, ascertained by a small thermometer introduced under the eyelids, is about 37·5° C. The disease which gives rise to its greatest elevation is catarrhal conjunctivitis, in which it may rise as much as 2°, as it may also in abscess of the cornea. In affections consequent on alterations in the fifth pair, there is rather a diminution of the temperature, although the inflammatory symptoms may be very intense. Dr. Galezowski has also sought to ascertain whether it is not also a general elevation of the temperature in certain affections of the eye. He has found this to be the case, but recognises the fact that the ocular affection is only a manifestation of a more general disease, and that when this is suitably treated the morbid ocular phenomena soon disappear.—*Rév. Scientifique*, September 8.

ORIGINAL COMMUNICATIONS.

THE NATURE AND THERAPEUTICAL VALUE OF ELECTRICAL TENSION.

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The object of the present paper is to elucidate a point of some theoretical difficulty, and which seems not to have received its proper amount of attention in the usual works on electro-therapeutics. We shall try first to dispel the obscurity which attends the idea of electrical "tension"; and next to explain the facts where it finds a practical application.

It is often said, but little remembered, that electrical currents—including the "spark" of the frictional machine, the momentary current of the induction coil, and the typical continuous flow of the galvanic battery—are governed by Ohm's law. Of course we speak here of currents only in reference to their strength; their effects vary widely, and, to speak of physiology alone, depend as much upon their duration and rate of intermittence as upon their strength.

What, then, says Ohm's law? The strength of an electrical current is directly proportional to the electro-motive force impelling it, indirectly to the resistance opposing flow. In other words, $C = \frac{E}{R}$. The researches of physicists have one and all confirmed the universality of this formula. But we find in it no reference to the "tension" of the current so often mentioned. It must, then, either denote an imaginary, or at least special, property of the current, or be implied in some one or more of the three terms of the formula. Let us examine them a little more closely. The strength of an electrical current is defined as "the quantity of electricity flowing in a unit of time," exactly as the strength of a stream of water is measured by the number of gallons it conveys in the second or minute. In both cases the strength of the current denotes the work it can perform.

The resistance offered by a body to the passage of a current of electricity depends upon its greater or less conductivity, of which it is the reciprocal. This, again, may be illustrated by a hydrostatical example, and compared to the diameter of water-pipes. *Cæteris paribus*, the quantity of fluid transmitted is proportional to the diameter of the pipe in the one instance, and to the conductivity of the body in the other.

Electro-motive force is not really a force in the same sense as heat, etc. It is only an abstraction—a name given to the hidden cause which, to continue our analogy between electricity and water, manifests itself as "difference of level" between two points. This difference of electrical level is called difference of potential, and is exhibited between the poles of a galvanic cell, or battery, between the terminals of an induction coil, between the knobs of a frictional machine, between two thunder-clouds, between the longitudinal and transverse section of a muscle; in a word, wherever electrical equilibrium is disturbed. Without difference of level there is no current, either of water or of electricity.

Now, tension is, in its only possible acceptation, but the older term for difference of potential. Difference of potential again is, as we have just said, the manifestation of electro-motive force at two given points. Hence, assuming one of the points at zero (that is, at the earth's potential), we are able to speak absolutely of the potential, or tension, of a point. Thus, the tension at any point in a circuit is simply the electro-motive force effective at that point to carry on the current. If, however, we examine a little more closely the word tension in its ordinary loose employment, as, for instance, in most books of electro-therapeutics, we find that another idea is mixed up in it with that of potential—the idea of resistance. This apparently depends upon two causes. First, it is evident that, in order to have two points at very different potentials, they must be separated by a resistance sufficient to prevent the immediate equalisation of levels. This is well illustrated by the phenomena of atmospheric electricity. Air, we know, offers an enormous resistance to the passage of a current. But as soon as the difference of potential between the earth and a cloud has reached a sufficient height to overcome that resistance, equilibrium is restored: the flash of lightning is the best possible instance of a current of high tension.

Secondly, the use of elements with high internal resistance

allows a larger number to be applied without increasing the current-strength, but only the "tension" of the current. This has undoubtedly led some medical writers to ascribe to that resistance the origin of tension.

To sum up: "Tension" in its strict sense has been replaced in the present school of electricians by "potential," which again may practically be used convertibly with "electro-motive force." The value of "currents of high tension" is given to currents impelled by a high electro-motive force through a large resistance. Thus, currents equal in strength are given by 1, 10, 1000, or any number of volts, provided the resistance in circuit be proportional to the electro-motive force, but the last will have a higher tension than the former. If we use in one case a battery of 35 Daniells to galvanise a patient, the resistance of whose body, including the electrodes, etc., may be taken at 3500 ohms (the resistance of the battery may be neglected, and the electro-motive force of each cell taken at 1 volt), the strength of the current obtained is $\frac{35\times1}{3500}=\cdot01$.

We obtain the same result by using 350 Daniells and introducing into the circuit an additional resistance of 31,500 ohms; for $\frac{350\times1}{31500+3500}=\cdot01$. Thus we gain nothing as far as the quantity of electricity flowing through the patient is concerned. But the following points must be noticed:—If, when we are using the thirty-five cells, we allow the moist electrodes to remain ten or fifteen minutes in contact with the same portion of the skin, the galvanometer shows during that period a marked increase of the current-strength. If we move one of the electrodes over different points of the body, the needle again shows variations in the quantity of electricity flowing. If, on different occasions, we use rheophores not equally moistened, or moistened with salt solution of varying strength, or if the rheophores and electrodes have become oxidised; or, again, if one day the patient's skin is cold and dry, and another hot and perspiring,—we shall find that each of these circumstances produces fluctuations in the current given by our battery, supposing, of course, no change has occurred in it. The reason is, that in every case there is an alteration of the resistances in the circuit. Suppose these variations make the original resistance range between 2500 and 4500, it is clear that the current will vary in the proportion of 5 to 9.

Now, if we use the battery of 350 volts with an additional resistance of 31,500 ohms, it is at once apparent that the variations just described have, practically, no influence upon the current-strength, which will vary in the proportion of 34 to 35 only. Nay, the resistance of the whole body, when placed in the circuit, produces a diminution of but one-tenth of the previous current-strength, for $\frac{315}{350}=\frac{9}{10}$. Hence we deduce the rule that the constancy of the current is inversely proportional to the ratio which the fluctuations of the adventitious resistances bear to the permanent resistance in the circuit; that is, *cæteris paribus*, the constancy of a current is proportional to its tension.

In the case of the induced current the well-known controversy between Duchenne and Becquerel, in which the latter showed that the alleged physiological differences between the primary and secondary currents were solely due to their respective tension, has attracted the attention of electro-therapeutists to this subject. Coils may be made either of a short thick wire, or of a long fine one. The electro-motive force generated in a coil is, *cæteris paribus*, directly proportional to the number of turns it contains, whilst the resistance is directly proportional to the length, and indirectly to the diameter of the wire. Hence, coils made of a long fine wire give currents of high tension. And the same observations apply to them as to galvanic batteries with a large number of elements and additional resistance. For instance, if I induce in a short thick coil of 5 ohms resistance an electro-motive force of 50 volts, and in a long fine coil of 8000 ohms an electro-motive force of 250 volts, and send the current through a portion of the body of, say, 2000 ohms, the current-strength in both cases is about ·0025. But whilst any variation in the resistance included (such, for instance, as when the skin is not moistened) is accompanied by corresponding changes in the first instance; no such effect is produced in the second. Whenever, then, in practice, currents of great constancy are required, high tension batteries and coils will be found preferable.

For instance, in electro-diagnosis, the utmost uniformity of current-strength is to be secured. For this purpose minute attention must be paid, when an ordinary galvanic battery is used, to the details of the operation, such as the degree of moisture of the skin on the two sides of the body, the amount of pressure of the electrodes, etc. It is evident that both time is saved and accuracy insured by the use of a high tension current; for, as we have just shown, even considerable oscillations in the external resistance, due to causes mentioned above, may be neutralised by the large additional resistance in the circuit. These remarks equally apply when constancy is required, either for physiological research or therapeutical application.

The effects of high tension currents upon the skin is to be noted. If a current of ·003 (produced in the one case by ten Leclanchés and no additional resistance, and in the other by 1000 through 50,000 ohms) be sent through the hand, for instance, exactly the same result is obtained when the rheophores are firmly applied to the surface. But if the negative pole be made to touch lightly the skin, a great difference in the sensations produced is observed. No pain is felt on the first application, but a very sharp stinging pain is felt on the second. The same phenomena are observed when induced currents of the same strength, but produced in different coils, are used. The epidermis offers, especially when dry, a considerable resistance to the current. This resistance increases proportionally to the smallness of the surface touched by the electrode. The ordinary low tension current is so much weakened by this resistance as to become unappreciable; the high tension current suffers no such diminution. Again, currents of the same strength have a local action proportional to their density. These two considerations explain the superiority of high tension currents when a powerful action upon the skin is required.

Similar considerations show, also, that high tension currents must be used when a localised action is to be exerted upon some deep-seated organ. Different tissues conduct electricity differently. For instance, the resistances of muscle, nerve, and bone are said to be in the proportion of 1 : 3 : 12. If, then, for instance, we have to influence the spinal cord, we labour under a double disadvantage: the current has to be sent through a moderately good conductor, enclosed in a tube of great resistance, itself surrounded by a mass of well-conducting material. It is evident, therefore, that with an ordinary battery powerful currents must be used, in order that a sensible quantity of electricity reach the cord. Much the greater proportion is wasted in the muscles surrounding the spine. On the other hand, we have a right to assume, on physical grounds, that the cord is more easily influenced by high tension currents. What happens in the case of the skin will happen to the bony protection of the cord; its resistance is small compared to the resistances in circuit, and is easily overcome. The course of the current will be more direct, its density greater; hence its action more localised. As an illustration we may take the action of the modern rifle-bullets: fired under great pressure, they readily pierce any obstacle in their course. A point to be remembered, also, is that high tension may be used weaker than low tension currents, and therefore allow of smaller electrodes being employed without producing pain or disorganisation of the skin. This is an important factor in the localisation of the current.

Before concluding, a few words about the apparatus may be found useful. The number of cells must, of course, be large—the larger the better,—but very good results are obtained with 100 cells. The additional resistance is obtained by means of a water rheostat, or set of resistance coils. The graduation of the current being effected by means of the latter, a collector is not necessary, but it may be found convenient to be able to work with half the battery at a time when very weak currents are requisite. Fifty Leclanchés through 50,000 ohms give a current of ·0015, which can be safely applied to the head. A properly graduated galvanometer should be used. The liquid rheostat allows of a very fine graduation of the current. An advantage of this method is that it does away with the multitudes of wires necessitated by a collector—a constant source of trouble with batteries. Nor is the bulk of the wear and tear thrown upon the first ten or twenty cells of the battery, but is evenly spread over the whole number. Not only there is no waste of material by using a high tension battery, but rather a saving, for the amount of chemical change in the cells is proportional not to the number of elements, but to the current-strength used. These changes having a larger surface upon which to develope themselves, are less intense at

any particular point, and the cells last longer. In fact, all the advantages of large over small elements are secured, in addition to the tension. When the action upon the skin is not required, the electrodes must be applied firmly, and the current closed after they are in position. An interrupting handle will be found exceedingly convenient for this purpose. Finally, the cells must be such as do not waste when not in use; Leclanché or chloride of silver elements answer very well, and there is no harm in their having a considerable internal resistance.

With regard to the induced current, what precedes sufficiently shows the desirability of using short thick, or long fine coils, according to the necessities of the case. Gaiffe, of Paris, has supplied me with a Du Bois-Reymond's apparatus, and three coils. The wire of the first is 66 metres in length, 1·4 millimetre in diameter; of the second, 198 metres in length, 0·7 millimetre in diameter; of the third, 600 metres in length, 0·225 millimetre in diameter. The first is useful for treatment generally, with thoroughly moistened skin; the second for diagnosis and powerful effects; the third for cutaneous electrisation. In the usual apparatus the primary (short thick wire) and secondary (long thin) fulfil these indications more or less completely. But it is physically impossible to produce, as some authorities pretend, all the required effects with different lengths of a single coil.

STATISTICS OF DISEASE IN KING WILLIAM'S TOWN, BRITISH KAFFRARIA.

By CHAS. JAS. EGAN, A.B.T.C.D., M.R.C.S., etc.

No. IV.

To render my account of the principal diseases of Kaffraria more complete, I must allude to the fevers and zymotic diseases usually met with here.

In former papers published in this journal (*Medical Times and Gazette*, January 27, 1872, and June 28, 1873), I have given an account of typhus and typhoid fever, small-pox, and scarlatina. Since then no case of true typhus has been met with by me, but typhoid is, as heretofore, met with under the same conditions as those mentioned by me in a previous paper—*i.e.*, occurring often sporadically, among persons constantly inhaling air, or drinking water, contaminated by exhalations from, or mixture with, human excreta, whether such excreta be derived from persons suffering from typhoid fever, or from healthy individuals.

During the six years 1870 to 1875 eighty-four cases of typhoid have been attended. The following table shows the order in which they occurred in each quarter of the year:—

Table I.—*Typhoid Fever.*

	1870.	1871.	1872.	1873.	1874.	1875.	
Spring	4	1	3	1	—	8	= 17, or 20·23 p. cent.
Summer...	—	7	6	6	13	1	= 33, or 39·28 p. cent.
Autumn..	1	3	8	5	4	1	= 22, or 26·19 p. cent.
Winter....	—	—	4	1	5	2	= 12, or 14·28 p. cent.
	5	11	21	13	22	12	= 84

Among these cases seven deaths occurred, equal to 8·33 per cent. It will be seen, by referring to a previous paper, that both dysentery and diarrhœa were much in excess in 1874 over other years, and in that year the rainfall was higher than in any of the other years, exceeding the average of ten years by ten inches.

A few cases of scarlatina have been met with, occurring sporadically, of a very mild form; no death from this disease having taken place. Children in many instances go through a fever in all respects similar to scarlatina—with sore throat, red palate and fauces, strawberry tongue, but without any eruption on the skin, though followed by desquamation. Some cases were followed by œdema and albuminuria, easily amenable to treatment, and not leaving any bad effects behind.

Small-pox has not visited the colony since the epidemic of 1859, and I think that by proper quarantine regulations it can be permanently kept out of the country. On two or three occasions since then ships with small-pox on board have come into ports in the colony, but, by being placed under quarantine, no case of the disease has occurred on shore.

Since I wrote in 1872, a wide-spread epidemic of measles has passed through the colony, and I here give the statistics of it, as it occurred in my practice in King William's Town. The epidemic began in December, 1873, and continued during the summer, autumn, and winter of 1874, as shown in the following table:—

Table II.—*Measles.*

December, 1873	76	cases
January and February, 1874 (summer)	182	,,
March, April, and May, 1874 (autumn)	92	,,
Winter	46	,,
Total	396	cases

Among these, six deaths occurred, or a percentage of 1·51. Three of these deaths were produced by congestion of the lungs, and would have been prevented if ordinary care had been taken of the patients. One was carried off by congestion of the kidneys brought on by cold, the patient having been allowed to get out of bed and go to a yard to relieve the bowels when the eruption was fully developed. Other members of the family had got through the disease so easily, that this child, a boy of ten years of age, was allowed to do just as he liked, as if nothing was the matter with him.

I have not met with any serious secondary affections of the eyes or mucous membranes remaining after attacks of measles, as is so often found at home, except in one case, where a boy, aged fourteen, got lupoid ulceration of the tonsils and palate, which eventually killed him after two years' suffering. Two other members of his family were affected with lupus exedens of the face, and all the family were highly scrofulous.

Intermittent fever and diseases of malarious character do not originate here, and all cases of the kind that have been met with were first contracted by residence in other countries.

No case of cholera morbus has so far been met with here; the disease has never extended further south of the line, on the African coast, than the latitude of Mauritius.

Another disease of which no case has ever occurred in South Africa is hydrophobia; its absence from this country seeming to prove the correctness of the opinion of Mr. Youatt, that it is a disease now only propagated in the dog by direct infection from a rabid animal. The distance of this colony from Europe, and the expense of importing dogs by steamer, act as efficiently in keeping out the disease as a regular system of quarantine.

Both acute and chronic rheumatism are very common; the following table shows the frequency with which they occur:—

Table III.—*Acute Rheumatism.*

	1870.	1871.	1872.	1873.	1874.	1875.	
Spring....	4	6	3	3	16	8	= 40, or 32·26 p. cent.
Summer..	5	2	—	3	11	11	= 32, or 25·80 ,,
Autumn..	6	5	5	—	2	9	= 27, or 21·77 ,,
Winter....	3	5	1	1	9	6	= 25, or 20·16 ,,
	18	18	9	7	38	34	= 124

These were not all of them actual cases of rheumatic fever, many of them being only acute attacks of rheumatism, affecting one joint, and not lasting very long; in some cases removed by a blister, etc.

Five cases of rheumatic inflammation of the pericardium, and three of the endocardium, occurred—of which one died. This case was that of a very delicate girl, aged twelve years, who went through a severe attack of rheumatic fever affecting all the joints, and also the endocardium, especially the mitral valves; on the subsidence of the rheumatic fever, violent chorea set in, and the child died after ten days utterly exhausted; all the usual remedies for chorea, and narcotics having been ineffectually tried.

The cases of chronic rheumatism treated are shown in the following table:—

Table IV.—*Chronic Rheumatism.*

	1870.	1871.	1872.	1873.	1874.	1875.	
Spring....	6	7	3	19	2	4	= 41, or 24·11 p. cent.
Summer..	3	11	7	13	12	5	= 51, or 30·00 ,,
Autumn..	1	3	11	10	3	7	= 35, or 28·80 ,,
Winter...	4	6	3	10	7	13	= 43, or 25·03 ,,
	14	27	24	52	24	29	= 170

This return does not show the proper relative proportion of chronic to acute rheumatism, for many persons suffering from it do not apply for medical assistance, using instead household remedies and various kinds of liniments. But many of these persons suffering from chronic rheumatism have also valvular disease of the heart, the affection of the heart appearing to come on gradually, and not originating in any acute attack of endocarditis.

In the following table I give a summary of the statistics of those diseases brought forward in these papers, and I think

they will compare favourably with similar reports taken in other countries.

The death-rate is low, only 2½ per cent. on the total number of cases treated; and, as far as I can judge, if the death-rate of the entire population of the district could be ascertained, it would not exceed 25 per 1000. However, as yet I am not in a position to determine this point accurately.

Table V.—*Summary of Preceding Tables.*

	No. of cases.	Deaths.	Percentage of deaths.
I. *Diseases of Respiratory Organs*—			
1. Respiratory passages	634	2	0·31
2. Bronchitis	507	4	0·79
3. Pneumonia	132	14	10·60
4. Croup	47	13	27·66
5. Phthisis	41	13	31·07
Totals	1,361	46	3·37
II. *Diseases of Bowels*—			
1. Diarrhœa	619	19	3·07
2. Cholera infantine	36	9	25·00
3. Dysentery	59	3	5·08
Totals	714	31	4·34
III. *Diseases of the Liver*—			
1. Functional disorder	348	—	—
2. Congestion	310	—	—
3. Inflammation	12	—	—
4. Abscess	6	4	66·66
5. Gall-stones	26	3	11·39
6. Amyloid degeneration	16	12	31·24
Totals	718	31	4·34
IV. *Epidemic Diseases*—			
1. Influenza	476	1	0·21
2. Pertussis	212	3	1·41
3. Rubeola	396	6	1·51
4. Typhoid fever	84	7	8·33
Totals	1,168	17	1·45
V. *Rheumatism*—			
1. Acute	124	1	0·80
2. Chronic	170	—	—
Totals	294	1	0·34
Grand totals	4,253	107	2·51

A CRITICAL REVIEW OF THE

PREVAILING THEORIES CONCERNING THE PHYSIOLOGY AND THE PATHOLOGY OF THE BRAIN:

LOCALISATION OF FUNCTIONS, AND MODE OF PRODUCTION OF SYMPTOMS.

By EUGÈNE DUPUY, M.D. Paris, of New York;
orresponding Member of the Paris Société de Biologie; Member of the American Neurological Association, etc.

Part II.

The oldest precise localisation known was established fifteen years ago by Professor Broca. His theory teaches that the faculty of speech is localised in the third frontal convolution of the left hemisphere. There exist a great number of pathological cases which show a very frequent coincidence of disease of that convolution with loss of speech. But ought we to adopt the theory of Broca, so ably maintained by Hughlings-Jackson, and which is even said by Dr. Ferrier to derive support from his experiments on the brains of monkeys?

First, there are cases of aphasia which have occurred with destruction, not of the left, but of the right frontal convolution. It has been answered against this fact that the patient must have been a left-handed person; hence the rule holds true. But, secondly, there are cases of aphasia with lesions seated in other parts of the left hemisphere than the left frontal convolution, or even of the island of Reil, which, according to the greater number of authorities, also is concerned in the faculty of speech; and, thirdly, there are cases in which the island of Reil and Broca's convolution have been found diseased, and no aphasia observed. There are numerous cases enough of this last description, and of the preceding one, to enable me to state at least that if Broca's convolution is the seat of the faculty of speech, it is not the only one; but of course this is only a *pis aller*, because, if we look more into the subject, it will very soon appear that Broca's convolution is not, more than any other convolution, the organ of speech.

The proofs which I can adduce to support this statement are numerous, and, I believe, have some value. It is necessary for me to state at once here that I cannot consider the six or seven different kinds of aphasia usually treated of by authors; physiologically, they are only several degrees of one kind of aphasia.

The cases which I will report now have been well observed, and published by physicians of merit who have recorded them for the purpose of elucidating the subject of aphasia. I shall, therefore, not mention the old cases contrary to the would-be speech-centre, found in the book of Dr. Bateman, and in the works and papers of other authors.

The first and most striking case of destruction of the so-called speech-centre without consequent aphasia is the celebrated American crowbar case. I believe that I was the first to report that extraordinary case in France. Dr. Ferrier, in commenting on it, lays it down that only the anterior portion of the frontal lobe was destroyed by the accident. It is well known that the subject of that observation, while occupied in blasting a rock, was wounded by the unexpected explosion of the blast at which he was engaged. The tamping-iron which he was using was several feet long and *an inch and a quarter* in diameter; it passed, according to measurement which I have made, through the brain on the left side, in such a manner as not only to destroy the left Sylvian artery, which sends a special artery to Broca's convolution, but it actually destroyed the greater part of the island of Reil. A great quantity of brain-matter was discharged for several days after the accident, in consequence of sloughing. I had an opportunity of seeing that cranium in Boston last winter, and also the iron bar. That man (Gage) was never aphasic, nor paralysed. There is another case, recorded by Theodore Simon,(a) which proves that a notable loss of substance of the brain-matter in the orbital region can exist for years without giving rise to appreciable symptoms, and that the destruction of the *insula* on the left side is not necessarily followed by loss of speech.

There is a case recorded by my excellent friend Dr. Troisier, in which aphasia has existed with no other lesion but one found in the postero-parietal region. The following case is also very interesting, as it shows partial aphasia with very limited paralysis in a patient, observed by one who took the notes for the purpose of elucidating the subject of localisation of functions in the brain. The patient was observed in the wards of Dr. Luys. There was right paralysis of the tongue and of the face; sensation intact.(b) "The left arm and hand are paralysed to a slight degree as to motion and sensation. The right eye and ear are impaired; there is no apparent lesion of the transparent media of the eye. The vocabulary of the patient is exceedingly limited, and consists of only a few words, which are used for all purposes. There is impossibility of reading; A is taken for B, etc. Cannot write her name. Cannot write, although the pen is well held; writes Coroline for Caroline; her name being Madame *Cohadon*, she writes Madame *Adon*, and then Madame *Coadon*, etc." The autopsy discovered in the left hemisphere a yellow (ochre-coloured) softened patch having destroyed the first and second temporal convolutions; "above and forward the lesion is limited exactly by the sulcus which separates the insula from the sphenoidal lobule; behind, it bends round the posterior extremity of the fissure of Sylvius, leaves untouched the whole third convolution, but ascends on the *pli courbe* (gyrus angularis), of which the greater part is so destroyed, and is found a little further in the sulcus which separates the superior parietal lobule from the inferior one. On the occipital lobe it penetrates a little in the parieto-occipital sulcus, destroys a part of the internal and of the external portion of the cuneiform lobule." In the hemisphere itself there was detected a *lacuna* in the white substance, with very neat lining, corresponding in site to the junction of the first temporal convolution with the lobule of the gyrus angularis; also, a very small *foyer* (spot of softening) with yellow borders in the posterior portion of the thalamus opticus. In the right hemisphere there was nothing in the convolutions; but in the white substance there were two pisiform lacunæ close together, above the internal capsule, one centimetre and a half from the base of the corresponding convolutions. In the lenticular ganglion of the corpus striatum

(a) Theodore Simon, *Deutsche Klinik*, 1873, Nos. 17 and 18.
(b) Sabourin, Société Anatomique, rapporté dans *Le Progrès Médical*, 1877, p. 70.

there was also a yellow matter resulting from old disease, extending from behind forward, exactly on the limit of that nucleus and the external capsule. The softening extended up to the most distant portion of that nucleus lenticularis. There was also in the centre of the thalamus opticus another old lacuna, as large as a hempseed. In the pons, on the right side, above the large inferior fasciculus, there was a small darkish patch five millimetres by one centimetre in size. All the other organs were healthy.

This observation is remarkable in more than one aspect. But I desire only to observe here that there was aphasia without destruction of the third frontal convolution or of the insula.

Dr. Brown-Séquard, in his Lectures in course of publication in the *Lancet*, will doubtless bring out such a large number of similar facts, that I have no occasion for reporting more here. I beg to observe that I have given cases well observed and well recorded by physicians of ability, which prove the postulate written above—that aphasia may exist without or with lesions of Broca's convolution, and also with or without lesions localised in other parts of the brain.

The experimental proofs of localisation of the speech-centre in the left third frontal convolution in its posterior part where it overlaps the insula, Dr. Ferrier pretends to have discovered; for he says that this region in the brain of man "corresponds with the situation of the motor centres of articulation in the monkey." Now, in the monkey, on the irritating only of one side, he has had movement in both sides of the tongue and in the orbicularis of the lips; but on what grounds a similarity is established between the two phenomena, contraction of the muscles of the tongue and aphasia—the first in the monkey, and the second in man,—I fail to see. It must not be forgotten that man may suffer from loss of speech through paralysis of the tongue, the aphasia then being apparent only; and that if the experiment on the monkey proves anything, it proves only that last point, judging by analogy. Now, if aphasia is not due to loss of function of a speech-centre situated in Broca's convolution, how are we to explain it? I believe that it is due to a reflex process—a process of inhibition. That there is a reflex inhibitory element in it can be seen by reading carefully even the old authors. Trousseau has recorded several instances to the point. Indeed, his lecture on that subject of aphasia contains nothing but cases which, when properly analysed, go a good way to overthrow Broca's theory. One patient who could say nothing but "*Oui*," one day, having let fall his handkerchief, a lady who was near him picked it up; upon this he said "*Merci*" (*i.e.*, Thank you) in a high and intelligible tone. He was asked to repeat the word; it was several times uttered before him, but in vain—he never afterwards could say it.(c) Again, another patient, who for three months after the onset of the disease could say only a few words with no meaning, and the same in all circumstances, yet one day, two weeks after the stroke of disease, said to his wife, "My dear." Again it was in vain that he was asked to repeat it.(d) In that same celebrated lecture Trousseau has recorded Professor Charcot's case of aphasia as complete as it could be, existing with the integrity of Broca's convolution. Professor Broca had himself examined the brain of that patient microscopically. So that when Professor Charcot said last year, in the Société de Biologie, that he rejects all his former cases up to that time as being incompletely observed, he begged leave to retain this one, because a double examination was made by himself and by Broca, and microscopically. It is needless for me to state that this case was a reflex inhibited instance like the others; but the following is more authentic still. It is reported by Dr. William Wadham.(e) A boy, who was the subject of hemiplegia of the left side, and who was ambidextrous, was subsequently affected with aphasia, which continued complete for three months. The only lesion found was a nearly complete destruction of the island of Reil on the right side. The author, in arguing on this case, very properly shows that this aphasic does not come into the category of left-handed persons because he was *ambidextrous;* and also of his *subsequent* recovery of speech, that it was not a paralysis of the tongue, notwithstanding appearances detected at the time, because his mother had to teach him the words after a long process, consisting in making him repeat after her each word. Moreover, if it was paralysis of the tongue, and not aphasia, having recovered from that paralysis sufficiently to articulate, however imperfectly, one word or phrase, he would quite as readily have given expression to his thoughts, whereas "Yes" and "No," "Good morning," and "Dr. Wadham," were the only words he had succeeded in learning. He was, however, able to write and spell correctly. He was only deprived of the power of converting his thoughts into words.

Dr. Wadham has very judiciously observed also that this case cannot be considered as a "left-handed case" in which the seat of speech is transferred to the right hemisphere, because the recovery of speech took place without any repair of the cerebral lesion, as shown at the post-mortem examination. He believes that the boy, although strongest in his left hand, being ambidextrous, the other (left) speech-centre came somewhat to fulfil the function which was only partially developed in it. Here I no longer agree with Dr. Wadham. First, it is to be observed that Broca's convolution, or its analogue on the right side, is said to have been healthy; and, secondly, there must have been reflex or inhibition processes in the case, because the parts destroyed cannot account for the presence of hemiplegia.

Another very interesting case is recorded by Dr. Schalz.(f) A patient had at one time, after a traumatism in the left parietal region, vertigo, pains, etc.; fifteen days later, paralysis of the arm and leg on the left side, loss of speech. Eleven days later, right hemiplegia with exaggerated reflex sensibility; after lasting one day, that hemiplegia disappeared. On the seventeenth day the aphasia, which was absolute, began to pass away; after three weeks there was nothing left of it. Three weeks after his entry into the wards, an operation was performed in order to remove the pus, of which the presence was shown by manifest signs and the presence of a tumour as large as a hazel-nut. On that (left) side of the head, nine centimetres below the sagittal suture, and on the tract of the coronal suture, some pus was discharged, together with white matter. He, two months and a half afterwards, was well to all intents, except that there was a slight prolapsus of the left superior eyelid. He began to recover even a quarter of an hour after the operation.

Certainly in this case, again, there was another influence at work than destruction of the island of Reil, or of Broca's convolution, or of pressure by pus. Firstly, if those causes were at work it would show that the aphasia depended upon the lesion of the speech-centre; but how explain the *left* hemiplegia then? And if this *left* hemiplegia is due to a reflex action, why not the aphasia also, since the speech-centre was not touched, or, if it was touched, how could the patient recover speech so speedily after the operation?

Another case by Dr. Proust.(g) A young man, in a fight with some soldiers, received a bayonet-wound in the left parietal region on October 8, 1876. He never had any symptom till after several days, and then even only headache. On the 19th and 20th of the same month Dr. Proust saw him in his ward, having then aphasia and paresis of right superior limb, and facial hemiplegia. The three symptoms increased slowly. (Dr. Proust watched the patient with great care; he is well known for having contributed to that special subject of aphasia a very valuable memoir.) Trephine was applied *loco dolente*. The fractured bone was taken away, and, at the same time, all the symptoms diminished. The dura mater was not even perforated. The operation was hardly terminated and the wound was not yet dressed, when the patient was already cured. On comparing by measuration the region of the seat of the injury in his patient with data obtained upon crania of other deceased patients, Dr. Proust was able with almost mathematical precision to localise the injury received by his patient only in the left ascending parietal convolution in its middle part. The Doctor adds, besides, that probably it engaged the frontal convolutions by nutritive troubles of neighbourhood; hence the ready explanation of the aphasia, the right paresis, and the paralysis of right face. But of course this view cannot be entertained. How can such be the case, since the patient recovered so rapidly? The nutritive changes cannot have disappeared in such a short space of time.

All those cases, I believe, go far to show that loss of speech does not depend upon destruction of a would-be speech-centre, but to an inhibitory reflex action. Language—speech—is essentially a reflex process altogether. It is verily an "organisation of past experience." Speech in man is not different from speech in birds; the only difference said to be detected between acquired speech in a bird and in a boy, is

(c) Trousseau, "Cliniques de l'Hôtel-Dieu," t. ii., p. 556, deuxième edition.
(d) Trousseau, *loc. cit.*, p. 592.
(e) William Wadham, M.D., *St. George's Hospital Reports*, vol. iv., 1869, p. 245 *et seq.*

(f) Schalz in Hayem's *Revue des Sciences Médicales*, t. i., p. 691.
(g) Proust, *Bulletin Général de Thérapeutique*, t. xci., 11 liv., December 15, 1876.

that the boy has the advantage of being able to associate a certain idea with a certain speech, whereas the bird is said to be deprived of that faculty—by some altogether, by others to some degree. I have had opportunity to watch speaking birds several times, and I repeat it, I can detect no difference. We must remember that in a child speech is evoked by external circumstances; so with the bird. It is only when a child has grown that speech appears to be spontaneous; but even then, after all, it is brought about by a reflex process or a process from past organised experience acting upon articulatory centres. The bird when well educated does perfectly associate the words "Good morning, sir!" with the presence of a stranger or of somebody coming into a room; and a child does nothing else.

That a reflex action is at the bottom of all that process can be found out by a series of considerations which many can confirm for themselves. My friend Dr. Onimus has studied cases of aphasia in that direction, and he has recorded some very interesting instances.(h) A concierge (janitor), who was suffering from a stroke of paralysis and aphasia, was recovering to some extent, and words were being taught to him. One day Dr. Onimus pointed out to him a statuette made of plaster-of-Paris which was on one of his tables, and asked him to call it by name. He could not do it. The Doctor then discovered that if some other object was pointed out to him, and only the first syllable said, he would repeat it readily, and, as if moved by a spring, the whole word would come out. He therefore told him again to name the statuette, and said, by way of prompting, *sta*, the first syllable of "statue," but the patient could not finish the word. His wife, who was present, said, "Why can't you say an *e*statue?" He at once said an *e*statue. Now, the uneducated people in Paris do not say a *sta*tue, but an *e*statue. That aphasic patient, therefore, with many other examples known to all, shows very conclusively that speech in man, as well as in birds, is acquired by the same process. I beg leave to submit that perhaps when birds have been educated to talk for several generations consecutively, uninterruptedly, the subject of aphasia will receive a great deal of light.

What I have said of aphasia applies, I believe, as well to other paralyses from brain diseases. I am of opinion that even the *so-called* hemianæsthesia following destruction of the internal capsule is a reflex inhibitory phenomenon. I have said so already. I will now prove it. Professor Charcot has insisted very much on that one localisation. Veyssière and Carville and Duret, and Ferrier, have all based upon experimentation the same theory, that the internal capsule is the corner of nerve-matter which, when it is the seat of disease, causes loss of sensation for half of the body. Besides the arguments which I have already given to show how such a loss of sensation could happen, I will say now that Professor Charcot has himself within a few months shown that that anæsthesia is not an absolute one. While experimenting on the so-called metallo-therapic method, he has found that sensation, general and special, can be recalled in paralysed parts by the application of a gold coin or ring to the limb deprived of sensation.(i)

Now, it is clear that if in those cases of undoubted destruction of the so-called internal capsule-centre, of old standing—more than ten years—sensation can have been awakened even for only a few hours, the non-permanent manifestation of that sensation is not dependent upon destruction of a centre, because it would be impossible to have the results now obtained.

Again, in the cases published by Dr. Lepine, and of which I have already spoken, and in the case of Dr. Wadham reported above, and the case of Dr. Sabourin, certainly the phenomena observed during life did not correspond with the lesions detected. Let anyone think over the last case in particular, and he will see how impossible it is to make it agree with the theory of localisation.

Moreover, it is denied by nobody that some cases of undoubted destruction of brain-substance can exist, and yet the function, temporarily absent, appear again. Dr. Hughlings-Jackson has written on that subject—"The slightness and transientness of a paralytic symptom depend on the slight extent of lesions of nervous organs, not on slight *degree* of change. . . . (The patient) recovers, because he has lost only *a small quantity* of that tract (motor). For it is manifest to those who make post-mortem examinations that recovery from paralysis occurs when a part of the motor tract is permanently wanting."(k)

It is evident from that quotation that the paralysis must have some reflex element in it. For, during its existence, as well as after its disappearance, the same lesion existed in the motor tract; and if it is not so, how account for the paralysis or for its disappearance? I know how unbecoming of me it is to criticise the opinion of such a distinguished physician and such an acute clinician as Dr. Jackson, but I am impelled by facts to urge that the size or extent of the lesion has no influence on the transientness or slightness of a paralytic attack. There are numerous instances of what I advance here. Let us only remember the magnitude of the brain in the case of Dr. Sabourin. Some other element is concerned in that production of disorder and its duration. It is proved that the nature of the lesion, tumour, softening, hæmorrhage, traumatism, etc., have no influence. Considered specifically, it remains only to admit that the lesions do create an influence by the mere fact of their presence, which influence is the agent at work: that is to say, that, irrespective of size, the lesion acts just as an irritant applied to the skin does—to awake a reflex process. It is by the foregoing theory also that those cases can receive interpretation in which we see that a lesion localised in one hemisphere will cause simultaneously, or one after the other, paralyses on either side of the body.(l)

I am aware that it has been stated with regard to those cases which appear to the advocates of localisation contrary to their theory, that the observations were incompletely taken, or that an unseen lesion may have existed, or that there was an anomaly, just as when the heart is situated to the right, etc. Those objections are more apparent than real. To give only two instances, the American crowbar case and the case of Dr. Sabourin militate against such a view. And how can we attribute to an unseen lesion the paralysis observed, without at the same time admitting that the large lesion seen in a motor (so-called) centre, but on the corresponding side, has caused no symptom, and in this way destroy our very argument? And, moreover, a case of anomaly cannot be considered, because we know of cases in which one lesion in one hemisphere has caused paralysis on the corresponding side, which was cured to some extent, and later another lesion occurring in the other healthy hemisphere has again brought on paralysis, not only on the formerly paralysed side, but also on the one which was not originally so affected.(m) The loss of sight, amaurosis, is amenable to the same reasoning. Let me only say here that two of the very ablest pupils of Professor Charcot have just published researches which demonstrate very plainly two very different things. I explain: Dr. Ferrier has localised the sense of sight in the angular gyrus in man. Dr. Féré has observed a patient who for three years has had pain, etc., consequent upon a fall, which was followed by a wound in the right parietal region; the only symptoms now remaining are contractions, which specially show themselves when the patient does not pay attention, in the orbicularis palpebrarum, the muscles of the eye, and the zygomatic muscles. Dr. Féré made an attentive study of that patient, and by means of careful measuration and comparison, after Broca's method and his own method, with a number of crania, arrived at the conclusion that the spot of the bone depressed by the fall coincided with the posterior portion of the *pli courbe*, or at the very least with a region very near that spot; which is concordant with Dr. Ferrier's views.(n) But Dr. Pitres, another pupil of Professor Charcot, shows(o) ten cerebra marked by cortical lesions, from which (the symptoms during life being kept in mind) he concludes that the destruction of the *pli courbe* (gyrus angularis) is accompanied by *no symptom in the muscles of the eye*;(p) that destruction of the three superior quarters of it gives rise to paralysis of the face, but not of the limbs.

(*To be continued.*)

(h) Onimus, *Journal de la Physiologie*, "De l'Anatomie de Robin," 1873, No. 6.

(i) See, for details, C. R. de la Soc. de Biologie de Paris in all the French papers.

(k) J. Hughlings-Jackson, "Empir. and Scien. Inv. of Epil.," *Med. Press and Circ.*, *passim*.

(l) Brown-Séquard's Lectures, *Lancet*, 1876, pp. 211 *et seq.*, 245, 279 *et seq.*

(m) Brown-Séquard, *loc. cit.*

(n) Féré, *Gaz. Hebd. de Méd. et de Chir.*, No. 9, 3 Mars, 1876.

(o) Pitres, *ibid.*, p. 812, 1876.

(p) No italics in text.

THE CHINESE TREATMENT OF AGUE.

By J. DUDGEON, M.D., Pekin.

This affection is one of the most common in the centre and South of China. After extensive and long-continued inundations, with the great heat that prevails, it becomes also in North China one of the most prevalent diseases. In ordinary circumstances the sandy nature of the soil grants immunity from its

ravages. It is a fruitful cause of much of the anæmia, and its consequent disorders, which is so rife in China generally. The floods in the North, beginning in 1870, and continuing for several successive years, produced commonly, in the summer and autumn months, about 60 per cent. of ague cases as compared with other affections. The inundations exist sometimes for a series of years consecutively, the floods of one year not disappearing before the heavy rains of the next. It is in this way that ague prevails so endemically and persistently in these regions, the severity of the disease, and consequently the number of victims, increasing or diminishing according to degree of heat, but hardly at all disappearing. Deaths among the old from ague are not uncommon. The book-name for it is so called from its resemblance in its treatment of people to a harsh and cruel man. The different forms are arranged according to their supposed causes, such as cold, heat, damp, phlegm, food, over-exertion, demons, pestilential exhalations, and old or mother-ague. This latter form is caused by water, phlegm, and blood getting coagulated together, and thus causing enlargement. The demon form is caused by sleeping with or watching by a corpse. The cold and hot stages are explained, according to Chinese philosophy, by want of harmony between the male and female principles of nature. The various forms are explained by the quantity of air furtively introduced at the time the patient was exposed to the causes. They admit a somewhat long latent period, the disease being, in many cases, caught in summer but not developed till autumn. The remedies in this, as in all other diseases, are legion. Every work repeats what every preceding one contains, the author merely adding his own views or comments. As a rule, the older the book, the better and more valuable the observations. Ginger, peppermint, liquorice, ginseng, and cinnamon enter largely into their remedies. Powdered tortoise-shell, a compound of centipedes, the skull of a tiger, the excrement and flesh of foxes, etc., could not, of course, be omitted. In mother-ague (enlarged spleen), assafœtida, realgar, and vermilion are relied upon. Several celebrated recipes are styled *barrier* prescriptions, because of their great efficacy in cutting short an attack, and curing the patient for ever by one administration, and on this account are therefore said to be divine. Tonic medicines are highly lauded. An ordinary formula, to be taken warm on the morning of the day of attack, is—rad. lysimachiæ, betel-nut, cloves, and spirit. Remedies of a magical character find a natural place in all Chinese medical works. A combination of arsenic, spiders, and beans is highly extolled when it is desired to cut short an attack in a spirit-like manner. It is somewhat remarkable that the Chinese should for thousands of years have been following a tonic and arsenical treatment. The confidence with which these remedies are administered would indicate the benefit that has been derived from them. Some of the prescriptions are designated by such epithets as "the great, instantaneous, godlike, infallible, speedy, sure, once-to-be-taken remedy for ague." Quinine, wherever known, has superseded all the native remedies; and there must be a growing demand for this Western specific. From the large dose which can be given with safety and efficacy, quinine is the most valuable remedy, but its great expense is a serious objection in a large dispensary practice. Fowler's solution proves highly serviceable, and may be substituted in every case for quinine, and in some cases where the quinine seems to fail. The comparative slowness of its action, and the smallness of the dose required to be given, however, militate against its free use among the natives seen at the public dispensaries. The carbazotate of ammonia may also be used with good results. I have had no experience of the hypodermic injection of carbolic acid as recommended by some French surgeons. In Mongolia ague is hardly known. It has, however, more than once greatly alarmed some of the tribes by its spreading among them; and the lamas (priests) concluded that it was a contagious disease introduced by soldiers returning from China. The popular account states that when Mongols take it and become delirious, *they rave in Chinese*. From its regular periodic character, the common Chinese suppose it to be caused by demons; and to elude their visits, and thus effect a cure, they frequently change their abode, or at least leave home, about the time the attack is expected.

It is stated that between 8000 and 10,000 glass eyes are sold annually in the United States. An eye-maker gives one in 125 as the proportion of one-eyed people.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

CASES OF ABDOMINAL ABSCESS.

LONDON HOSPITAL.

Case 1.—*Abdominal Abscess, probably communicating with Transverse Colon by a Small Aperture—Opening made—Recovery.*

(Under the care of Mr. RIVINGTON.)

J. M., aged fifty, a printer, of sedentary habits, was admitted into the London Hospital on May 24, 1874. He was affected with a swelling in the abdomen, immediately below the umbilicus. This swelling was larger than a fœtal head, but flattened. Its long diameter was transverse and measured eight inches; its short diameter vertical and measured four inches. It engaged all the soft tissues of the abdominal wall, and they could not be moved over it. It seemed to extend deeply into the abdominal cavity. The skin was adherent and showed a brown discoloration. An obscure feeling of fluctuation could be elicited. It had been growing rapidly during the last few days, and had extended at least two inches further across the abdomen. It had commenced five weeks previously, when the patient felt a sudden severe pain an inch below the umbilicus, and this remained from eleven o'clock on Saturday morning till five o'clock on the following Sunday afternoon. Two or three days later he felt a small tumour in the spot where the pain had been; it was then larger than a marble, and was close underneath the skin. For three weeks it did not increase in size, but then it took on rapid increase. There was some dull, dragging, intermittent pain in the part, but no shooting pain. The question of diagnosis rested between abscess and malignant tumour. In reference to the latter it was ascertained that there was no history of tumours of any kind in the family. He had had no serious illness. Now he had a slight inclination to sickness; his appetite was failing; tongue slightly furred; bowels regular; heart and lungs sound; no albumen in his urine; he had no rigor or chills.

May 27.—Evident fluctuation in the tumour. An exploratory incision an inch long was made through the soft tissues below the umbilicus and in the middle line. Pus and gas commingled, and possessing a most decided and offensive fæcal odour, issued. A charcoal poultice was applied. During the next few days the discharge of pus continued freely. The pus was dark and offensive.

May 31.—The pus to-day became healthy and free from smell. The patient was decidedly better: appetite returning, and sleep undisturbed.

June 1.—A sharp rigor. Face pallid; pulse quick and small; respiration hurried. Nothing about the wound or swelling to account for the rigor. Perspiration profuse; no pain; vomiting. The rigor lasted more than half an hour.

2nd.—Better; less discharge.

7th.—No shivering since the 1st. No tenderness; tumour becoming smaller.

9th.—Mr. Rivington pressed out some pus and gas, and a large quantity of dark-coloured stuff looking and smelling like fæces, with relief.

10th.—Going on very well.

Nothing further worth noticing occurred. The swelling decreased in size day by day, and the wound had closed before the 23rd, when he was discharged cured.

CLEVELAND-STREET ASYLUM.

Case 2.—*Abdominal Abscess discharging through Bladder.*

(Under the care of Dr. LEDIARD.)

H. V., aged forty-nine, porter, formerly a bandsman in the Navy, was admitted into the Cleveland-street Sick Asylum on January 19, 1877.

History.—Father died of liver complaint at seventy-two. Mother died from a "gathering" which came from the navel at forty-six. Patient was in the Navy ten years. Served in Crimea, Peru, and Pacific. Formerly suffered from dysentery. Had drunk freely, but not to a great extent, and was fairly well up to last September, when he had some griping in the abdomen, but he did not give up work until December.

On admission he was found to be somewhat spare, and suffered from diarrhœa and abdominal pain. Passed blood

per rectum before admission. The abdomen was natural except some enlarged glands in either groin; heart and lungs normal; no albumen in urine; no blood with stools; slept and ate well.

January 31.—To-day the patient first passed pus with his urine, and had some difficulty in micturition, but no rigors. Then micturition became frequent and painful, he began to cough and spit, and the diarrhœa abated.

February 17.—Complains of persistent pain in right hip-joint. Pus continues to pass with urine freely. No rigors, night sweating, or diarrhœa. Cough continues. A sound passed into bladder detects nothing. There is some lumbar pain. Body is getting emaciated; glands in groin continue enlarged; no supra-pubic tenderness, and abdomen can be handled with freedom; the spleen and liver are not enlarged; the skin is generally dry, and varies from coolness to slightly increased heat.

In March some improvement of a temporary character was noted, and less pus was passed with the urine.

March 12.—Abdominal pain has returned, with pain on passing water; rectum seems healthy; face has a yellowish hue, but no jaundice; bowels are not loose now.

17th.—The pain previously complained of in the right hip has returned, together with pain in the loins.

A few days after, the diarrhœa recommenced, and the urine was solid on boiling from the amount of pus. The bladder was washed out with a double catheter and always seemed free from disease, and it was thought possible that there might be some pyelitis at this time.

In April, urine was very offensive, and passed in small quantity at a time; the diarrhœa continued on and off. In short, his symptoms were much the same, but aggravated.

In May, his mouth became parched. Scalding with micturition appeared. Pyuria as before, and diarrhœa; then latterly he had extreme agony on passing water, and the pain in the hip returned, with some contraction of the right thigh.

He died on the 28th, exhausted.

Post-mortem.—Body emaciated; abdomen discoloured; no peritonitis, ascites, or general dropsy. Liver tolerably healthy, but adherent to spleen by the under part of the left extremity. Heart healthy. Lungs thin; small cavities at upper part of each. Left kidney large, a little fatty, but otherwise healthy; right kidney somewhat atrophied and discoloured on posterior surface from continuity to abscess in psoas muscle. Bladder and rectum cut out of pelvis with difficulty, from thickening and adhesion of parts to the pelvic cavity on the right side. Ureters natural. Right psoas and iliacus muscles discoloured and destroyed, partially from presence of pus burrowing in all directions and passing up as far as the origin of the former. Vertebræ healthy. Sacro-iliac and vertebral articulations normal. Pus burrowing in all directions on the right side of the pelvis, passing into the hip-joint through the obturator foramen. The cartilages of the joint were discoloured, but scarcely altered at all structurally. On opening the bladder, the mucous membrane was greenish-looking, coats thickened, no ulceration, and not much cystitis; on the right side of the bladder was a small perforation, through which the extensive psoas, iliac, and pelvic abscesses had discharged. The lower end of the rectum was healthy, but the upper part congested, thickened, and ulcerated here and there; and this thickened condition existed, together with contracted calibre, more or less, up to the valve, the "shaved-beard" appearance being constant throughout. The most active disease was situated at the sigmoid flexure and upper rectum, with here and there old cicatrices. There was a small secondary abscess in the liver. There was no evidence, clinically or pathologically, of osseous disease, and it is probable that the abscess originated in peri-intestinal inflammation at the brim of the pelvis, from whence pus passed in the three directions noted.

CHARING-CROSS HOSPITAL.

PLEURITIC EFFUSION AND ULCERATION OF LUNG IN A PATIENT THE SUBJECT OF ACQUIRED SYPHILIS AND OF GRANULAR KIDNEY DISEASE.

(Under the care of Dr. THOS. BARLOW.)

R. B., aged forty-eight, a commercial traveller, came under treatment February 28, 1875. He stated that six weeks before, whilst in the country, he had been taken with sharp pain below the right shoulder-blade, cough, and shortness of breath. He had consulted a medical man, who told him he had congestion of the lung; and he had been obliged to stop in the house for more than a week. Although he had improved, he said that he still felt feeble, and that his breath was a little short yet. He had the signs of a very slight effusion into the right pleura. Otherwise, physical examination revealed nothing abnormal with the exception of slight emphysema. His tongue was flabby, but nearly clean, and his skin cool. But it was impossible to resist the conviction that the pleurisy was quite a fractional part of his morbid condition, and that, in fact, he had some diathetic disease at the back of it; for although he was a well-built man, he had a quite unnatural sallowness of face, with an anxious expression, and moreover, though not emaciated to any great extent, he was "pulled down" more than a simple resolving pleurisy would account for. He was examined again and again for mediastinal dulness, but none could be made out. There seemed some reason to suspect granular kidney, although at that time there was no albumen in the urine, nor on several occasions subsequently was any to be detected. Moreover, it was impossible to establish any distinct cardiac hypertrophy.

On inquiry it was found he had had several attacks of gout, and so had his father. This, together with the fact that at a former period he had drunk a great deal, gave a certain probability to the granular kidney hypothesis. There was one other diathetic condition to be considered, viz., syphilis. He had had, nearly thirty years before, a chancre, followed by bubo, slight sore throat, and rash, but had not suffered, so far as could be ascertained, since. He was ordered tonics, and some slight counter-irritation to the right back.

In a fortnight's time he had an attack of gout in his big toes, and at the same time some bronchitis. After this he suffered a great deal from constipation and flatulence. The effusion certainly diminished, but there was still impairment of resonance.

During the month of May he did not attend, but in June, when he was seen again, he was still losing flesh. The chest-signs were not materially changed, but he had on several occasions expectorated slight streaks of blood. There were no adventitious sounds to be heard, with the exception of some faint friction and a little sibilus here and there.

In July there was evidence of a little fresh effusion at the right anterior base. The heart's apex-beat was displaced a very little to the left of the nipple-line; though, as the sequel proved, this was partly due to dilatation.

On July 5, Dr. Douglas Powell examined the patient. He also was unable to find any evidence of mediastinal disease, and he suggested that the cachexia of the patient was the joint product of his old syphilis and his gouty condition. He had had some iodide of potassium for a short time before, but he was ordered it again in four-grain doses to start with. Within three weeks afterwards he became, however, much worse, with vague symptoms, which, for want of a better name, must be called uræmic.

He passed the usual quantity of urine, but there was at length a distinct trace of albumen. He got a brown tongue, had frontal headache, repeated vomiting, and ultimately sank from exhaustion. No fresh physical sign was made out, except the diminution of the pleuritic effusion and some enlargement of the spleen.

The post-mortem was made, thirty-six hours after death, by Dr. Powell and Dr. Barlow at the house of the patient, and was not so complete as could have been wished. In the right pleura there was adhesion posteriorly, and anteriorly there was slight serous effusion, with very thin strands of lymph. There was not more than an ounce and a half of fluid. The lower lobe of the right lung was slightly indurated, and also congested. On examining the root of the lung a quantity of semi-gelatinous, ill-defined cicatricial stuff narrowing and investing all the structures of the root was found. This stuff appeared to be inflammatory rather than of the nature of a tumour. On slitting up the bronchus, its inner surface was found much puckered, though not showing signs of *recent* ulceration. Immediately after its entrance into the lung, there opened out of it a rounded smooth-walled cavity the size of a Spanish chesnut. It was not at all like a tuberculous cavity; neither in its neighbourhood, nor indeed in any part of the body, was any grey or yellow tubercle to be found. There were no nodules of any kind in the lung, and no fibroid bands. There was slight emphysema of the other lung, and there was a dilated heart; no valvular disease, and no atheroma of aorta. The spleen was large and flabby, and the kidneys large, red, slightly granular on the surface, with considerable

adhesion of the capsule, and some diminution in the thickness of the cortex. The liver showed nothing abnormal. Brain not examined.

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Medical Times and Gazette.

SATURDAY, SEPTEMBER 29, 1877.

ITALIAN HEALTH-RESORTS.

No. IV.—Nervi and Rapallo.

The health-resorts of the Riviera di Levante, that is of the strip of coast which runs in a south-easterly direction from Genoa to Spezia, are as yet but two in number—Nervi and Rapallo. Nervi has been a recognised sanatorium for several years, but Rapallo is very little known, probably because it, until lately, lay out of the ordinary route of travellers, and was only accessible by *diligence*. Since the railway has been completed between Genoa and Spezia, both Nervi and Rapallo are on the direct line from Genoa to Leghorn, Pisa, and Florence. The Mont Cenis Tunnel now renders this part of the Mediterranean coast as accessible as the Western Riviera to comers from the north. From such places as Cannes, Mentone, and San Remo, Nervi and Rapallo are distinguished by their moister climate. Much more rain falls on that part of the coast where they are situated than further west, though unfortunately, at present, in consequence of the absence of statistics, one can only make this general statement, without being able to adduce figures in proof of it. (See, however, *footnote* as to this point.) Mr. Brown, her Majesty's Consul at Genoa, informs us that Rapallo, owing to its situation on the south side of the high promontory of Porto Fino, is especially favoured by the rain, and the luxuriance of the vegetation there bears out his observation.

Nervi lies in 44° 22′ North latitude, about eight miles by rail S.S.E. from Genoa. About half a mile to the west of the railway-station the coast-line, which previously ran nearly due south, turns round, so as to take a direction nearly due east. At the same time, the near hills—outliers of the Apennines, and possibly 700 to 800 feet high—bend round parallel to the shore, and form a steep protecting wall on the north, at less than a quarter of a mile from the sea. At the foot of these hills the carriage-road from Genoa to Spezia is placed; and on either side, in straggling fashion, stand the houses, shops, etc., which make up the town of Nervi. The most sheltered part, and consequently that most suitable for invalids, is nearly opposite the station, and a little to the right looking from the sea. Here the ground rises somewhat, and the street approaches very near the hill. At this point the chief hotel—the Pension Anglaise (so called on the *lucus a non lucendo* principle, because most of its visitors are Germans)—is situated. It is a fine building, with four storeys facing due south, and with more than fifty south windows. The *salle à manger* runs along the front of part of the first floor, on a level with the street, and outside it there is a large verandah, with a fine view over cypresses, pines, olives, etc., to the sea. Below the house there is a good-sized garden, in which we noticed some well-laden and healthy lemon trees, and into which you descend from the verandah by a flight of steps. Inside the hotel everything is in excellent style, and the management is very well spoken of. The great drawback is the narrow, sunless, draughty, and not over-clean street at the back, which is the only possible means of approaching the hotel. The north-east wind sometimes blows with considerable force through this street, so as to be a source of danger to the invalid as he leaves his warm room or the sunny garden. The prices at the Pension Anglaise are sufficiently high; and, owing to the want of much competition, and to the fact that the demand for rooms is sometimes greater than the supply, applicants for admission have, it is said, been occasionally treated with unnecessary brusqueness. The *pension* on the first and second floors is twelve francs, and on the third and fourth ten francs, a day.

A second, and less pretentious, hotel—the Hôtel Oriental—stands a little more to the west, nearer the sea and the station, close to the new road from the latter to the town. The rooms are smaller than at the Pension Anglaise, and some at least have no fireplaces; there is a garden in front. The landlord, an Italian, is very obliging, and desirous to give satisfaction; and the only complaint that we heard from residents was that there was a tendency sometimes to be stingy with the food.

The ground between the main street of Nervi and the shore is nearly level—or, at any rate, only has a gentle slope—until the railway (which skirts the shore) is passed, and then there is a rapid fall of thirty or forty feet or more to the sea itself. This level space is covered with the gardens belonging to the villas of some of the inhabitants of Nervi—of which that belonging to the Marquis Gropallo, close to the Pension Anglaise, is one of the finest,—and with orange and lemon orchards. Seen from the railway, Nervi with its gardens has a most picturesque appearance. Below the railway, and just before the rocky shore takes its steep descent into the sea, a path a few feet wide has been cut along the edge of the rock for the use of the coastguardsmen, and as it accurately follows the indentations of the coastline, and is absolutely protected from the north by high garden-walls, or by part of the rocky slope, or the railway embankment, while it gets all the southern sun in its full force, it is naturally an excellent promenade for invalids. Here they can walk or sit, or, if they choose, at certain points descend close to the sea, and enjoy a temperature of 64° to 68° Fahr., while in the High-street of Nervi the thermometer at the same time is not higher than 43° or 44°. Naturally great care is necessary to be provided with plenty of wraps to put on on returning from the shore to the town. The neighbourhood of Nervi offers but a limited field for excursions, owing to the nearness of the high hills at the back of the town. There is no drive along the shore close to Nervi, though further west the road at some places

nearly overhangs the sea. In fact, even for foot-passengers the promenade above mentioned is only accessible by two or three narrow lanes which run down from the main road between high walls, and pass by a small arch under the railway. The authorities have been very slow to promote the comfort of visitors at Nervi, and even as late as last December there was no carriage-road fit for anything but a steam-roller, connecting the railway-station with the town. It is true that a broad road up from the station was partly finished, but it was so covered with a layer of gigantic "metal," that even to cross it by day on foot was to risk the chance of a sprained ankle, while after dark it was absolutely dangerous. On our arrival at Nervi in the evening, we had to traverse a series of narrow and most dimly-lighted lanes, in which it was difficult to make out the position of our guide, except by his footfall, in order to reach the hotel. On leaving, on another evening, after foolishly rejecting assistance to put us in the way to the station, we had the utmost difficulty in reaching the latter, after being precipitated into a sandpit, and undergoing other annoyances, on account of the abominable state of the roads, and the want of proper illumination. In addition to its protection by hills on the north, Nervi is, to a considerable extent, sheltered on the east by the high ground of the coast, as it bends round southward towards the promontory of Santa Marguerita. The north-east wind, however, as we have already mentioned, and as we can personally testify, is at times strongly felt. The only thermometric observations which we have obtained as to the winter temperature of Nervi we owe to Herr Schulze ("Die Klimatischen Curorte der Riviera," etc.; Frankfort, 1875), who has compared the daily temperatures at 8 a.m. and 2 p.m. at Nervi and Mentone during the winter of 1874-75.(a) We have taken the mean for each month from his tables, and reduced them from Réaumur to Fahrenheit, and have also given the maximum and minimum temperatures for each month at the two places. It is only necessary to warn our readers against drawing any very positive conclusions from the observations of a single winter made by different observers, and possibly not under precisely similar conditions. An Englishman whom we met at Nervi, and who had spent some time there as well as two or three winters at Mentone, told us that he believed Nervi was the warmer of the two places. All things considered, the social advantages of Nervi are at present much inferior to those of Cannes, Mentone, or San Remo.

Winter of 1874-75.

	Nov.	Dec.	Jan.	Feb.	Mar.
Mean Temperature at 8 a.m.—					
Nervi	56°	52°	51°	44°	49°
Mentone	54	48·2	50·5	44·5	49·3
Mean Temperature at 2 p.m.—					
Nervi	59·5	56·5	58	50·3	55·9
Mentone	59·2	53·6	56	49	57·8
Maximum Temperature—					
Nervi	70·5	66	66	61	64
Mentone	70·5	64	64	55	66
Minimum Temperature—					
Nervi	44	41	44	36	44
Mentone	46	42	46	36	48

There is still less to be said about Rapallo than about Nervi, and the following remarks scarcely pretend to do more than call attention to its existence, and to the possibility of its future development. It is a town of 4000 or 5000 inhabitants, built on the north side of a small bay about twenty-two miles south-east of Genoa, in latitude 44° 15′. The bay, which has quite a narrow entrance, is much shut in by two promontories on the west and east, and by a semicircle of hills which connect them on the north. The hills are covered with olives, chesnuts, and figs. They are highest towards the north-east, and may reach 1000 feet or more. One or two streams run down from them to the sea, and on the left bank of one of these, not far from the sea to the east of the town, stands the (at present) only available hotel, a great square-looking building, probably an old palazzo—the Hôtel de l'Europe. It has a small garden, with orange-trees in front separating it from the main road, which crosses the stream by a bridge very near the sea. The accommodation is not great, and there is not room, we should think, for more than thirty or forty people, but everything appeared very comfortable when we were there. There is a good *salle à manger*, and a large *salon* looking over the sea; but there are unfortunately only six south bedrooms, the remainder having an east and westerly aspect. The best rooms are on the first and third floors, those on the second having low ceilings. *Pension*, first floor eight francs, second floor seven francs and a half, and third floor ten and nine francs. The wine of the country is good and moderate in price, and the feeding is well reported of. The landlord is extremely civil and attentive. There is an English chaplain of rather High Church proclivities, who performs service in a small room twelve feet by ten, lighted by a door-window, and tenanted by a dozen chairs, "three times a day," as we were told, "in the week, and all day on Sunday"! Both at Nervi and Rapallo the inhabitants, or rather the chief proprietors, are not at all anxious to encourage the advent of visitors, and at the latter place it was stated that impossible prices were asked for land on which to build a more commodious hotel, chiefly to prevent the increase in the cost of living which the presence of many strangers would entail.

The town of Rapallo is much like many other small Italian coast towns. There is one long main street, with a number of small back streets, and a kind of square, or market-place. Part of the main street has arcades on either side. The town is pretty clean, and is well paved. The inhabitants live, the men by fishing, and the women by making a coarse kind of lace with cushions and bobbins. There are well-cultivated gardens and fields round the town, especially to the north-west; and there are a number of pleasant walks inland in various directions, as well as along the coast road to the east, parts of which are planted on either side with olive-trees in a way that was new to us. The soil is clay-slate, or something very similar, and appears to dry rapidly. Rapallo is a good place for flowers in spring, and we saw a fine specimen of the *Pteris cretica*, which had just been picked wild (December) in the neighbourhood. The beach at Rapallo, unlike that of Nervi, is sandy; and, from the sheltered position of the bay, there would probably be excellent opportunities for boating.

(a) Since the above was written, Dr. H. J. Thomas, of Baden-Weiler, has published some statistics about the climate of Nervi (*Berliner Klin. Wochenschrift*, No. 22, 1877, s. 317), a short abstract of which we append. The mean temperature in the winter of 1876-77 was as follows at 8 a.m.:—

Dec.	Jan.	Feb.	Mar.
51·5° Fahr.	49·3° Fahr.	47·2° Fahr.	47·4° Fahr.

The lowest readings were taken in the first fortnight of March, 1877, when 35·2° was noted on March 2 and 35·8 on March 11. The mean diurnal variations were:—

	Dec.	Jan.	Feb.	Mar.	April.
In 1875-76	4·5°	5·2°	4·6°	5·2°	4·3°
In 1876-77	4·1	5·4	7·0	6·5	—

The mean relative humidity, measured by an August's psychrometer, gave the following results:—

	Dec.	Jan.	Feb.	Mar.	April.
In 1875-76	64	60·0	64·8	65·7	72·7
In 1876-77	75	63·2	61·4	68·5	—

—*total* saturation being represented by 100. According to Thomas, the air of Nervi is *moderately dry*, and not, as has been generally asserted, moist. The following table, however, which we are able to compare with similar observations of our own for Mentone, shows that considerably more rain falls at Nervi than at the latter health-resort. The sixty-two "clear" days credited to Mentone were those which were almost absolutely free from cloud:—

Number of Days.

	Clear, or partly so.		Cloudy.		Rainy (including slight showers).	
1876-77.	Nervi.	Mentone.	Nervi.	Mentone.	Nervi.	Mentone.
December	13	10	18	9	16	12
January	21	17	10	9	9	5
February	21	22	7	4	5	1 (few drops)
March	20	13	11	8	18	9
Totals	75	62	46	30	48	27

On the whole, if only there were more accommodation, Rapallo is a place which might be safely recommended to that class of invalids with whom a warm and rather moist climate has been found by experience to agree. No doubt it, in some respects, resembles Pisa; but it has an enormous advantage over that dullest of dull places, in its cheerful situation and its ready accessibility. We have heard of one lady who has spent three winters at Rapallo, and has derived great benefit from doing so.

We may mention, in conclusion, the fact of the existence of *Santa Marguerita*, a small and extremely picturesque town between Rapallo and Nervi, close to the sea. We have no personal knowledge of it, except from passing it in the train, but it is said to command some of the finest scenery in Italy. There is a new hotel, which is stated to be large and clean, and in the hands of obliging proprietors, ready to adapt themselves to the requirements of English visitors. The cooking is fair, and the charges are moderate. Mr. Brown, the courteous and obliging British Consul at Genoa, has a house very near Santa Marguerita. We should for the present advise only those persons to try it who have acquired some previous knowledge of Italian life, and some acquaintance with the language.

THE MADRAS FAMINE.

Since our last note, a month ago, on the subject of the famine in Madras, matters have, we are happy to say, assumed a much less disheartening aspect as regards the future. The correspondent of the *Times* was able, on the 23rd of the present month, to say—"The dark cloud of the Madras famine is at length beginning to exhibit a silver lining. The news of last week is good, and future prospects are hopeful. Plenteous rain has fallen in many of the worst famine districts, agricultural work is active, and the crops are making rapid progress." The natives who were strong enough to work were rapidly deserting the relief camps in Madras, and hurrying away to their homes; but the relief camps up the country were not being thinned so quickly as in Madras, great numbers of the people having been so reduced in condition that they would not be able to work for a considerable period. The telegrams received at the Mansion House from the Relief Committee at Madras also give more cheering reports than could be sent a short time ago. "In some districts," we are told, "there is a prospect of a quarter or half the usual crop over such extent as is cultivated. This will be ready to be reaped in a few weeks, and will help to mitigate, more or less, the great pressure on the food supplies." But in some parts there is still very serious failure of rain, and an increase of distress. In Salem, for instance, "large numbers are coming on relief, owing to increase of famine"; in Bellary there is "no harvest"; and everywhere there is great distress, and food is at famine prices. The mortality was, according to the latest reports, still fearful. The Madras Committee, in their telegram dated September 18, gave the death-rates of July in some municipal towns in the famine districts, compared with the average death-rates in the same month for three previous years. In Nellore the rate was 74 per 1000 per annum, against 22; in Kurnool, 211, as against 81; in Vellore, 119, as against 41; in Madras, 139, as against 36; in Bellary, 74, as against 23; in Bangalore, 120, as against 20; in Wallajapet, 131, as against 31; in Conjeveram, 188, as against 26; and in Errode, 611, as against 41. While in the telegram dated the 23rd inst. the total mortality in all the famine districts for the month of July is put at 80,052 above the average mortality of the same month during the last five years; and "the number of persons on relief works, fed by the Government," was, at the date of the message, estimated to be nearly 2,500,000.

Terribly sad as all this is, however, it is satisfactory to think how very different the position is now compared to what it was when we first called attention to the Madras famine in May last, and again in June. The Temple rate of relief wages has long been abandoned, and we have no longer to wonder at and remonstrate against the indifference and apathy with which our statesmen and the English public apparently looked on the sufferings of our fellow-subjects in India. The subject was given a prominent place in her Majesty's Speech on the prorogation of Parliament; Lord Northbrook, a former Viceroy of India, declared in his speech on the East India Loan Bill, that "in famine, as in war, where the safety or the honour of the country is concerned, the great object to aim at is success, and not economy"; the sympathy of the English people has been thoroughly awakened from one end of the country to the other; and the donations to the Mansion House Indian Famine Relief Fund amount now to more than £250,000, of which £200,000 has already been transmitted to Madras, while contributions are still pouring in to the amount of some thousands of pounds a day. The Viceroy of India has also personally visited the famine-stricken districts, and, in confereuce with the Duke of Buckingham, the Governor of Madras, has settled the futuro famine policy. "All friction between the two Governments has," we are told, "apparently been quite removed, and they are now acting together with complete accord," with consequently the important results of—uniform relief wages, and food-rates unsupervised; large and important instead of petty relief works; and, as "the strength of the people is so reduced that possibly the call for hard work may prove destructive," the officials are enjoined that enfeebled persons aro to have special consideration, and, it is said, "they will probably be further vested with large powers and ample discretion." And all famine questions coming before the Madras Government are to be disposed of by the Governor alone, his orders having the force of Orders in Council.

One of the great difficulties in the way of affording relief has been, and still is, the impossibility of obtaining anything like sufficient means of carrying food into the famine-stricken regions; and a Madras correspondent of the *Times* has described, under date of August 13, how, covering for acres the Madras beach, might be seen great mounds of bags of rice which it was impossible to carry away fast enough to the famishing crowds in the interior of the country. Since then, however, the carriage means have been improved, and a double line of railway between Madras and the Arconum Junction, where the north-west and south-west lines of the Madras Railway diverge, has been lately opened—an arrangement which will greatly facilitate, it is said, the despatch of goods trains. This doubling of the line was undertaken as a famine relief work, and it is certainly very satisfactory to know that so much good has resulted already from the employment of famine-labour.

It must be hoped that the terrible experiences of this famine will impress upon the Governments and their Councils, at home and in India, some important and fruitful lessons. We can hardly believe that it cannot be possible to find out some means of at least lessening, if not preventing, such calamities; and if such a thing is possible, it must be done. As to whether a tank system, a canal system, or an irrigation system should be adopted, or a combination of all these (which appears most likely), we cannot say, and Indian authorities seem to be greatly at variauce on the subject. But whatever plan, or plans, may be decided on, we suspect that an extensive and scientific system of the planting of such forest trees as can be made to grow in the various regions of India must play an important part. Proof can be obtained in abundance, we believe, from America and from our own colonies, of the injurious effects on climate, on fertility of the soil, and on water-supply, of the continued and extensive destruction

of forests, unaccompanied with a regular and proportionate planting of young trees.

But we are most concerned with insisting that there shall not on any future famine occasion be any experiments made as to how little food human beings can be kept alive on. The Madras famine ought, at the least, to make that impossible. We have no wish to again go into the history of the Temple experiment. Sir Richard Temple was, without doubt, actuated by the laudable desire to prevent any avoidable addition to the financial burdens of a poor country, India, by guarding against a higher rate of work-wage than was necessary; and hence the relief-rate imposed on the Madras Government till the Duke of Buckingham, taught by its disastrous consequences, rebelled against it; and the Supreme Government was forced to admit that he was right. The *Times* approved of the action of the Madras Government, and their correspondent at Bellary describes in vivid and graphic terms the falling away of the men in the working gangs. It was not only that they were emaciated; they bore on their skin the particular famine marks described by Dr. Donovan in his account of the Irish famine, thirty years ago; and said the correspondent, "If we look at thousands of people collected on our relief works, these 'famine marks' are of almost universal prevalence." Yet the great leader and exponent of public opinion, at the same time (August 15), asked, "Was the relief given, in fact, too low?" and went on to remark, "Medical men may dispute over the number of grains of nitrogen and carbon necessary to sustain life, but their wisdom can only be the fruit of experience, and it is by experience that it must be tested. If men do not keep alive on the rations allotted them, it may be concluded that the rations are insufficient"; and they add, "If there has been a deficient allotment, it was from a miscalculation of the medical authorities, coupled, perhaps, with some forgetfulness of Lord Northbrook's principle that the great object to aim at is success, not economy." Now, we must protest most strongly against such statements as these. There was certainly no miscalculation *by* medical authorities, and we have no proof that there was in the first instance any miscalculation or misunderstanding by anyone of statements made by medical authorities, for we have not seen it stated anywhere that Sir Richard Temple based his experiment wage-rate on or after consultation with any medical authorities. Indeed, Sir Richard Temple himself stated that his opinion that his new rate would be sufficient "was not based on so-called scientific evidence," but "rather on probabilities practically deduced from the condition of the poorer classes in ordinary times, and on the results of general experience." The "wisdom of medical men" on the subject *is* the fruit of experience, and has been tested by experience over and over again in communities and masses, large and small, as was well shown by Surgeon-Major Cornish, the Sanitary Commissioner of Madras, in his strongly worded and admirably argued protest against Sir R. Temple's first Minute on the subject, and in the controversy that followed. The experiment was decided on without consultation with, and was carried on in spite of the remonstrance of, medical authority; and what we care for especially now in the matter is that its predicted failure shall be so officially and authoritatively recorded that there shall be no danger of any like experiment being tried at any future time.

PHYSIOLOGY IN THE SCOTTISH UNIVERSITIES.

After considerable delay, due, no doubt, to the engrossing nature of wider public interests, the Home Secretary has begun to direct his attention to the vacancies in the Scotch Universities, and has appointed Dr. Stirling to be the Professor of the Institutes of Medicine in the University of Aberdeen, as we last week informed our readers. The satisfactory nature of the appointment is so evident to all who are conversant with the progress of physiology, that the nomination itself requires no comment; but the opportunity is a fitting one for drawing attention to the fact that the Scottish Universities are now in a position to speak with some pride of the manner in which their physiology chairs have been distributed amongst men who, having already attained to no small reputation, may still be regarded as having only stepped over the threshold of life, so that the repute which they have won for themselves may be looked upon more as the promise of future usefulness and fame than as the justification of the practical recognition of their patrons.

While recently commenting upon the British Association addresses of Dr. Allen Thomson and Dr. Gamgee, we took occasion to endorse the opinions of the latter regarding the importance of Physiology as the helpmate of Medicine; and it is especially gratifying to think, that in the Scottish Universities, where Physiology has from the first been entitled and regarded as the Institutes of Medicine, the provisions made for the teaching of that branch of science should be so adequate to the modern requirements of the task. Never more than at present has physiology been the only sure foundation of rational medicine; and at no time in the history of science has one branch of investigation been able to bestow a greater wealth of discovery and suggestion upon another than Physiology is now daily conferring upon the Science of Medicine and of Therapeutics. Not only so, but the earnest and patient pursuit of physiological science and of the allied science of biology has placed in the hands of psychologists the means of detecting the physical nature of much that had hitherto been regarded as metaphysical and hopelessly obscure, and of drawing a visible line between that knowledge which is attainable, and that which on scientific grounds must be regarded as beyond our present means of research.

The men who can best maintain the dignity of such a science, and add new triumphs to those it has already secured, are those in whom special aptitudes have been aided by early and special education. The modern physiologist who excels as a teacher and investigator must combine in himself the accuracy of a microscopist, the profound skill and clever knack of a chemist, the precision of a logician, and the fluency of an orator. He must be a physicist; it is necessary that he should be an anatomist; and he must be on intimate terms with pathology and medicine. One thing essential in the physiologist of to-day as a teacher is that he should be a demonstrator as well as a lecturer. Physiology is nothing as an attainment unless when it is practical, and the aim of the modern teacher of physiology should be to make his more formal teaching go hand in hand with practical example. The consequence of such teaching is that the pupil is safe to learn enough physiology to constitute a sure basis for his knowledge of medicine and of therapeutics. In this connexion there is one thing which has almost risen to the dignity of a feature of the Edinburgh School of Medicine during the past ten years—namely, the enthusiasm which has been shown by students in their attendance upon special practical classes. The natural tendencies of the late Professor Bennett led him to throw all his influence into the advocacy of what may be called the demonstrative system of teaching. "See for yourself!" might almost be accepted as the essence of the principles which he used to promulgate with such energy, humour, and eloquence; and if his own stage of existence and condition of life prevented him from taking full advantage of the modern tendencies of physiological science, those who were associated with him have shown their appreciation of the spirit which actuated him; and the result is that Rutherford at Edinburgh, M'Kendrick at Glasgow, Stirling at Aberdeen, and (indirectly) Pettigrew at St. Andrews, constitute a group representing physiology in the Scotch Universities in a manner which any country might envy. Every one of them has shown himself an adept

in the intelligent interpretation of nature, and in the exact and grateful transmission of his knowledge to others. All have availed themselves of the highest forms of scientific culture; and their success has shown that their spirit is the spirit of the age, which, recognising that they are treading the path of progress, has adopted them as its representatives.

It speaks well for the influence of Scotch Universities on the Medicine of the future, that Physiology, which above all others is the typical science of the time, should be in the hands of men who, with the ardour of early life, combine the ripeness of scientific maturity, and have the inspiration to know how, in a professional sense, to adopt the principle which Disraeli, in his Glasgow Rectorial address, so adroitly modified from Rochefoucauld's maxim, when he said that the essence of progress consisted in interpreting the spirit of the age and acting upon it.

Scotchmen should be grateful that the preliminary education of men intended for the medical profession is in the hands of such professors. The British Constitution, liberal to profusion in everything else, is niggard to science; and with regard to original physiological observation, sentiment has done its best and worst to paralyse honest endeavours to ameliorate the sorrows of the human race, by arresting attempts to understand them. And as, at present, men in the position of professors of physiology are amongst the very few whom the State will trust as sufficiently capable and humane to perform experiments on animals for the good of the human race, it is well that the Professors of Physiology in all the Scottish Universities are men who, by nature, education, and position, are recognised as distinguished in their profession, cognisant of their great responsibilities, and (as science has not yet soared above malevolence) superior to calumny.

THE WEEK.

TOPICS OF THE DAY.

The first inquiry under the Rivers Pollution Prevention Act of 1876 was opened at the Town Hall, Canterbury, on Monday last, when Mr. Robert Rawlinson, C.B., C.E., Chief Engineer to the Local Government Board, attended for the purpose of inquiring into the alleged pollution of the river Stour by the discharge therein of the town sewage. The Canterbury Town Council had applied for a certificate under the above-mentioned Act, to the effect that the means used by them for rendering harmless the sewage matter flowing or carried into the river Stour from their sewage outfall at Fordwick were the best or only practicable and available means under the circumstances of the case. The Town Clerk applied for the certificate, and it was opposed (on behalf of the Commissioners of Sewers for East Kent, who keep clear the watercourses in that part of the county) by Mr. Douglas Kingsford, barrister. Mr. J. G. Hall, the City Surveyor, described the process at present in use for purifying the sewage previous to its being discharged into the river, which consisted simply of passing it through layers of faggots, gravel, and flints. He admitted that the water for a short distance down the river below the outfall was often discoloured, but added that when the water was at times darker than usual it was caused by the discharge from the tanneries and dye-works in the city; he, however, maintained that for all practical purposes the method was a success. Colonel Cox, a resident in the neighbourhood of the outfall, called by Mr. Kingsford, described the river as being very foul, owing to the discharge of sewage, while the stench arising from the sewage-matter floating down the stream was abominable. Three other witnesses were also called in corroboration of the statements made by Colonel Cox; and Dr. Robinson, Medical Officer of Health for East Kent, also stated that he had received frequent complaints from people living in the district. He gave it as his opinion that the sewage works were utterly inadequate for the purpose for which they were intended. Several samples of water taken from the river at different times when it had been discoloured were also produced by Mr. Kingsford. The inspector subsequently visited the sewage works himself, and his report will be rendered to the Local Government Board. During the course of the proceedings Mr. Rawlinson stated that similar inquiries were about to be opened by him, almost immediately, at Ventnor and Salisbury.

At the meeting of the Whitechapel Board of Works, held last week, the Sanitary Inspector reported that upon inspection of Emery's-place, Butler-street, Spitalfields, he found upon the ground-floor of one of the houses a room containing 1215 cubic feet of space occupied as a school by a person who also dwelt and slept in the same room. On the occasion of his visit the room was very much overcrowded, there being no fewer than twenty-three children huddled together on the bare floor, and the stifling atmosphere of the place was most sickening. On reporting the facts to the medical officer, a second visit was paid the following morning, when they found thirty-five children in the room, which allowed only thirty-four feet of cubic space for each child, and even this was further reduced by the bedstead which stood in the room. Even a worse case was discovered at a school at 24, Freeman-street, Spitalfields; in this overcrowded room, containing only 630 cubic feet of space, the sanitary officers found twenty-nine children, all huddled together on the floor. The place was in a very offensive and improper condition, and the space for each child was only twenty-one cubic feet. The children in both these schools appeared to be under five years of age, and to belong to Jewish families; and although the places were called "schools" the sanitary officers believed that the children were simply placed there by their parents to be taken care of during their absence at work during the day. Many of the children looked ill and delicate, as was to be expected. By order of the Sanitary Committee of the Board and the Medical Officer of Health, notice had been served upon the two women owning the establishments, to abate the overcrowding, and compulsory orders were prepared and signed by the Chairman of the Board, so that the sanitary officers might be in a position to institute legal proceedings immediately, if such a step proved to be necessary.

A case of much importance to the public was heard before the magistrate at the Lambeth Police-court last week. George Parker, house agent, was summoned at the instance of the Vestry of St. Giles's, Camberwell, for having let a house in Crown-street, Camberwell, in which persons had been suffering from scarlet fever, without having first carried out the regulation for disinfecting such premises. Mr. Marsden, on behalf of the Vestry, said three children were seized with scarlet fever in the house, and after their removal to the hospital the defendant neglected to disinfect the rooms previous to re-letting them. The defendant said he did not wish to act contrary to the law, but in this case an error had been committed. Mr. Ellison said such an excuse could not be admitted, especially when the public health had to be considered. The defendant had rendered himself liable to a penalty of £20; he should, however, require him to pay a fine of £5 and costs. John Carpenter, the father of the children referred to in this case, was also summoned for exposing in a public place bedding, etc., used by the sufferers from fever. The evidence showed that the defendant had removed the bedding and clothing to another house without having had it previously disinfected. The defendant was fined 40s. Culpable negligence of the foregoing description is responsible for much of the spread of diseases of the zymotic class.

In the Health Department of the Social Science Congress, held at Aberdeen last week, Dr. Hardwicke, the Coroner for

Middlesex, read a paper on the mode of providing dwellings for the wage classes in large towns. He referred to a block of buildings erected by a large manufacturer at Guise, in France, which he described as having far superior arrangements, social and commercial, as well as sanitary, to the workmen's dwellings lately constructed in the British metropolis. These he criticised as being very defective in details, and susceptible of considerable improvement. As open spaces for the children of the wage classes he advocated the utilisation of the squares in the metropolis, and also the graveyards, which, since the abolition of intramural interments, were kept in a most neglected condition. At the end of the discussion which followed, a resolution was adopted recommending the Council to memorialise the Legislature for an extension of the existing law for providing open spaces for suburban populations.

It is stated that Liverpool is about to follow the example of Manchester in going to a distance for its water-supply in order to insure greater purity. It is proposed to make Wales the fountain-head by impounding the waters of the river Vyrnwy at Llanwddyn, Montgomeryshire, and those of the river Tarrat at Llangedwyn, embracing together a watershed of quite 80,000 acres, and capable of yielding more than eight times the quantity of water now daily supplied to Liverpool. The distance the water will have to be brought is sixty-six miles, and the engineering difficulties connected with the undertaking are said to be trifling. The originator of the scheme, Mr. H. Williams, C.E., of Wigan, has devoted two years to maturing plans for its development.

The *Sanitary Record*, which has lately been recording the results of the analyses of water at different seaside towns, reports that the Eastbourne supply has the advantage of great organic purity, whilst the Brighton water is better than any sample analysed, unless it be that of Dover. At Cromer the water is described as of a yellow-green colour, with very offensive smell and nauseous taste, swarming with animalcules, and concentrated but fairly oxidised sewage. Worthing has a good water-supply, but that of Littlehampton was found to be full of living organisms; and the same description applies to the water supplied for consumption at the neighbouring town of Bognor.

The town of Keighley seems determined to offend on the old subject of vaccination. At a meeting of the Board of Guardians held last week, a letter was read from the Local Government Board, enclosing correspondence which had been published in the local papers. It appears that Mr. H. Shuttleworth was appointed Vaccination Officer on June 27, and on July 20 he wrote to Mr. Hume Rothery, offering to write articles for the *Anti-Compulsory Vaccination Reporter*, and also offering to distribute leaflets when making his professional visits. It further transpired that Mr. Shuttleworth was a member of the Anti-Vaccination League, and had two children not vaccinated. It was resolved to inform the Local Government Board that his children were not vaccinated, and also to ask them to cancel his appointment.

The Ottoman Government has made known, through the Consulates, its want of doctors and surgeons, as well as other sanitary officers, for its Army Medical Service. The conditions under which such sanitary assistance will be engaged are to be ascertained at the various Consulates. It is notified that twenty surgeons are immediately required, who will be despatched forthwith to the seat of the war, and early application on the part of those who elect to accept such service is requested. That increased surgical assistance is urgently needed is only too apparent from the accounts which reach us from the different points where active operations are being carried on. Assistant-Commissary Young, whose services have been placed at the disposal of the National Society for Aid to the Sick and Wounded in War, reports that from all divisions of the medical staff furnished from this country he continues to receive accounts of splendid work done for the sick and wounded. Large numbers of wounded are reported to be pouring into Constantinople daily, and the Red Crescent Society are taxed to their utmost to meet the immense calls upon their services, not only in the capital, but at the front, by means of flying ambulances, transport, etc. One of the Sultan's palaces at Beylerbey has been placed at their disposal for the reception of the wounded.

The monthly return of the Registrar-General of Scotland for the eight principal towns of Scotland (containing fully a third of the population of that country) shows 2048 deaths in August, being 480 under the average for the corresponding month during the last ten years, allowing for increase of population. The deaths from zymotic diseases amounted to 326, or 15·9 per cent. of the whole mortality; and this also is the smallest number and smallest proportion from that class of diseases in any August since the registration was commenced in the year 1855.

THE DESTRUCTION OF CONDEMNED MEAT.

Dr. Sedgwick Saunders has presented to the Commissioners of Sewers his report on the method proposed by him for destroying meat condemned as unfit for consumption. The deodorant suggested by him to be employed is a mixture of water, "Cooper's salts," protosulphate of iron, and picric acid. "Cooper's salts" are composed of the waste chlorides of commerce, and contain, approximately, 80 per cent. of powerful antiseptic substance, and about 20 per cent. of water; they are described as being inodorous, perfectly harmless to man or animals, free from deleterious ingredients, and with no chemical action upon metals or fabrics. They act in virtue of the power the chloride of sodium is known to possess of arresting change in albuminous substances; and the chloride of calcium is added, because it exercises a specific action upon animal tissues undergoing incipient decomposition, inasmuch as it forms the insoluble and inert albuminate of lime under these conditions. Any putrid or stinking meat is immediately deodorised by immersion in a watery solution of these salts alone, but it is not thus rendered unfit for manipulation for food by dishonest operators. To accomplish this the picric acid and the sulphate of iron are added, which discolour the meat and render it so disgusting to the taste, and so entirely unfit for human food, that no fear need exist as to its improper appropriation. Even then, however, it has to be got rid of in some manner, and Dr. Saunders suggests that it might be sold to be converted into a substance useful in the arts, or, as a last alternative, that it should be taken down the Thames and sunk below the Nore Light-ship. After considering the report, we are still of opinion that the suggestion we put forward last week for getting rid of this putrid meat—namely, by scientific cremation—might be found to be the most effective, and certainly less expensive than the method propounded in Dr. Saunders' report.

THE EARLSWOOD ASYLUM FOR IDIOTS.

In noticing the thirtieth annual report on the Asylum for Idiots at Earlswood, for the year 1876, it is only necessary to remark the fact that the watchfulness and experience of those entrusted with the management of the institution have conduced to continued improvement in the mental and physical condition of the inmates. The general health throughout the year has been remarkably good; and as every precaution is adopted to prevent the entrance of infectious disorders, the Medical Superintendent, Dr. G. W. Grabham, is able to report that no case of epidemic disease has occurred amongst the inmates during the period under notice. The highest number accommodated at one time has been 621; the average number resident during the year having been 605. This has taxed the

resources of the Asylum almost to its limits; but when the detached infirmary, now being added to the establishment, is completed, many rooms now occupied in the main building will be set free, and it will then be possible to accommodate even a larger number than 620 patients. Finally, it is shown that the number of those at present in the Asylum who have made material improvement is much larger than in the previous year, viz., 146. Of those who have remained stationary as regards mental condition, a large number are usefully employed; while deterioration in only eighteen cases has been generally due to epilepsy or other diseases. The institution may justly be said to have maintained its usefulness; and it unquestionably affords an excellent model for similar asylums, whether in this or in other countries.

DEATH UNDER ANÆSTHESIA.

We are informed that in the fatal case of anæsthesia which we reported last week as having occurred at the Radcliffe Infirmary, Oxford, the anæsthetic employed was chloroform, and not the bichloride of mythelene, as we had then by mistake been informed. The operation (for disease of the bones of the foot) was, we are told, a somewhat tedious one. The former death, to which we alluded, was six, not five years ago, and in that case also chloroform was used.

THE PENGE MURDER.

The Penge mystery, with all its revolting details and revelations, no longer disfigures the pages of our daily papers, to the great relief of all newspaper readers, save such as love to sup on horrors. The case is, however, an important and somewhat interesting one from the medical-jurisprudence point of view; and we shall, therefore, next week deal fully with the medical points in it.

FROM ABROAD.

Prof. Schiff on the Functions of the Spleen.

The following are the conclusions of a paper read (*Gaz. Hebdomadaire*, September 21) at the recent Medical Congress of Geneva:—

1. Extirpation of the spleen has no durable influence on the absolute or relative quantity of the white or red globules of the blood. 2. During the early periods after the operation there is observed a considerable increase in the white globules, with or without a diminution of the red globules. But these changes do not depend upon the absence of the spleen, but only upon the operative procedures necessary for its ablation; and the phenomena remain very much the same when these preparatory acts are not followed by the removal of the spleen. 3. After the removal it is quite exceptional for any swelling of the lymphatic glands, or increase in the size of other glands, to take place. The so-called supplementary spleens are not produced even when the animals are allowed to live for more than a year and a half, and when the operation has been performed only a few weeks after birth. 4. The swelling of the mesenteric glands, which is very exceptionally met with in animals from which the spleen has been removed, appears to be due to a prolonged partial peritonitis, which sometimes is a consequence of the operation. 5. The spleen appears to increase in size from the fourth to about the seventh hour of a sufficient stomachal digestion. 6. The spleen during digesting, or rather during stomachal absorption, prepares the ferment which, entering with the blood into the tissue of the pancreas, transforms in this gland a special substance (probably an albuminoid) into *pancreatopepsin* or *trypsin*—that is to say, into a substance apt to digest albuminoid bodies. 7. After the extirpation of the spleen the pancreatic fluid loses its digestive influence upon albuminoid bodies, while retaining its other digestive properties. The duodenal digestion of albuminoid bodies is no longer distinguished by its energy and rapidity, but becomes feeble as in other parts of the small intestine. 8. After the ablation of the spleen the substance destined to form pancreatopepsin accumulates in great part in the pancreas, and may still be transformed into pancreatopepsin by means of the chemical influences which after death accompany the commencement of putrefaction. 9. After the destruction of its nerves the spleen remains flaccid, and, undergoing turgescence no longer, becomes atrophied, as do erectile tissues in general, the vascular nerves of which have become paralysed.

The Weighing of Infants.

Dr. Eisenschitz, Privat-docent in the Vienna University, issues in the *Wiener Med. Woch.* (No. 28) what he calls a *Hilferuf*, or call for co-operation in the matter of weighing young infants. It is only, he says, by the accumulation of a great number of data that the great practical value of this procedure can be demonstrated. However opposed to this, as to all other innovations, the ignorant may be at first, Dr. Eisenschitz expects to receive the support of educated persons, and that the infants of the profession, at all events, will be at once utilised. Even with our present experience the great importance of the practice may be easily shown as regards the symptomatology of infants, as also the probable great extension of the scope of the inquiry. The weighing of sucking infants is, in fact, a most useful and certain guide for the practitioner in judging of their development and nutrition; and it does not require to be shown how welcome such a guide must be, by enabling him to give a precise and speedy answer in questions of this kind, which are often attended with doubt. By the use of the scales we may in less than a week determine whether the mode in which the child is nourished requires to undergo a change, and whether such change is urgent or may be delayed awhile. The remark may here be made that a cause of dyspepsia in infants is very frequently overlooked—viz., that while dyspepsia, from whatever cause arising, is prejudicial to nutrition, so may not merely a qualitative faultiness, but a quantitative deficiency, of food become a cause of dyspepsia in sucklings, and induce catarrh of the stomach and intestinal canal. Moreover, the secretion of the breasts, from which a sparing supply of milk is produced, is usually of difficult digestion. An infant who has for some time been insufficiently nourished from this cause, and one who has obtained only milk of a bad quality, will, upon the whole, exhibit a similar diseased condition, which, at first consisting only of slight dyspeptic symptoms, sooner or later are converted into signs of serious disease of the intestinal passages. When a suckling, who from one or other of these causes, has had its nutrition damaged, obtains access, while yet there is time, to suitable food, its weight-curve rises at so rapid a rate that it gives the impression of an effort having been made to supply the lost weight, so as to hasten the weight-curve up to the proper point for a child of that age. The phenomenon is apparently explained by the fact, which careful clinical observation supplies, that such infants, analogously to individuals who have suffered from starvation, reproduce most rapidly, when suitable qualitative and quantitative aliment is supplied, the tissues that first and most speedily disappeared. The first rapid increase arises from the retention of water, for which the tissues, on account of their prior great transpiration, exhibit increased attraction as soon as their normal conditions of absorption are restored. The daily increase of weight which is observed under these circumstances exceeds very considerably the mean increases set down by authors; and, in fact, these mean numbers have proved so little reliable, that the necessity is obvious, in order that a secure basis for practice may be obtained, that numerous and exact weighings should be undertaken.

Dr. Eisenschitz own observations entirely relate to infants at the breast; and in those who are artificially nourished such rapid increase of weight, under the above circumstances, is quite exceptional. But it is precisely in infants so brought up, in whom from any cause the nutrition becomes deficient, that the scales obtain their greatest triumphs. It is now an admitted fact that the chemical composition of an infant's food will not alone, in certain cases, enable us to decide whether such food will prove suitable; and it is also certain that the same aliment which for a long time has furnished the most satisfactory results, will at last—we know not why—no longer agree with the same child. Every practitioner, even the most experienced, is aware of the great difficulties in children-practice which thus arise. By the aid of the scales we are enabled, and (which must be emphatically stated) with sufficient promptitude, to direct the choice of aliments upon which the child will best thrive. Frequently, for infants

several months or even weeks old, who do not obtain sufficient nutriment from the breast of their mother or nurse, we may be enabled to suggest a supplementary aliment that will be attended with the best results, and with the great advantage of preventing premature weaning. The possibility of thus supervising, by weighing, a mixed alimentation with such certainty, will give a great impulse to the practice of maternal suckling, and thus diminish a social reproach of our time. While, on the one hand, the mother, encouraged by the results obtained by observing the scales, perseveres in her duty; on the other, when she would almost obstinately continue the attempt after it has proved injurious, the practitioner is placed in the possession of a convincing reason for her abandoning it.

For the determination of the time for weaning, the repeated weighing of the child furnishes a truly physiological basis. On examining the normal weight-curve of an infant that has been suckled in the second half of its first year, we find with the increase of age (the exceptional conditions of the first two weeks being left out of consideration) a progressive diminution of the daily increase of weight, without the child manifesting ill-health, or without there being any visible disturbance in the progress of its development. If such a condition of the weight-curves occurs earlier, it must be looked upon as an indication for suitable supplementary aliment; while if it is observed at a later period, it is an intimation on the part of nature that weaning should be commenced. But it is quite certain that if an infant, kept exclusively at the breast, continues at the end of the seventh month to increase daily fifteen grammes in weight, it may be allowed to suckle longer with advantage. The execution of these weighings need not give much trouble. The decimal balance is that which is most convenient, and fifty kilogrammes is the highest weight wanted. The parents, if intelligent, might be trusted, under the supervision of the practitioner, to take the weights; and mothers readily undertake a task which they find is so advantageous to their infants. The results should be collected and tabulated, with the dates. The net weight must be accurately determined; and by the side of the weekly entries should be stated all the circumstances which may have influenced the development of the infant—as the sickness of itself or nurse, change of nurse, change of aliment, etc.

REVIEWS.

Cyclopædia of the Practice of Medicine. Edited by Dr. H. von Ziemssen, Professor of Clinical Medicine at Munich, Bavaria. Vol. VII. Diseases of the Chylopoietic System, etc. English Translation edited by Albert H. Buck, M.D., New York. London: Sampson Low, Marston, and Co. 1877.

The first article in this volume is by Professor Wendt, of Leipsic, and deals with Diseases of the Naso-Pharyngeal Cavity. It is scarcely as satisfactory as some of the others, partly on account of the extreme baldness of the translation, and partly because some of the affections described have not received characteristic names in this country as they have in Germany, and it is not always easy at first sight to know what condition the writer is speaking of. Thus, "pharyngeal phlegmon" would not convey the author's meaning to many English practitioners, any more than "rarefying dry catarrh of the naso-pharyngeal cavity" would. The translator should have seen to this, and not allowed any loophole for obscurity.

Diseases of the Stomach and Intestines, by Professor Leube, of Jena, fully maintain their author's character for thoroughness and originality. His introductory remarks are worthy of attention by those who wish to study abdominal disorders with any profit:—"A thorough knowledge of the anatomy and physiology of the parts is absolutely indispensable in the investigation of diseases of the stomach and intestines. It may, indeed, be asserted that in these affections a knowledge of physiology is the more important, because the products of the organs which are acting under abnormal conditions may themselves be submitted to direct examination." We quote these sentences, not because they contain anything new, but only to insist on their importance, because we know that extraordinary ideas as to the physiology of digestion are still too rife among practitioners. Professor Leube gives a good *résumé* of our present knowledge on this subject, and then goes on to consider Acute Gastritis, or acute gastric catarrh, Cholera Infantûm, Gastritis Phlegmonosa, or interstitial purulent inflammation of the walls of the stomach, and Chronic Gastritis, or chronic gastric catarrh. His view as to the causation of sporadic cholera, or cholera infantûm, is as follows:—"That the nerves of the gastric and intestinal parietes become irritated to a high degree, sometimes by the action of certain excitants, but more particularly by that of fermenting food, thus giving rise to excessive peristaltic action of the intestine and vomiting," and he explains the frequency and severity of "sporadic cholera" among infants by the greater sensitiveness of their nervous system. It is worth notice that he does not agree with the recommendations of Trousseau and others to give raw meat in this affection, and he says, "To give *meat* to infants less than a year old, whether in the shape of scraped raw meat, or as beef-tea—which latter is in every way preferable to the former, as being more digestible—I do not think advisable, since its clinical (? *chemical*) composition is too widely different from that most appropriate to the infantile digestive organs."

Under Chronic Gastric Catarrh the observation that "we should not be satisfied, as a rule, with the diagnosis of a primary chronic catarrh until the various other chronic affections of the stomach giving rise to dyspepsia can be excluded with tolerable certainty," is an excellent one, and well worth remembering in practice. Like most writers, Professor Leube speaks of butyric acid fermentation and the presence of butyric acid in the stomach as if it were only prejudicial to the digestive process; but from some experiments made by Dr. Burdon-Sanderson for Mr. Darwin in reference to the digestive secretion of *Drosera rotundifolia* ("Insectivorous Plants," page 90), it appears that butyric acid in the presence of pepsin has a solvent action (at least on fibrin), equal to about one-third of that of hydrochloric acid. Hence its presence in the stomach cannot, it would seem, be altogether injurious to digestion.

The chapter on Ulcer of the Stomach is a very interesting one, and the etiology of this affection is discussed in a fuller way than we remember to have met with elsewhere. Its embolic origin Professor Leube accepts only with considerable modification, and he adheres to Virchow's original general proposition that "gastric ulcer is due to a great variety of causes, all of which act by interrupting the circulation in circumscribed portions of the wall of the stomach." For the anæmia thus caused to be efficient he believes that a second factor is essential—namely, "a temporarily increased acidity of the gastric juice,"—though this view is more hypothetical than real. Leube treats ulcer of the stomach by what he calls his method, which is as follows:—The patient is confined to bed, and has hot poultices applied to the abdomen, or ice if hæmorrhage threatens. He takes one tablespoonful of Carlsbad salt (chiefly sodic sulphate) in a pint of warm water every morning for the first few days, and his diet consists of a solution of beef, of which the daily allowance is equal to half a pound of beef, and which is made by digesting beef with a strongly acid solution of pepsin in hermetically sealed vessels at a temperature above that of the human body. Nothing else is at first allowed except a little milk and some soaked rusk. Everything is given *lukewarm*. After two or three weeks the patient is allowed light diet, consisting of pigeon, chicken, mashed potato, soup, etc.; and in another eight days he is allowed to return to still coarser food. Professor Leube declares that since he adopted this method he has never found it necessary to resort to any other remedies, not even to morphia. We observe that he is very sceptical as to the value of bismuth and nitrate of silver in cardialgia, and also of bismuth in gastric catarrh. Our personal experience is opposed to his opinion as to its value in the latter affection, and especially in its subacute form, for we have found decided benefit from it.

We must pass over the subjects of Cancer of the Stomach, Hæmorrhage of (? *from*) the Stomach, and Gastralgia, without comment, and say a word or two about the treatment of Dilatation of the Stomach, on which Professor Leube is an authority. In this disease, as well as in gastric catarrh, whether acute or chronic, he is strongly in favour of the use of the stomach-pump to remove irritating ingesta and give rest to the diseased mucous membrane. He prefers it even to emetics, but he is opposed to the use of the *syphon*-tube by the patient himself, and thinks that the same form of pump as is in ordinary use in cases of poisoning is the best form of apparatus. In dilatation of the stomach due to pyloric cancer, or cicatricial contraction, he claims for the stomach-pump (1) that it relieves the strain of undigested food on the wall of the stomach, and "prevents the food taken from being constantly decomposed, as heretofore, by the fermenting substances retained in the stomach"; and (2) that it enables the stomach

to recover the power of completely absorbing the products of digestion, and so relieves the vomiting and obstinate constipation, with a very striking improvement in the subjective condition of the patient. He confesses that, though his five years' experience of the treatment of gastrectasia by pumping out the stomach has been, upon the whole, gratifying, there are *limitations* to *its effectiveness*, and that there are cases where the use of the pump is either unjustifiable or entirely impracticable—*e.g.*, if there is a suspicion of recent ulcers; or if the patient strongly objects to being pumped; or, lastly, if the attempt to introduce the tube causes intense alarm, and spasm of the muscles of deglutition.

The Diseases of the Intestines, Intestinal Catarrh, Intestinal Hæmorrhage, and Enteralgia or colic, are all excellently treated; but we can only remark in passing that Professor Leube scarcely believes in anything but *ergotin*, hypodermically administered in doses of one grain and a half, to stop bleeding from the bowel. He is very sceptical as to the value of perchloride of iron in such cases, and also in gastric hæmorrhage.

Constrictions, Occlusions, and Displacements of the Intestines are most exhaustively handled by Dr. O. Leichtenstern, of Tübingen. The account of the methods of diagnosis of constrictions is very good, and deserves careful study. The author considers that Simon's method of introducing the whole hand into the rectum "is by no means an indifferent operation, and that it should only be used when there is actual need of it—when important diagnostic information can, with a great degree of probability, be expected from it, or therapeutical ends obtained, as in the case of a foreign body, or before the performance of laparotomy or colotomy, etc." The number of ways in which internal strangulation of the intestine may arise is very startling, and when we look over the long list which Dr. Leichtenstern enumerates we feel almost surprised that anyone escapes a strangulation at some period of his existence. The causes of habitual constipation are discussed at great length, and the information embodied under this head cannot fail to be of great use to practitioners struggling with one of the unsatisfactory examples of this condition. In the section on treatment we notice with pleasure the position which Amussat's method of lumbar colotomy has taken in the hands of English surgeons, the mortality being only 33 per cent. according to the latest statistics of Erskine Mason.

Intestinal Parasites receive all due attention from Professor Heller, of Kiel; and we may especially notice the chapter on *oxyuris vermicularis*, as conveying a great deal of interesting, and at the same time valuable, information as to this parasite which is not to be met with in the ordinary text-books. Others will, no doubt, be surprised (as we were ourselves) to find that the true habitat of the oxyuris is NOT the rectum, as we have all been taught, but *the cæcum*, and the *vermiform appendix!* Professor Heller calls attention to the fact that the idea that the oxyuris mainly inhabits the rectum is upheld in all the books (and, certainly, the few we have referred to since reading this statement confirm it); and he points out that the difficulty of completely expelling the worm from the intestines is due to this long undetected fact. We strongly recommend a perusal of the few pages devoted to this particular subject.

The editor of the "Cyclopædia," Professor von Ziemssen, follows Professor Heller with the subjects of Laryngitis Phlegmonosa, Perichondritis Laryngea, Ulcerations, Tumours, and Neuroses of the Larynx. The term *laryngitis phlegmonosa* is applied to those inflammations in the larynx which run their course principally in the submucous connective tissue, without, however, being exclusively limited thereto. It is ordinarily known as *œdema laryngis*. In the section on Laryngeal Phthisis, Professor Ziemssen strongly maintains the truth of Louis's law—that *pulmonary* phthisis almost invariably precedes the laryngeal affection. He has paid special attention to the subject for years, and thus far has "*not met with a case* of phthisical ulcers of the larynx in which he could not demonstrate either fresh or old consolidations in the lungs, especially at their apices." The subject of Laryngeal Growths is capitally done, as is also Neuroses of the Larynx, on which latter von Ziemssen is an established authority. This part of the volume contains a number of well-executed woodcuts, which add considerably to its value. Bilateral paralysis of the *erico-arytænoidei postici* muscles (a well-characterised lesion, of which, however, as yet, only nine cases have been reported) is dealt with very fully, and illustrated by a succinct account of each recorded case.

Dr. Steffen, of Stettin, winds up the volume—which is one of the most generally serviceable of the series which has as yet appeared—with a good article on Spasm of the Glottis. The various articles are translated by Dr. A. V. Macan, of Dublin; Dr. E. W. Schauffler, of Kansas City; Dr. Ball, and Dr. L. A. Stimson, of New York; and Dr. J. S. Cohen, and Dr. A. van Harlingen, of Philadelphia.

An Essay on Hospital Mortality, based upon the Statisties of the Hospitals of Great Britain for Fifteen Years. By LAWSON TAIT, F.R.C.S., etc. London: J. and A. Churchill. 1877. Pp. 136.

THE subject of hospital mortality is one which well deserves, and indeed imperatively demands, our closest attention. Mr. Lawson Tait, following in the lines of the late Sir James Simpson, has collected from every hospital in the country information as to its rate of mortality; and the results of his labours are embodied in the little work before us. He sums up the lessons which his statistics teach as follows:—"The figures show incontestably that a most stringent inquiry is demanded as to the possibility of reducing the number of deaths in at least some institutions for the treatment of the sick poor." Though we are scarcely prepared to accept all the views which Mr. Tait formulates in the course of his book, we do, nevertheless, agree in the main with the above conclusion at which he has arrived. That hospital mortality is very high, cannot be doubted; that it is higher than it ought to be, is possibly true; but that it depends on aggregation, *per se*, is, in our mind, to say the least, doubtful. First, Mr. Tait's figures, which are very large, demonstrate that a very large number of persons die annually in our hospitals, but there is not one particle of evidence to show that any part of this mortality is other than the *natural result of disease or accident*. It would, indeed, be putting figures to bad use if an attempt were made to *explain* the number of deaths by mere statistics. But if Mr. Tait's *general statements* concerning hospitals *en masse* should lead to a *special* inquiry into the working details and results of *each one*, then undoubtedly some good would result from his work, and it might, and probably would, lead to improvements.

Mr. Tait says (page 83), "Large hospitals are not more unhealthy because of their greater size, but because they want more looking after, larger bed-areas and cubic spaces—conditions which they do not obtain, because, in places where they exist, time, labour, and space are so much more valuable than in the small hospital areas." We agree with our author as to the need of more careful surveillance, but we cannot without qualification accept his opinion concerning the larger amount of cubic space—indeed, his own statistics and our experience alike refute it. We have seen, over and over again, brilliant results obtained in small, dingy-looking hospitals, where scientific sanitation, such as Mr. Tait would advocate, had been palpably prominent by its absence. Large, handsome hospitals, well known by the public to be supplied with every kind of scientific appliance for warming, ventilating, purifying, and keeping clean and wholesome the atmosphere, are courted especially by those who are the subjects of serious, and probably incurable disease, in the hope of there finding some possible mitigation of their diseases; and hence it is that in some hospitals where there should, on *à priori* grounds, be a low mortality, there is a very high one, and the place is at once condemned, its statistics of mortality alone being considered. Let us look at a high death-rate from another point of view. We will this time choose some large, poor hospital, whose foundation dates long before sanitary matters were ever dreamt of. The size of such a hospital is usually commensurate with the amount of illness, disease, or accident of its immediate district. The amount of illness depends on local causes—poverty, neglect, or the aggregation of large (and dangerous) manufactories; and wherever these local causes are active outside a hospital, they are as naturally active within it. Poverty always implies a lowered health-standard—a less recuperative power after disease or injury—less of the reserve force necessary to recover either from accident, operation, or disease; and hence the results of hospital work vary with the class of people who undergo treatment within its walls. This is, to our mind, the key of the whole argument. Herbert Spencer reconciles greater apparent discrepancies than even those to which Mr. Tait's book refers, to the ever-varying agencies which act on matter: no two particles of matter are constantly acted upon by the same agencies under the same circumstances and conditions for similar periods, and to this fact is to be ascribed the amazing variations under which matter presents itself to us.

We may venture on a third variety of hospital. Let us imagine ourselves in a fine modern palatial building, situated within its own grounds and surrounded by open fields. Would Mr. Tait ascribe the low death-rate of such a place to better "looking after, larger bed-areas and cubic spaces"? We fancy not. It is well known that the few such places which do exist are more or less of a failure from a scientific point of view. The sick poor do not care to be carried far away from home; they cannot be so conveniently visited by their friends, and they do not care to die away from them: and as for accidents, it is well known that the patients could not be transported to a distance without grave additional risks. In the London hospitals a large number of patients are taken in to die; humanity and science alike prompt to such admissions, and until all such cases are scratched off the mortality tables, no true estimate of their relative value can be obtained.

We will now pass on from these general conclusions to one or two special points. After what we have said, the reader will scarcely expect us to enter into any discussion on the figures which Mr. Tait adduces as the results of his inquiries. We will glance rather at the subject than at details. First, as regards amputations. He says (page 117), "It certainly is somewhat disappointing to find that of *all* the amputations performed in hospitals more than *one in every four dies;* and that even of *all* amputations for disease the results are not so good as to secure the recovery of four out of five"! Mr. Tait has done well in choosing the word "disappointing," for it aptly expresses the feelings with which every surgeon will read this statement. We regret to read further on in the same paragraph the opinion that this "*ought* to be greatly reduced" (the italics are our own); for this implies a culpable negligence on the part of the hospital staff, both lay and professional, which is not deserved. We have already entered into a few of the causes which tend to modify the results of treatment, including the previous surroundings of the patients—their previous habits of life, and their inherited as well as their acquired idiosyncrasies. We would now add that before any slur can be implied, and still less cast, on a hospital in consequence of a high mortality, all these circumstances must be carefully weighed *in each individual case*, together with the nature of the disease or accident which necessitated each operation. Until all these points have been carefully weighed and balanced, and until post-mortem examinations in the fatal cases reveal or negative internal injuries or disease, the mere record of "Died" or "Recovered" is absolutely valueless.

Turning to Ovariotomy, we are pleased to be able, with Mr. Tait, to admire the gigantic success of some two or three special operators, and we congratulate them on their results. Nevertheless, we are utterly unable to find any parallel between the *individual* practice of two surgeons in ovariotomy, and the *aggregate result*—acknowledged by the author to be imperfect, because of the imperfect nature of the data and statistics on which they are based—which Mr. Tait deduces from 4948 *collected* amputations. It is "disappointing" to learn that "one in every four dies,"—and that we have regretfully conceded. But it is none the less a useless piece of information until we know *why* "one in every four dies." After we have excluded a large proportion of patients who die of the accidents *subsequent* to amputation (*but not of it*), or of disease which has exhausted the patient before he comes under treatment, or of metastatic recurrence which is beyond the reach of the knife, we venture to believe that a different statistical result would be arrived at. It would not be fair to contrast fifty thigh amputations done by one man, with fifty ovariotomies done by some other individual surgeon, unless we could by a kind of second-sight know what would have been the final result of the two series of cases if left to themselves. We will briefly glance at one more point—the mortality in children's hospitals. Speaking of Great Ormond-street, the author thinks that the mean residence (37·2 days) is too great, "if we bear in mind the rapid course which diseases usually run in children." Can Mr. Tait have left out of his consideration the so-called scrofulous diseases of children—the cases of hip-joint disease, of knee-joint disease, scrofulous disease of glands or of the lungs—so fatally common in young children, or has he discovered some remedy to cut them short? In the Birmingham Hospital for Children, he tells us, the mean residence is 24·2 days, "facts which are sufficient alone to indicate this hospital as a thoroughly well-managed institution." What a fallacy! The Birmingham Hospital draws its patients, most probably, chiefly from its own immediate district, and no doubt does good work. Great Ormond-street receives patients from the whole country; its resources are heavily taxed, and its benefits are eagerly sought by those who suffer from the more serious diseases incidental to childhood. Mr. Tait says (page 75) "When the mortality of a children's hospital is found to be so low as 2·3 per cent., I think it may be fairly inferred that such an institution is not doing the work it ought to do; for such a mortality can only be arrived at by the exclusion of acute cases." Surely this is contradictory of the theory which the book was written to substantiate, for Mr. Tait's whole argument is that hospital mortality is excessive, and that it depends on preventable causes. Why not say it is excessive because *too many acute cases are admitted.* He speaks very highly of the Birmingham Children's Hospital. We fancy he does so because he knows more about it than of some of the hospitals of which he has written so much. We believe that a more extended personal acquaintance with the management of some of the large London hospitals, and with the nature of the cases, would convince Mr. Tait that he had been unjust to at least some institutions.

In conclusion, we regret that Mr. Tait was unable to procure, as fully as he wished, the statistics of some hospitals. We would advise him, and everyone who asks such favours, to be thoroughly courteous in their communications. It does not do nowadays to *demand* information, which, to be of service must be accurate, for it must be remembered that such details asked for from large hospitals, would occupy a very considerable time in their preparation. We do not think that Mr Tait's communications always were quite as courteous as they might have been; and we have reason to know that this fact explains the difficulties he met with on more than one occasion.

A Practical Treatise on Diseases of the Skin. By Louis A. Duhring, M.D., Professor of Diseases of the Skin in the Hospital of the University of Pennsylvania, etc. Philadelphia: J. B. Lippincott and Co. 1877.

We must congratulate Dr. Duhring on having produced a thoroughly workmanlike, practical, and comprehensive treatise which cannot fail to increase his reputation as a dermatologist, both in the United States and in Great Britain. Although intimately acquainted with the views of British and Continental authorities on diseases of the skin, he has wisely elected to work, in the main, on the lines which Hebra has laid down, and has adopted the classification of the latter with but slight modifications. It might be a nice question whether *Acne vulgaris* should not, as a condition in great measure dependent on the pre-existence of *comedones*, be included under the head of disorders of sebaceous secretion, and not under pustular diseases; but perhaps Dr. Duhring has done rightly in placing it where he has.

Where all articles are so excellent we have a difficulty in singling out any for special mention. Perhaps the chapters on General Diagnosis and Treatment may be referred to as particularly good, and well worthy of the attention of anyone who wishes to become skilful in distinguishing between different skin diseases. It is, however, going rather too far to say that "we need not entertain the occurrence of psoriasis before the sixth year" (page 75). We have before us the notes of a case under our own care in which it began at *four years and a half*, and, though very rare, others have been recorded still earlier. Acne is carefully treated of, and special stress is laid on "dyspepsia in all its forms, as one of its most prolific sources." We notice that Dr. Duhring believes that arsenic does decided good in the papular variety, and in acne where the lesions are imperfectly developed. We have ourselves seen benefit from it in the same class of cases. In a note on *Herpes gestationis*, Dr. Duhring has fallen into a mistake which might have been avoided by a simple comparison of dates. The note is as follows:—*Wiener Med. Wochenschrift*, No. 48, 1872. *Abstract to be found in the Lancet*, March 23, 1872." This implies that the so-called "abstract" was published several months before the article from which it is supposed to have been condensed, and which must have appeared either at the end of November or beginning of December, 1872. As a matter of fact, we know for certain that the reputed abstract was specially reported at Vienna for the journal in which it appeared, and it was, we believe, the first notice of the remarkable case described which appeared in print.

Under the heading "Prurigo," in which Hebra's description

is followed, we are surprised to find no reference to *Lichen urticatus* as the representative of prurigo out of Austria, and as one of the most troublesome—though, happily, not the most common—of the skin diseases to which children are liable. A short mention is made of the disease under "Urticaria," with which its chronicity alone should, in our opinion, prevent its being classed. The only cases we have seen in England, to which the term "prurigo" may be correctly applied (excluding Prurigo hiemalis, which we have met with exactly as described by Duhring), are those of Lichen urticatus, and they agreed with Hebra's Prurigo in being accompanied by severe secondary lesions due to scratching, in chiefly involving the lower limbs, and in resisting treatment, though most benefit was derived from lotions containing tar, or sulphur-baths. Contrary to Dr. Duhring's experience, the children were well nourished, and not ill cared for; on the contrary, they belonged to the better class of poor.

The subject of treatment is in all the chapters well handled; and though there is not much that can be called new in what is suggested, yet nothing of importance is omitted, and the ideas of others are (as also everywhere else throughout the volume) accorded full justice whenever they deserve it. Dr. Duhring is not one who parades wonderful cures, or vaunts miraculous panaceas, and his modest opinions are all the more worthy of attention and respect.

There is one point more we should like to mention before concluding our review. It refers to the differences between the skin diseases of Europe and North America; and we may quote the author's own words to illustrate it. He says:—"Having had some few years ago favourable opportunities for observing a large number of cutaneous affections in the various countries of Europe, and since then of studying these diseases in the United States, I can state that in many instances they differ materially in type as they are seen on the two Continents, and that the diseases met with here resemble more closely those of Great Britain than those of either France or Germany." This is an observation of great interest, and points to the relation of skin diseases rather with *race* than climate. We know of no similar generalisation with regard to Australia, New Zealand, or the Cape, and have mentioned Dr. Duhring's remarks partly to call the attention of surgeons in those parts to them. The predominance of the Anglo-Saxon element in the United States helps to explain the similarity of its skin diseases to those of Great Britain. Possibly in a few centuries the original types will become considerably modified from their European forms. Skin diseases apart, are the types of disease prevalent in Britain replacing indigenous types abroad, as the Anglo-Saxon replaces the New Zealander or the American Indian? We know how measles have decimated the Fijians, and small-pox the Red Indians, and how our sailors syphilise and our "fire-waters" degrade the inhabitants of all the ports they enter. Do we colonise new countries permanently with diseases as well as with people, or do we stamp out aboriginal inhabitants and aboriginal diseases, and leave no fresh diseases in their place? These are important questions, and they open a wide field of inquiry. Let us hope that Dr. Duhring will continue to devote his attention to the variations of type in imported skin diseases, and give us fuller details on the subject at a future day. Meantime we can heartily recommend his book as a solid, reliable, and painstaking production.

Transactions of the Obstetrical Society of London for the Year 1876. Vol. XVIII. London: Longmans, Green, and Co., Paternoster-row. 1877. Pp. 355.

Although smaller than some of its predecessors, the eighteenth volume of the *Transactions of the Obstetrical Society of London* is not wanting in matter of interest and value to the obstetrician and gynæcologist. Abstracts of the papers and reports of the discussions to which they gave rise were duly published in our columns after each meeting; it is therefore unnecessary to consider them at length in the present notice. Among the more important papers are the annual address of the President of the Society, Dr. Priestley, in which he gives a very careful and elaborate summary of the debate on Puerperal Fever; Dr. Routh's paper on a case of Extra-Uterine Fibroid successfully treated by Gastrotomy; Dr. Williams's on the Mechanical Action of Pessaries; Dr. H. Cooper Rose's and Dr. Clement Godson's contributions to the Statistics of Midwifery in General Practice; Dr. Galabin's papers on two cases of Cæsarean Section; Mr. Jessop's report on a successful case of Abdominal Section for Extra-Uterine Gestation; and Dr. Langdon Down's on the Obstetrical Aspects of Idiocy. The present volume of *Transactions* shows that the Obstetrical Society is in a very flourishing state, and that its present members are equal to maintaining its high reputation.

GENERAL CORRESPONDENCE.

DR. EUGÈNE DUPUY (PARIS) ON THE PHYSIOLOGY OF THE BRAIN.

Letter from Dr. Roberts Bartholow.

[To the Editor of the Medical Times and Gazette.]

Sir,—In a communication to the *Medical Times and Gazette* of July 28, 1877, under the above heading, Dr. Dupuy refers to me in a way which calls for some comment on my part. It is with no intention to obtrude my opinions on the medical profession of Great Britain that I ask for a small part of your valuable space, but simply to expose a singular mistake made by Dr. Dupuy, by which he has given an altogether erroneous view of a case of mine that has obtained an unfortunate notoriety. This mistake is all the more remarkable because Dr. Dupuy makes much proclamation of the precautions taken by him to secure accuracy. It is perhaps less singular that this mistake furnishes him with an important argument.

Dr. Dupuy refers to the "much-to-be-regretted experiment of Dr. Roberts Bartholow, of Cincinnati," on the brain of a living woman. He professes to give "Dr. Bartholow's own phraseology all through in order to be more accurate," and he "doubts whether all those who have quoted it have read it." I shall have something to say presently of the humanitarian aspects of this case which so shocks the sensibilities of Dr. Dupuy; but just now I purpose to show what an extraordinary liberty he has taken with my report.

As a justification of the experiments, which I do not now pretend to justify, I remarked (*American Journal of the Medical Sciences*, vol. lxvii., page 309) that, "as portions of brain-substance have been lost by injury, or by the surgeon's knife, and as the brain has been deeply penetrated by incisions made for the escape of pus" (*i.e.*, cases narrated in surgical literature), "it was supposed that fine needles could be introduced without material injury to the cerebral matter" (in this case). Anyone at all familiar with surgical literature will be able to recall numerous examples of the injuries to the brain, just mentioned, which were not followed by ill effects of any kind. No surgical interference of any kind had been attempted in the case of the woman the subject of the experiments; and, indeed, the account given of the excavation which laid bear the dura mater shows that no surgical operation which promised any relief or benefit was possible. Dr. Dupuy assumes, and absolutely without justification, that various surgical operations had been performed, that portions of this woman's brain had been removed by the surgeon's knife, and that incisions had been made for the escape of pus, etc. His words are as follows:—

"I only beg the reader to notice that the needles being insulated up to their extremities, and introduced to a depth of an inch and a half into *the substance of the brain which had so much suffered by the surgeon's knife*, etc., the aim of the experiment has been lost sight of, as *no cortical matter could possibly have been irritated*." (Italics Dr. Dupuy's.)

There was absolutely no warrant for this assumption, on the part of Dr. Dupuy, that the brain had been so maltreated by a surgeon.

I beg leave to add a few words on the humanitarian aspects of this case. Every writer who has noticed the experiments made on this poor patient has expressed a strong disapproval of them on strictly humanitarian grounds. Dr. Dupuy has implied that great wrong was done. It is a nice question of casuistry, which such humanitarian philosophers as Dr. Dupuy may properly decide—whether it is more inhuman to practise vivisections on dumb brutes, who can only protest by cries and struggles against the proceedings of the experimenter, or to operate on a poor woman, whose race being nearly run, consents to have some experiments made. In the very paper in which he implies a strong condemnation of my experiments, we read that he "was successful enough to keep one dog alive several weeks" after having removed a part of

the animal's brain. We believe that Dr. Dupuy is a pupil and follower of Dr. Brown-Séquard, who has used hecatombs of animals in his vivisections. That the results achieved in these experiments justify the sacrifice of life, I am fully persuaded; but gentlemen engaged in such researches ought to be charitable in their view of my case—if for no other reason, because the patient submitted to them of her own volition.

In my original report of the case of experiment on the human brain, I stated the facts without any attempt at special pleading to forestall the judgment of the medical profession. I said nothing of the unwearied care of which this poor woman was the recipient at the hands of the devoted Sisters of Charity during many months preceding her death. I said nothing of the numerous attempts which we made to stay the progress of the destructive ulceration, which threatened an early extinction of life. In part, gratitude, I think, for our attention to her comfort induced the woman, so near her end, to yield a cheerful assent to the proposed experiments. That it was not right to make these experiments, the result has proved. I do not defend them; but those who quote them hereafter, ought to quote them for what they are worth scientifically, and spare those moral sentiments aud reflections, which, however admirable in themselves, have really nothing to do with purely scientific questions. I am, &c.,

ROBERTS BARTHOLOW, M.A., M.D.,
Professor of the Theory and Practice of Medicine and of Clinical Medicine in the Medical College of Ohio, etc.

JUSTICE TO MANCHESTER WORTHIES.

LETTER FROM DR. LLOYD ROBERTS.

[To the Editor of the Medical Times and Gazette.]

SIR,—Will you kindly allow me a brief space in your journal to reply to a letter headed "Justice to Manchester Worthies," from your correspondent "R. D.," in your impression of the 15th inst. He there assumes that Dr. Priestley has mentioned Mr. Ward, meaning Mr. Kinder Wood. I have to say that Dr. Priestley is quite correct in his reference. Mr. Ward's case occurred fourteen years before Mr. Kinder Wood's paper was written. I am, &c.,

Manchester, September 24. LLOYD ROBERTS.

OILING THE URETHRA.

LETTER FROM MR. T. MARK HOVELL.

[To the Editor of the Medical Times and Gazette.]

SIR,—In the *Medical Times and Gazette* for August 25, I noticed a paragraph headed "Oiling the Urethra," in which it is stated that M. Desprès, "after trying various substances for greasing instruments intended to be passed into the bladder, now always injects oil into the urethra by means of a glass syringe, thereby oiling the passage and not the instrument." This method is by no means new. At the London Hospital, Mr. Maunder has successfully employed it for the last four or five years to my knowledge, and the practice was with him a very old one when I first became acquainted with it.

I am, &c., T. MARK HOVELL, House-Surgeon.
London Hospital, September 17.

ANTIHYDROPIN FROM COCKROACHES.—Dr. Unterberger gives details in the *Petersburg Med. Woch.* (September 1) of four cases of *nephritis scarlatinosa*, in which the *Blatta orientalis* proved of great utility. It is, in fact, a very old Russian popular remedy in dropsical effusion. In these cases of scarlatinic dropsy (as also one of dropsy after measles), as in those of dropsy in the adult, formerly published by Dr. Bogomolow, it certainly proved highly efficacious as a diuretic. The œdema and albumen diminished as the urine increased; and there was no irritating action produced in the kidney or intestinal canal. As the alkaloid antihydropin cauot be obtained in trade, tho powder of the *Blatta orientalis* or *Blatta germanica* is employed in doses of from 0·18 grammes to 0·3 grammes three times a day. It is a brown powder, without disagrecable taste or smell, and is readily taken by children.

NEW INVENTIONS AND IMPROVEMENTS.

NEW ILLUMINATING LAMP FOR MEDICAL PURPOSES.

IN reference to the above lamp, Messrs. Coxeter and Son write as follows:—"Will you kindly allow us to correct a statement that appeared in your issue of the 15th inst. under the above heading. The lamp claimed to have been brought out by Messrs. Salt and Son has now been sold for some years, and was exhibited by us at the late meeting of the British Medical Association in Manchester. We append an engraving showing the complete apparatus as originally procured by us from Paris.

FIG. 1.

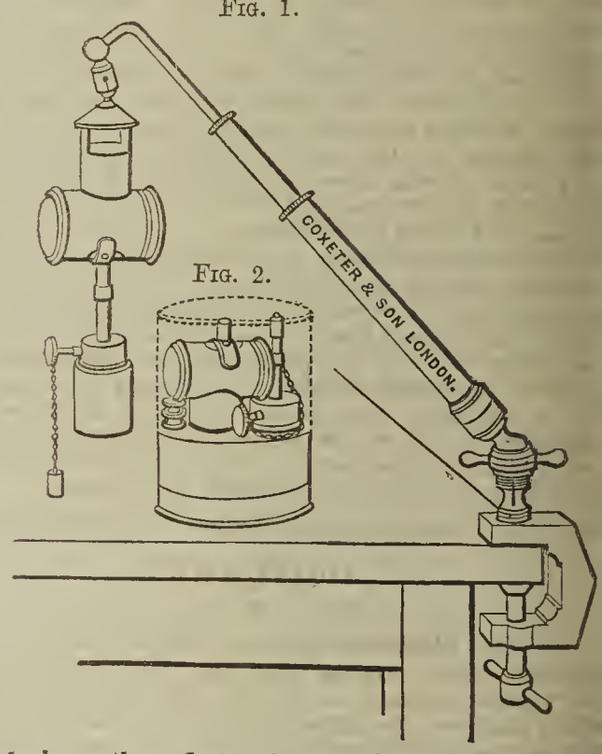

FIG. 2.

"Fig. 1 shows the reflector, lamp, and bracket as in use; and Fig. 2 the reflector (inverted) and lamp packed away in its case, part of which serves the purposes of stand, and reservoir for spare benzoline."

PORTABLE TURKISH AND VAPOUR BATH.

THE Portable Turkish Hot-Air and Vapour Bath manufactured by Allen and Son, Marylebone-lane, Oxford-street, deserves to be much more widely known and used than it seems to be at present. The apparatus is very convenient, ingenious, and well made. The representation of it appended to this notice shows it as used for giving a hot-air bath in bed, the nozzle of the tube being introduced underneath the bedclothes; but each bath can be used for hot air only, hot air and vapour combined, or for a medicated bath of poppy-heads, camomile-flowers, etc. With the funnel-head and tube a stream of hot air, or hot air and vapour, can be directed on to any selected part only of the body, or made to act as a foot-bath. Or by removing the funnel-head and tube and putting on a "distributor," the apparatus can be used under a chair, and, a flannel cloak or a blanket being thrown well round the body, a hot-air or vapour bath may be given in that way. Or, by help of a plate lately added, a mercurial bath may be given. The required bath can be thus obtained in a few minutes, and at a trifliug expense. The apparatus may be employed with safety, we believe, and readiness in the bath-room, dressing-room, or nursery; and may be confidently recommended as an important auxiliary in the sick-room.

ALMONDISED COD-LIVER OIL.

This is an agreeably flavoured cod-liver oil, introduced by Messrs. Leslie and Co. (Limited), of Walbrook, London, E.C. It is much less disagreeable, both to the palate and to the nose, than the ordinary oil; and we think that this quality will recommend it to many who find difficulty in taking this useful medicine. The taste is decidedly masked by the almond flavouring, but it is still cod-liver oil for all that. The cold season is coming on fast, and large quantities of the oil will be consumed. Great credit is due to those who endeavour to render a rather nauseous medicine palatable and agreeable.

THE RESPIRATOR VEIL.

We are very close upon chill October, and we have already had a foretaste of the raw foggy days supposed to belong especially to November, and of wintry-feeling north and easterly winds. We therefore take an opportunity of noticing with commendation the Respirator Veils manufactured by Messrs. Marshall and Snelgrove, of Oxford-street. The veil is made of plain net, but the lower border, in all its length and for a depth of from three to four inches, is thickened by a double fold of silk gossamer, and the part that hangs before the nose and mouth is made stiffer, and slightly thicker still, by the insertion of a layer of very fine wire-gauze. Additional protection against cold is thus given to the nostrils, mouth, and ears; the air is warmed before inhalation during its passage through the layers of blonde, gossamer, and wire-gauze; and the veil differs so little in appearance from an ordinary veil that it cannot be considered unsightly. Very many ladies may therefore be willing to (and would with much benefit, we think) employ these veils, who would greatly object to use any of the ordinary kinds of respirators. We will add that these veils will also give very useful protection against dust.

OBITUARY.

CHARLES MAYO, M.D., etc.

Charles Mayo was the eldest son of the Charles Mayo, the veteran Surgeon to the Winchester County Hospital, whose death we chronicled at the end of last year. He was born on January 13, 1837, and was educated at St. Mary's College, Winchester, on the foundation of the venerated William of Wykeham. Thence he was elected to New College, Oxford, of which he became a Fellow in 1855. Whilst finishing his Oxford course, and before exploring the depths of medical study, he yielded only too willingly to the fascination of archæology, ecclesiology, music, and architecture. These are branches of study which are pre-eminently distinctive of an elegant literary education, and they give a liberal tone to the mind by showing that the religion, customs, artistic taste, and constructive ingenuity of our ancestors during what are called the darkest ages were not so despicable as some persons pretend. But it was probably a mistake to carry the pursuit of them so far as did the subject of our sketch.

We find that his first literary effort was "A History of Wimborne Minster," published by Bell and Daldy in 1860, to which, from a mixture of pride and shyness, he did not put his name. At Wimborne, where many members of the Mayo family resided, is an ancient and curious church of the eleventh century, which, after mouldering for some years, as Dr. Johnson says, "in unregarded dilapidation," was submitted to elaborate restoration. This furnished an unhappy opportunity for the exercise of Mayo's favourite tastes and acquirements. His book is one which, from the fulness of detail, from the skill and perspicuity with which the successive stages in the construction of an ancient church are described, would have done credit to any antiquary or architect.

As usual in local histories, he gives copious extracts from the ancient records and churchwardens' accounts. We will only mention two as having a faint medical interest. One relates to the status of physicians in the fifteenth century, and the manner in which their salaries were made up; that is to say, they were generally persons in holy orders, and were remunerated by ecclesiastical sinecures. Thus, we find that "Peter de Altobello or Altobasso, an Italian, the King's Physician, was admitted Dean of Wimborne on the 29th April, 1412." Most likely the clergy were the only persons skilled in medicine, and an ecclesiastical benefice the surest way of finding them remuneration. The other point that strikes our eye is the Latin in common use, or rather falling into disuse, in the fifteenth century, for letters and ordinary accounts. We are reminded painfully of the kind of Latin we meet with in some prescriptions at the present day, when we read Mayo's extracts from the churchwardens' accounts at Wimborne for the year 1464. "Solut' pro querend' unum glaziatorem—iv.*d.*" "Et in expensis dicti glaziatoris cum equo suo per v. days—iv.*s.*" This in plain English signifies, "Paid for fetching a glazier 4d., and for the costs of the said glazier and his horse for five days, 4s."

We must not, however, linger on the history of Wimborne Minster, which we regard as an example of liberal pursuits carried almost to excess, but must go on to mention an invention for propelling ships, of which he had models made, and for which he took out a patent.

We next find him taking up his professional work warmly, becoming M.R.C.S. in 1861, and then going to Vienna for some months of study. He proceeded also to Prague, where he studied the laryngoscope under Czermak and Türck, and before his return to England visited all the chief hospitals in Germany, and made himself complete master of the theory and practice of hospital construction. On his return he served a short time as House Surgeon to the Radcliffe Infirmary, Oxford.

But now the great Civil War was raging in America, and thither he bent his steps in October, 1862, where his credentials procured him a hearty reception. Of his life and adventures at this period he has given a full account in a paper contributed to the "Vacation Tourists and Notes of Travel in 1862-63," edited by Francis Gatton," and published in 1864. He underwent a week's examination by the Surgeon-General's Department, which was essential for taking a staff appointment, and then was fortunate enough to obtain one of the best appointments in the service—that of taking charge of sick and wounded volunteer officers in Washington itself.

During an interval when work was lighter than usual, he had the opportunity of visiting the army of the Potomac, under General Hooker, opposite Fredericksburg; and soon after his return to Washington he obtained the position of Staff Surgeon-Major and Medical Inspector of the 13th Army Corps, and was ordered to Vicksburg to join Grant's army besieging that place. He speaks in the highest terms of that great Sanitary Commission, which, with a rare union of skill, thoughtfulness, and munificence, supplemented the shortcomings of the official machinery for supplying comforts and luxuries for the sick of the American army. Diarrhœa and malaria, which ravaged the armies on both sides, did not spare the doctors, and Mayo was obliged to resign in order to save his life. After a narrow escape from being blown up with a steamer in which he was to have travelled, and a visit to Saratoga Springs, he returned to England in a very dilapidated condition in October, 1863. The next few years were spent partly in Oxford in his congenial pursuits, and partly in London, where he became Physician to the General Dispensary in Bartholomew-close; studied midwifery for some time in Dublin, where he took a Doctor's degree, became M.R.C.P. London in 1869, and M.D. of Oxford.

On the breaking out of the Franco-Prussian War, he was not slow in obtaining employment on the German side; and this, we suspect, was the happiest part of his life. He had the good fortune to be sent to Darmstadt, where he came under the notice of the Princess Alice and her sister, the Crown Princess of Prussia, whose practical good sense and active kindness were always mentioned by him with admiration and gratitude. Here he had ample scope for his ingenuity and skill in construction. He superintended the building of a hospital, which he was proud to be permitted to call the Alice Hospital, and piqued himself on the abundance of good ventilation. He also invented some sick-transport carts. With these he was sent, through the influence of the Crown Princess, to Lagny, near Paris, in January, 1871. From this place he went with his letter to the Crown Prince at Versailles; and there he had the honour of receiving hospitality from the men upon whom the eyes of all Europe were fixed. In a letter of January 13, 1871, he says—"10.30 p.m.: I have come back from dining with the Crown Prince. There were about eighteen or twenty to dinner;" on one side, the Crown Prince, between Bismarck and Moltke, besides many generals and colonels, and Generalarzt Wagner. "During dinner we could hear the great guns firing away. . . . . A telegram was brought in saying that Chanzy's army was defeated, with the loss of

18,000 prisoners and twelve guns. This was treated as improbable. Bismarck said jocosely, 'Probably the correspondent has made a mistake—he meant to say 18,000 guns and twelve prisoners!' But, about an hour afterwards, a French telegram was produced, in which precisely the same numbers were given, with the addition that Le Mans was occupied by Prince Frederick Charles, and that the Grand Duke of Mecklenburg was in pursuit. I explained my photograph of carts to the Crown Prince. Moltke afterwards took them up and examined them, and I tried to engage him in conversation, but failed. He seems to say but little to anybody. The Prince came and talked to me for a quarter of an hour about various things, including the Alice Hospital."

Mayo remained in the German service till their subsidiary military establishment was broken up after the peace. He brought back with him the decorations of the First Class of the Order of Philip the Generous, and the Third Class of the Order of the Prussian Crown, the Imperial German War Medal, the Bavarian Cross of Merit, and the Hessian Cross for Medical Service in the Franco-German War.

On his return he meditated remaining in England and settling in practice, but such a thing becomes more and more difficult in proportion to the age of the candidate, who is apt to be too impatient and critical to submit to the drudgery necessary for gaining a footing on the lower steps of the ladder of promotion. So we are not surprised to find that in the year 1873 Mayo entered the service of the Dutch, and joined their army in the swamps of Atchen. Here, of course, he was witness to all the discomfort and dangers which sun and swamps, and utter disregard of sanitary measures, can inflict on an army in the presence of an astute and implacable foe. He wrote the accounts of the war which appeared in the *Times* newspaper.

In July, 1874, he returned to England, and resided chiefly at Oxford, where he published a pamphlet on the Organ of New College Chapel, without name or date, although we know from private sources it was in 1875. It is just such a publication as might have come from the pen of a professional organ-builder. In fact, we may apply to Mayo the epithet on the tombstone of Dalham, who built the New College organ after the Great Rebellion—

"Instrumenti Pneumatici
Quod vulgo Organum nuncupant
Peritissimus Artifex."

He was the author of several inventions for coupling the different stops, and otherwise improving the mechanism of organs, and had collected a large number of organ-pipes from various sources, which he intended to put together some day when he should have leisure to construct a perfect instrument.

We have omitted several of the minor appointments which he held, such as the Coronership of the University of Oxford. He was also Surgeon to the Inns of Court Volunteers, and to the National Rifle Association, in which capacity he attended the annual rifle matches at Wimbledon. He was occasionally consulted on sanitary questions, and sometimes contributed articles to this paper, of which we may mention—An Analysis of Cohn's book on Embolism (*Medical Times and Gazette*, vol. i. 1862) as the first.

But we must hasten on to the last scene of the tragedy. Impatient of the conditions necessary for professional success at home, the man who had received the most costly and refined education which this country affords, who piqued himself on the nicety of his scholarship, who could judge of the age and style of every order of church architecture and ornament, who had studied his own profession minutely, and was possessed of unusual mechanical skill, an accomplished artist, and a skilful musician, a genial and witty companion—throws himself away amongst the savages of Fiji. He sailed for that place as one of the Government medical officers, in the suite of Sir A. Gordon, on March 25, 1875; and almost all that we know of him since that date is that he was relegated to a distant island, with a miserable hut to live in, with no roads, and no boat; no books, and no companions; with all the decencies of life only to be obtained at four times their real value. His latest letters displayed utter prostration of mind and body—so different from the cheeriness with which he encountered the discomforts of Vicksburg and Atchen. He pined for the time when his term of service should expire, and he should be at liberty to take service in one of the great European wars, the first mutterings of which had reached the distant and detested settlement of Fiji.

At last he was seized with acute dysentery, and was moved to the hospital at Lavuka, where he was put on board the ss. *Lyce Moon*, in the hope that his life might be saved by a sea-voyage. But a kind-hearted letter from Captain Saunders announced his death on July 15, 1877, and his burial at sea 200 miles south-west of the island of Kandavau.

"Requiescat in Pace."

MEDICAL NEWS.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, September 20:—

Davidson, Alexander Deas, Erith, Kent.
Hornsby, George Harcourt, Bromsgrove.
Macdonald, Henry Murray Wyle, Madras, E. Indies.
Newman, Arthur Joshua, 37, Southwick-street, W.
Prior, Edward Thurlow, 11, Talbot-square, W.
Taylor, Frank, Stoke Croft, Bristol.
Weston, Edwin, Madras, E. Indies.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Alden, Ebenezer Wenham, Middlesex Hospital.
Jeffreys, James Graham, St. Thomas's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Newton, James, M.R.C.S. Eng.—Junior House-Surgeon to the Carlisle Dispensary, *vice* Mr. Steele, resigned.

NAVAL, MILITARY, &c., APPOINTMENTS.

Admiralty.—Staff-Surgeon Charles H. Slaughter has been promoted to the rank of Fleet-Surgeon in her Majesty's Fleet, with seniority of August 21, 1877.

BIRTHS.

Allen.—On September 15, the wife of B. H. Allen, M.D., of Hastings, of a son.

Skimming.—On September 20, at Tudor Lodge, East Molesey, the wife of Robert Skimming, M.D., F.R.C.S.E., of a daughter.

Stewart.—On September 10, at Mount Hope, Sneyd-park, near Bristol, the wife of James Stewart, B.A., L.R.C.P. Edin., ex-R.N., of a daughter.

MARRIAGES.

Cock—Liebreich.—On September 20, at the parish church, Weybridge, Surrey, Alfred Cock, of the Middle Temple, barrister-at-law, to Eva, only child of Richard Liebreich, M.R.C.S. Eng., Ophthalmic Surgeon to St. Thomas' Hospital, of 16, Albemarle-street, Piccadilly.

Foulis—Fraser.—On September 19, at St. George's Episcopal Church, Edinburgh, James Foulis, M.D., to Henrietta Baird, third daughter of William N. Fraser, Esq., of Tornaveen, Aberdeenshire.

Hainworth—Tuckwood.—On September 19, at St. Thomas's Church, Camden New Town, N.W., John Hainworth, F.R.C.S., to Emma, youngest daughter of the late John Tuckwood, of London.

Hart—Burt.—On September 20, at the parish church, Harborne, George Henry Hart, M.R.C.S., second son of Charles Hart, Esq., of The Hall, Harborne, to Mary Louisa, only daughter of Major Burt, of Englefield, Harborne.

Lawrence—Wood.—On September 18, at Old Widcombe Church, Bath, George Edgar Lawrence, L.R.C.P. Lond., M.R.C.S. Eng., of 31, Claverton-street, to Rosalind, second daughter of Bennett Wood, Esq., of Abbey View House, Bath.

Leftwich—Kilburn.—On September 19, at the parish church, Hampstead, Ralph Winnington Leftwich, M.D., of 231, Kennington-road, third son of George Leftwich, Esq., of Tufnell-park West, to Ada Elizabeth, second daughter of Charles Kilburn, Esq., of Alvaston, Arkwright-road, Hampstead.

Marshall—Pryn.—On September 20, at the parish church of St. Stephen's-by-Saltash, Cornwall, John Marshall, M.R.C.S.E., of Bermondsey, to Amy Maria, only daughter of W. Pryn, Esq., of Tredown-street, St. Stephen's-by-Saltash.

Simms—Stanistreet.—On September 19. at St. Peter's Church, Rock Ferry, James Simms, L.K.Q.C.P. Ire., Surgeon Royal Navy, to Anna Maria Harriett, youngest daughter of George Stanistreet, of Highfield, Rock Ferry, Cheshire.

Steele—Trench.—On September 13, at The Castle, Ballyraggett, the residence of Lady Harriet Kavanagh, James Peddie Steele, B.A., M.D. Edin., to Sarah Louisa, youngest daughter of the late Rev. William and Lady Louisa le Poer Trench.

Taylor—Maberly.—On September 20, at St. Aldate's, Oxford, Thomas Taylor, B.A., of Holmleigh, Oldham, to Maude, daughter of G. F. Maberly, M.R.C.S., of Leamington.

DEATHS.

Allen, A. B. de Lisle, M.R.C.S. Eng., of Sutherland-gardens, on September 21, aged 60.

Fletcher, Thomas Swindell, L.R.C.P. Edin., M.R.C.S. Eng., at Broxbourne, on September 24, aged 66.

Herrans, James George, M.R.C.S., L.S.A., at 7A, Wyndham-place, Bryanston-square, on September 21, aged 84.

Meryon, Charles Lewis, M.D., F.R.C.P., at The Grove, Hammersmith, on September 11, aged 94.

Tanner, John, son of Robert Tanner, M.D., of Ledbury, Herefordshire, lost in the ship *Avalanche*, off Portland, on September 11, aged 12.

Tanner, Robert, M.D., of Ledbury, Herefordshire, lost in the ship *Avalanche*, off Portland, on September 11, aged 39.

Walter, John, M.R.C.S. Eng., late Surgeon to the Kent Artillery Militia, on September 24.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

Brighton and Hove Lying-in Institution.—House-Surgeon. Candidates must be Members of the Royal College of Surgeons of Great Britain or Ireland, and Licentiates of the Royal College of Physicians, or of the Society of Apothecaries', London, and registered according to the Medical Act. Testimonials to be forwarded before October 5.

Rotherham Hospital.—Resident House-Surgeon. Candidates must be M.R.C.S. Eng., and Licentiates of the Society of Apothecaries or of the Royal College of Physicians, London, registered, and unmarried. Applications, with testimonials as to professional ability and moral character, to the Honorary Secretary, on or before October 15.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

APPOINTMENTS.

Guiltcross Union.—Charles D. Fenn, M.R.C.S. Eng., L.S.A., to the Fifth District.

Tamworth Union.—H. J. Fausset, B.M. and C.M. Dub., to the Tamworth District and the Workhouse.

Wareham and Purbeck Union.—James Bartlett, L.R.C.P. Edin., L.S.A. Lond., L.F.P.&S. Glasg., to the Winfrith District.

Wigton Union.—Wm. P. Briggs, L.F.P.&S. Glasg., L.R.C.P. Edin., to the Allonby District.

At the recent annual meeting in connexion with the West of England Sanatorium at Weston-super-Mare, the Right Hon. Stephen Cave, M.P., was elected president for the ensuing year. The buildings have cost £12,000 in the erection, and during the coming year an effort will be made to complete the original design, for which £5000 is still required.

The Congress of the Sanitary Institute at Leamington will be opened on October 3 by Dr. Richardson, F.R.S. The exhibition in connexion with the Congress will be opened on the same day by the Worshipful the Mayor of Leamington, when Mr. Lawson Tait, F.R.C.S., will give an account of the work of the Interception Sub-Committee of the Birmingham Corporation, illustrated by working models of plan.

Lotions in Pruritus.—The following are M. Delioux's prescriptions:—1. Borate of soda eight parts, and distilled water 100 parts; 2. Borate of soda ten parts, glycerine twenty parts, and distilled water 80 parts. These are recommended for pruritus, epihilides, pityriasis, and other herpetic appearances.—*Union Méd.*, September 15.

The Growth of Children in the United States.—The recently published Eighth Report of the State Board of Health, Massachusetts, contains an elaborate paper by Dr. Bowditch on the "Growth of Children," derived from 24,500 observations in schools. The following are the conclusions drawn:—1. The growth of children takes place in such a way that until the age of eleven or twelve boys are both taller and heavier than girls of the same age. At this period of life girls begin to grow very rapidly, and for the next two or three years surpass boys of the same age in both height and weight. Boys then acquire and retain a size superior to that of girls, who have now nearly completed their full growth. 2. Children of American-born parents are in this community taller and heavier than children of foreign-born parents—a superiority which seems to depend partly on the greater average comfort in which such children live and grow up, and partly upon difference of race or stock. 3. Pupils of American parentage at the Public Latin School, Private Latin School, and Institute of Technology are (apparently for similar reasons) superior in weight and height to the generality of boys of American parentage attending the public schools. 4. Pupils of the same selected schools are also taller and heavier than English boys of the non-labouring classes attending public schools and universities, the superiority in weight being, as a rule, more marked than that in height. 5. The relation of weight to height in growing children is such that at heights below fifty-eight inches boys are heavier than girls in proportion to their stature; at heights above fifty-eight inches the reverse is the case.

Palmar Temperature.—M. Courty, at the recent meeting at Havre, states the following results of more than 3000 temperatures taken by placing the thermometer in the middle of the palm:—1. In the normal condition each individual has a palmar temperature, the variations of which are limited. In some they range from 26° to 30° C., in others from 35° to 36°, and in others they are intermediate. 2. These physiological variations depend for the same individual on conditions, some of which (as repose, external temperature) can be studied. The causes of the differences between different individuals remain, on the other hand, quite unknown. 3. In the pathological condition, in all febrile diseases the increase of temperature is greater at the peripheric than at the central parts, and the palmar temperature becomes equal to the axillary. This equality remaining in most cases persistent and durable, in fever the local increase of temperature is therefore greatest at the extremities. 4. This equalisation of palmar and axillary temperature ceases at the period of convalescence, the temperature of the hand then falling to 34°, 32°, or even to 28°. But in certain affections, as pneumonia, pleurisy, and typhoid, the palmar defervescence accompanies or even precedes the axillary; while in articular rheumatism, erysipelas, and measles the palmar temperature remains equal, or nearly so, to the axillary for several days, or even several weeks. M. Potain stated that in hysterical subjects a remarkable phenomenon is observed which might sometimes give rise to error. Their pulse is often very rapid, and their peripheric temperature, in place of being lower than the axillary, nearly equals it, so that a superficial examination might lead to the supposition of fever when the temperature is nearly normal.—*Rév. Scientifique*, September 3.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Associate, King's College.—A good portrait and life of the late Sir William Fergusson appeared in the *Illustrated London News* of February 24, 1866.

A Demonstrator.—There ought not to be the scarcity of subjects in this metropolis which you anticipate; we believe that Mr. Hawkins does his best to remedy the evil. The College of Surgeons has no power in the matter. Some years ago the College claimed the bodies of all murderers executed at the Old Bailey. The last body was that of Smithers, executed for causing the death by burning of two ladies who lodged at his house in Oxford-street—an event which he did not anticipate when he set light to his house to defraud the insurance office.

A "Bet."—That subtle poison "woorari" has been tried in cases of hydrophobia, and the late Mr. Waterton, the naturalist, published the result of his experiments with it. The Abbé Salvador Gilii states, in his "History of America," that he has seen the strongest animals succumb instantly when wounded with arrows tipped with the "woorari," but the poison does not produce any effect on their flesh.

Dr. Campbell.—The paper on "Ephidrosis Cruenta," or bloody sweat, was read by Dr. Anderson. The celebrated Dr. Richard Mead refers to it in his "Medica Sacra."

Dens Sap.—There will be an examination for the Licence in Dental Surgery of the College of Surgeons in the ensuing month. Write to the Secretary.

H. M., and A Guardian.—Having been successful at the recent Preliminary Examination of the Royal College of Surgeons, you can commence your professional studies at once, and register them from October 1 to 15 at the College.

Rahere.—The "introductory" has been discontinued at St. Bartholomew's for some years past, instead of which an annual dinner of old students and friends takes place in the fine old hall of the Hospital. Sir Trevor Lawrence, M.P., will take the chair on the 1st prox.

Good Templar.—The third report from the Select Committee of the House of Lords on Intemperance, together with the proceedings of the Committee, minutes of evidence, etc., has recently been issued.

Restless.—Yes; the supply of surgeons in the Servian army is scanty. During the campaign of 1876 more than 200 medical men from England, Russia, Austria, Italy, and Switzerland took service in the Servian forces.

G. G.—The London Temperance Hospital was opened in 1873. The medical officers are not *ex officio* total abstainers in their own persons.

Sophistication.—"The Sale of Food and Drugs Act," 1875, was the result of the deliberations of the Select Parliamentary Committee, which sat during the summer of 1874 to inquire into the operation of the Adulteration of Food Acts, 1860 and 1872, which were repealed.

Ken.—Tiberius Cavallo, F.R.S., etc., was born in Naples. He died in London on December 26, 1809, and his remains were interred in St. Pancras Churchyard, in a vault constructed for the purpose, close to the monument of his intimate friend General Paoli.

Salus.—1. Swiss and Pyrenean sanatoria vary from about 3000 to 5500 feet in elevation. 2. Mr. Alfred Haviland had a Government grant accorded to him for his "basis map." It was employed in collecting the facts included in the last census. The engraved copper-plate of the map is available to medical officers of health and to sanitary authorities desiring to procure an outline map of their areas of administration.

M. L. M.—The University of Glasgow has bursaries in the patronage of (1) the Senate, (2) the Duke of Hamilton, and (3) the Town Council and other public bodies. The bursaries in the gift of the Senate are now given wholly by open competition; up to 1870 they were given partly by competition and partly by selection.

Numerist.—The Irish Census Commissioners did not present to Parliament their general report of the census taken in Ireland in the year 1871, until February, 1876. In 1821, the year of the first authentic census, Ireland had 6,801,827 inhabitants; in 1871 there were 5,412,377.

COMMUNICATIONS have been received from—

Dr. Barlow, London; Mr. J. Chatto, London; Mr. W. E. Poole, London; Mr. R. Brudenell Carter, London; Mr. Herbert Page, London; Dr. Robert Druitt, London; Mr. J. Mark Hovell, London; Dr. Cornelius Fox, London; Dr. Robert Lawson, Banstead; Dr. R. Bartholow, Cincinnati; The Registrar of the Apothecaries' Hall, London; The Treasurer of Guy's Hospital, London; The Secretary of the Local Government Board, London; The Secretary of the Hospital Saturday Fund, London, Mr. Wm. H. Heaton, London; Messrs. Calvert and Co., Manchester; Mr. Gilmour, Glasgow: Dr. Gillespie, London; Dr. Edward Sparks, Crewkerne; Messrs. Wyld, London; Dr. Edis, London; Mr. Kershaw, London; Mr. E. Sargeant, Bolton; The Secretary of the Birmingham Lying-in Charity; Dr. Beard, New York; Dr. O. H. Allis, Philadelphia; Dr. Lloyd Roberts, Manchester; The Dean, King's College, London; Mr. T. M. Stone, London; President and Council of the London School of Homœopathy; Dr. Leared, London; Chairman of the Radcliffe Infirmary Committee; The Council of the Sanitary Institute; Mr. C. Martin, London; Messrs. Ferguson and Co., West Smithfield; The Secretary of the Clinical Society of London; The Secretary of the Royal Medical and Chirurgical Society of London.

BOOKS AND PAMPHLETS RECEIVED—

Thirty-first Report of the Commissioners in Lunacy to the Lord Chancellor—Reports of the Medical and Surgical Registrars of the Middlesex Hospital for the Year 1875—W. Sedgwick Saunders, M.D., F.S.A., Report upon the various Methods of dealing with Meat seized as Unfit for Human Food in the City of London—T. B. Sprague, M.A., Does Vaccination afford any Protection against Small-pox?—A. R. Robinson, M.B., L.R.C.P.&S. Edin., Pompholyx—M. Charteris, M.D., Handbook of Practice of Medicine.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Cincinnati Clinic—Dairyman—Night and Day—Morningside Mirror—Chicago Medical Journal and Examiner—Home Chronicler—La Province Médicale.

APPOINTMENTS FOR THE WEEK.

September 29. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

October 1. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

2. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

3. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

Obstetrical Society, 8 p.m. Specimens, by Dr. Galabin and others. Dr. W. T. Greene, "A Synopsis of 1500 consecutive Labours."

4. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

5. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, September 22, 1877.

BIRTHS.

Births of Boys, 1156; Girls, 1130; Total, 2286.
Average of 10 corresponding years 1867-76, 2202·5.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	609	570	1179
Average of the ten years 1867-76	641·0	600·8	1241·8
Average corrected to increased population ...	...	...	1329
Deaths of people aged 80 and upwards ...	...	...	46

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	3	6	2	3	...	2	...	6
North	751729	6	6	10	3	3	...	7	...	12
Central ...	334369	...	2	5	...	...	...	2	...	9
East	639111	1	8	5	...	5	1	5	...	21
South	967692	3	3	4	3	7	1	8	5	23
Total	3254260	10	22	30	8	18	2	24	5	71

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·893 in.
Mean temperature	51·1°
Highest point of thermometer	65·2°
Lowest point of thermometer	38·5°
Mean dew-point temperature	45·3°
General direction of wind	N.
Whole amount of rain in the week...	0·16 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, September 22, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Sept. 22.	Deaths Registered during the week ending Sept. 22.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2286	1179	65·2	33·5	51·1	10·62	0·16	0·41
Brighton	102264	43·4	52	25	61·0	39·1	50·6	10·34	0·13	0·33
Portsmouth ...	127144	28·3	105	33	...	...	...	...	...	...
Norwich	84023	11·2	47	25	63·5	43·0	51·6	10·90	0·37	0·94
Plymouth	72911	52·3	39	23	66·0	41·0	53·9	12·17	0·02	0·05
Bristol	202950	45·6	140	66	68·3	36·9	51·4	10·79	0·01	0·03
Wolverhampton ...	73389	21·6	51	29	60·5	36·7	49·0	9·44	0·05	0·13
Birmingham ...	377436	44·9	305	156	...	...	...	...	...	...
Leicester	117461	36·7	90	43	...	...	...	...	...	...
Nottingham ...	95025	47·6	73	40	66·6	38·0	51·1	10·62	0·09	0·23
Liverpool	527083	101·2	450	255	59·2	42·0	50·9	10·50	0·16	0·41
Manchester ...	359213	83·7	279	147	...	...	...	...	...	...
Salford	141184	27·3	128	66	66·5	31·3	48·9	9·39	0·06	0·15
Oldham	89796	19·2	90	35	...	...	...	...	...	...
Bradford	179315	24·8	157	65	63·8	40·0	51·0	10·56	0·05	0·13
Leeds	298189	13·8	263	100	65·0	41·0	52·1	11·17	0·02	0·05
Sheffield	282130	14·4	213	92	65·6	40·0	51·1	10·62	0·06	0·15
Hull	140002	38·5	111	61	62·0	40·0	50·0	10·00	0·32	0·81
Sunderland ...	110382	33·4	83	50	65·0	43·0	51·5	10·84	0·37	0·94
Newcastle-on-Tyne	142231	26·5	106	53	...	...	...	...	...	...
Edinburgh	218729	52·2	110	83	65·0	39·0	51·5	10·84	0·05	0·13
Glasgow	555933	92·1	364	206	65·0	40·0	52·5	11·39	0·00	0·00
Dublin	314666	31·3	185	118	61·6	38·8	51·3	10·73	0·02	0·05
Total of 23 Towns in United Kingdm	8144940	38·3	5728	2950	68·3	31·3	51·1	10·62	0·11	0·28

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·89 in. The highest reading was 30·16 in. on Monday evening, and the lowest 29·60 in. on Thursday evening.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

INTRODUCTORY ADDRESS

DELIVERED AT THE OPENING OF THE ST. MARY'S HOSPITAL MEDICAL SCHOOL

By HERBERT W. PAGE, M.A., M.C. Cantab., F.R.C.S.,
Assistant-Surgeon and Lecturer on Practical Surgery.

STUDENTS OF ST. MARY'S HOSPITAL,—My first duty and greatest pleasure, on the opening day of another session, is to bid you welcome, and to offer you, in the name of my colleagues, and in my own, the hand of friendship and fellowship—of friendship, sometimes lasting, always, be it hoped, sincere; of fellowship in the great and noble work which is common to us all. Let no man delude himself that the work before him is easy, and that his student-days are to be spent in merely gaining enough knowledge to pass a few examinations, so that then he may be fitted to begin life. There may lie a gross deception in the phrase *beginning life*. Nothing is so comforting for one's own mind, or so likely to be dangerous, as to fix a future time when life shall begiu. Your life is beginning now; and no barrier must be allowed to separate the work you do here from that which you will do when you have left us. It is false to assume that the four years to be passed here are the only years of student-life, differing somehow from those which are to follow.

Anatomy and physiology, the very grammar and groundwork of all, you must kuow well; for without a knowledge of the normal structure and functions of the human body, how can anyone deal with those aberrations from them which constitute disease? It is your mission to be constantly at warfare with a desperate enemy, one to be watched closely lest he elude the grasp, to be known and tracked through all the subtle paths wherein he lurks. No man can teach you to fight the battle. You must do it all yourselves. It is not less true for us than for those to whom Sir Joshua Reynolds spoke in one of his beautiful "Discourses," which you would do well to read:—"Few have been taught to any purpose who have not been their own teachers. We prefer those instructions which we have given ourselves, from our affection to the instructor; and they are more effectual from being received into the mind at the very time when it is most open and eager to receive them." Close observation at the bedside, the storing of clinical facts, familiarity with the daily variations in disease, an iutelligeut use of the different aids to diagnosis, the teaching of the eye, and hand, and ear, all must bc incessantly cxercised if a man would become conversant with the work he has to do. Experience gained at the bedside must bc accompanied by work in the post-mortem room. It is impossible to become intimate with disease unless we see the marvellous ways in which it acts. You should never miss a post-mortem examination. My own master, an eminent pathologist, used to say that he never made a post-mortem examination without learning something; and to that I would add, few things are more likely to excite in you an interest in your work. It is obvious, then, that if the power of observation is to be cultivated, each one must do it for himself. No man can see with the eyes of another, or know with another man's understanding.

Beware of books. The most learned student, with the best book-knowledge at his fingers' ends—knowledge astounding, perhaps, to the strictest examiner—will be simply paralysed and helpless when he comes to stand face to face with disease at the bedside. "Actual experience," wrote a distinguished man, "with a sense of responsibility attached to it, is the sole school in which to make a good physician. One of the most learned men I cver knew in the literature of medicine, as well as in physical science, was one of the worst practitioners, borrowing his diagnosis from books, not from that happier faculty, almost an instinct, which enables a man to interpret and act upon signs which no book cau describe." If you are to be of any real use in your day and generation, you must learn your profession by actual experience in the hospital wards, for no amount of reading can supply its place. But I have been warned not to speak for much more than half an hour, and I must not weary you with these matters. I will only beg of you, if there be any truth in what I have said, not to forget it when hurrying along in the paths which custom and routine have laid down.

My second duty is to ask your attention for a short time to some of those questions which concern us as members of the medical profession, to something perhaps of moment in the course and conduct of our lives. The labour of others who have preceded me here and elsewhere as readers of introductory addresses renders this duty somewhat of a task; and I would it had been given to some one of riper judgment and years.

You have done your best, then, to gain a well-grounded knowledge of your profession and its aims, and are fitted to become the healers of your fellow-men. I hold you should be something more—you must be the teachers also. But he who would succeed iu this must bc not only a good doctor, but also an educated man. Most of you come here fresh from school life. Has the work done there been such as will be of much use to you in the calling which you have chosen? I know not whether, after all the talk of improvement, school commissions, and the like, there has been any material change in the general course of au English school education. A smattering of Latin and Greek, taught as dead languages; a tedious reading of ancient authors for the sake of grammar, forgetful of the light and interest which they shed upou the times aud peoples when they lived; hours passed in the weary rendering of some splendid English into execrable Latin prose, or of some beauty of an English poet into unimaginative and barren verse—a labour entailed on all, though perhaps only one boy in a thousand has an aptitude or pleasure for the work; an acquaintance with so-called history, of which the dates of the births and deaths of kings form no inconsiderable part; and a continuous effort to instil higher mathematics into growing minds which instinctively recoil from the infliction: such may not have been your misfortune! But the times are, indeed, not what they were, if in any of our schools an intelligent appreciation of the beauties of literature, of art, of painting, of music; if some knowledge of the physical sciences, of countries and peoples, of governments, of the principles of law, of the science of history and of languages—be open to any who have a natural bent thereto. Happy is that man who finds when he has left school that he has learned something of real value to him in the world in which he moves!

It has often been urged that the medical profession loses much from having no connexion with the great centres of enlightenment and learning. An anonymous writer in one of the weekly journals, commenting on an able address delivered two years ago at another school, says:—"There is quite an unnecessary divorce between the great training schools of Oxford and Cambridge and the profession of medicine. . . . The old Universities have grievously neglected their duty towards this important profession. . . . It is from their connexiou with the Universities that Law and the Church derive much of that social influence which is desired for the medical profession." There are many who may doubt the truth of these remarks, but noue that there is much of truth, eveu if there be some severity, in that which follows:—"Hitherto," he says, "or at least lately, doctors have hardly been educated men. The beneficence of their profession ought to give them immense influence, and their scientific training should make them the leaders in the enlightenment of society. Of course they have also great temptations to acquiesce in the prejudices of others of the time, but we believe they yield to them more easily than men of higher intellectual spirit. Probably no profession or trade in the world makes so little use of its opportunities."

While, theu, our school education is doing so little for us; while it is impossible for us all to enjoy the social life of Oxford and Cambridge, and there seems but small prospect of any other and future union with our ancient seats of learning; while, too, the enlarging influences of foreign travel can only be for the fortunate and few,—we must fall back on our own resources, and depend upon ourselves instead. I cannot help thinking there are many who in after-life must regret the wasted opportunities of self-improvement which surround them here. Social and intellectual good may be derived from early years at our universities; but our advantages, while we have them, are in many respects greater. It should be couuted a high privilege that you pass four years of your life in Londou; and there is no reason on earth why the most diligent work at your own special hospital studies should be hampered by au intelligent endeavour to know and profit by the treasures which this great Babylon contains. In that inimitable piece of portraiture which brings one of the most striking figures of the last century in very life before us

in this, we read that his biographer, having suggested a doubt that if he were to reside in London the exquisite zest with which he relished it in occasional visits might go off, and he might grow tired of it, drew from Johnson the characteristic reply—"Why, sir, you find no man at all intellectual who is willing to leave London. No, sir, when a man is tired of London he is tired of life; for there is in London all that life can afford." You may urge that there is no time for such things. I do not believe it. The man who is always talking about want of time generally wastes the time which he has got. "Men waste half their lives from want of method," said Sir Charles Bell, one of the greatest lights and most accomplished men in our profession. True, the advantages of life in London cannot be enjoyed by the students of every school; but the fountains of literature and the researches of science are open for all. If real culture be helped by a *knowing of the best that has been thought and said in the world*—and this definition we may accept as not very far from right—such culture is not withheld from any man. "A cultivated mind," wrote one of the leaders of thought in his day, "I do not mean that of a philosopher, but any mind to which the fountains of knowledge have been opened, and which has been taught in any tolerable degree to exercise its faculties, finds sources of inexhaustible interest in all that surrounds it—in the objects of nature, the achievements of art, the imaginations of poetry, the incidents of history, the ways of mankind past and present, and their prospects in the future." There is no profession in which a good training of the mind is so likely to be of service as in our own. Brought into contact as we are with all classes and sorts of men, who perhaps have but little sympathy with our calling and our work, how essential it is that our thoughts and feelings should not run always in the one groove of our own pursuits! A cultivated mind will do something more for us even in our special walk in life. It will make us better reasoners on the facts which daily crowd upon us in the investigation of disease; it will make us less selfish, more tolerant and charitable to the opinions of others; there will be less of professional rivalries and jealousy, and less thought of what we do ourselves, only so much as it is in the cause of humanity and truth. Thus endowed, a man may turn from the weariness of life, which must inevitably be his lot, to a sure source of refreshment and purest rest, whether he be toiling amid the busy and sunless gloom of a populous town, or in some remote village where he feels himself friendless and almost banished from the world.

There is, moreover, no isolation in our work. How much of deepest concern to ourselves is of interest to the educated men of every class? The greatest minds of all countries and ages have speculated on the foundations of thought and reason, and on the action of the human brain. Elaborate treatises in many tongues tell of the profound interest which this, the greatest mystery of our being, has always excited in the breast of man. For this age, and for our profession, it seems to have been left to throw some ray of light on this which is most dark and obscure. Careful observation of the results wrought by disease on the human brain, and the marvellous facts revealed by experiments on the brains of animals, are doing something to unravel the problems of thought, and to make clear the functions of the organ of mind. We stand only on the threshold of the inquiry, which none but those of high mental cultivation are fitted to comprehend or carry on. The keenest powers of reasoning are needed to keep us from falling into error, and grasping at the shadow when the substance is yet far off.

Theologians, and those who are familiar with the supernatural and unknown, may lucubrate on the origin of sin; we are more concerned with the origin of life. The last few years have seen a great increment in our knowledge of the sources of disease, and of our control over the many vital elements which combine to set it up. Nothing can be of greater moment to mankind than a solution of the ways in which preventable disease may originate or work. Whether, under certain conditions, the lowest organisms may start spontaneously into being, or all life proceed from life which has gone before, is one of those questions which the best scientific workers of the medical profession, not less than the leading physicists of the day, are labouring to unfold. Among those who deserve the highest praise for the work they have done in these branches of science, what men in our own, or in any country, occupy more foremost places than Ferrier and Hughlings-Jackson, Bastian, Roberts, and Lister? And here let me not forget that the distinguished surgeon whom I have last named to-day enters upon a new and larger field. There is no surgeon in London who cannot well afford to be glad that Professor Lister has became Surgeon to King's College Hospital. It is a sign of the times that now, as it has not always been before, there has been so little ill-feeling and jealousy aroused by his coming. And it is right that it should be so. The work of a wise man seeking after knowledge is not here nor there, but for every country, and through all time.

I have said we must be teachers as well as healers. When, amid the vast changes and revolutions taking place around us, peril has seemed to beset the establishment of the English Church, we have been told of the wondrous influence for good which lies in the presence of an educated gentleman in every parish. No man can be insensible to the zeal of the clergy in their exalted work, but while there are hundreds of homes and families in which they are never seen, there are very few, while misery and disease have mastery, from which the doctor can long be absent. How immeasurably great might be the influence of so widespread a body as our own, if to the full, and in something more than in name, we were worthy to be called an educated profession! The primary truths and laws of physiology which govern health, and the infringement of which brings on disease; an attention to simple sanitary rules, the neglect of which may be dangerous not only to individual households, but also to whole communities; a proper training of the young; a breaking down of the ignorant prejudices which have long combined to make men regard mental disorder as a disgrace to be concealed, rather than as a serious and lamentable disease, calling for treatment in its earliest stages,—these are but a few of the matters concerning which the doctor ought, in the routine of his daily work, to make a deep impress on the people at large. More important even than any one of these is that great social question, the solution of which is a parodox to legislators and divines. It has been pithily said, and I think with truth, you cannot make men sober by Act of Parliament. It may be said with no less truth, you will never make them sober by holding out the rewards of sobriety in this life or the next, or by talking of the pathological horrors to which excess in alcohol gives rise, and of the virtues which are the charm of pure water. There is a moral in the story of the drunkard, who, thinking to cure him of his drunkenness, turned to the Sacred Book for guidance in the right way, and having searched it through, found mention of only one man who had asked for water, and he was in hell. Nor will much lasting good ensue from cutting off the means of evil. Hear the strong and vigorous language of Milton: "Wherefore did God create passions within us, pleasures round about us, but that these, rightly tempered, are the very ingredients of virtue? They are not skilful considerers of human things who imagine to remove sin by removing the matter of sin. . . . . Though ye take from a covetous man all his treasure, he has yet one jewel left, ye cannot bereave him of his covetousness." Drinking and drunkenness are serious maladies which afflict our national life. I have no startling panacea, but I hold they can never be cured unless our people be taught a new habit—the habit of thrift. It is a grievous failing, which lies at the root of this disease, that our poorer classes do not know how to save. The man who has once felt the good effects of putting by something for a future day for himself and his children, will find a healthier eagerness for getting and saving, and will pause before he squanders all his substance in the public-house. Drunkenness is but rarely to be found in those countries whose people know the wisdom of providence. The absence of it in our land may be much fostered by so-called charity; and I am not sure that the lavish and indiscriminate charity, public and private, met with in England is not one of the crying evils of the day. Great ought to be the influence of our profession, for who more than its members have the opportunity of giving encouragement, advice, and sympathy, which many a human creature needs? To do it we must be equal to the task, and our own lives must not fall short of the lofty aims which should be our glory.

We live in times of wide speculative thought, of far-reaching mental activity. On all sides are change and progress—change in ancient views of man's origin and destiny; progress in our knowledge of the immutable laws which govern the universe around. There is a great stir among our hospitals and schools. St. Bartholomew's, with its magnificent scheme for a hospital college, resolved to be, as ever, in the foremost rank; the London Hospital, with its vast size and unrivalled organisation, determined to overcome the disadvantages under which it has seemed to lie from its position in the far east; King's

College Hospital, building new wards, and repairing its loss of the great practical surgeon by calling to it the eminent scientific surgeon who takes his place; University College, Charing-cross, the Westminster Hospitals—all enlarging or renewing their wards, and thereby increasing the attractions to be offered to students, and the good to be done to suffering man. Matter for the earnest consideration of the government of St. Mary's Hospital! If this Hospital is to hold its own in the great struggle which is going on about it, it must fit itself to do the utmost it can for the vast and growing district in which it stands. And no interests of place or power should prevent those who are more intimately concerned in its management from making its organisation as perfect as any to be found.

Would that our Royal Colleges would wake from the slumber which enshrouds them, and do something more for the higher professional education of those who flock to them for a diploma! It is impossible to expect the best teacher in every subject at each one of our many schools in London; and it is mournful that the lecture-rooms of the Colleges of Physicians and Surgeons should be occupied for some two dozen hours only in the whole year, when they might be open to all to hear in them the wisdom and experience of the chief living masters of their art. How many London students are there who have never once entered the splendid museum created by the industry and genius of one great man—simply because there is no systematic means of drawing men to profit by the teachings it contains? The profession has a right to look to its great corporate bodies to do something better for it than elaborate the machinery of examinations.

In the advancement of knowledge there is not one of us who may not play his part. The intricate questions which involve the evolution of disease, and the hereditary influences ever tending to modify it and call it into existence, can only be solved by those who have the opportunity of observing the life-history of whole families. It is not to those only whom custom attaches as surgeons or physicians to a hospital, but to the great body of practitioners throughout the country we must look for light on these subjects. The general practitioner who will exercise a well-trained mind by the careful record of observations in his daily work will find a vast scope for study and reflection, and will confer a great boon upon mankind. You say, I offer you only vague generalities, instead of some striking example of what I mean. Who then, sufficiently burthened, it might seem, with a large general practice, has made a more distinguished name in the ranks of science than the Hunterian Professor of the Royal College of Surgeons, Mr. W. K. Parker?—a man whom all must honour and regard, not less for his brilliant work, than for the noble spirit of humility in which it has been achieved.

Let no man despair because he has not the gift of great talents or abilities, or be cast down that his own light appears dim beside the genius of great men. It is not given to every man to be a Hunter, Brodie, Astley Cooper, or Charles Bell; but it is some consolation to know that no great genius has ever yet been born whose name and fame have not been builded to a large extent on the work of lesser men who have gone before them. "Society has its great men and its little men, as the earth has its mountains and its valleys. . . . The sun illuminates the hills while it is still below the horizon; and truth is discovered by the highest minds a little before it becomes manifest to the multitude. This is the extent of their superiority. They are the first to catch and reflect a light which, without their assistance, must in a short time be visible to those who lie far beneath them."

Let each man do his duty, fearlessly, honestly, and with singleness of purpose. He shall not work in vain. It is an ennobling thought, the solace of some of the wisest and best amongst us, that what we so do here may be consummated and made perfect in the life which hath immortality.

"Foil'd by our fellow-men, depressed, outworn,
We leave the brutal world to take its way;
And *patience! in another life*, we say
The world shall be thrust down, and we up-borne!

"And will not, then, the immortal armies scorn
The world's poor routed leavings? Or will they,
Who fail'd under the heat of this life's day,
Support the fervours of the heavenly morn?

"No, no; the energy of life may be
Kept on after the grave, but not begun!
And he, who flagged not in the earthly strife,

"From strength to strength advancing—only he
His soul well-knit, and all his battles won—
Mounts, and that hardly, to eternal life."

ABSTRACT OF INTRODUCTORY ADDRESS

DELIVERED AT THE OPENING OF ST. THOMAS'S HOSPITAL MEDICAL SCHOOL

By W. W. WAGSTAFFE, B.A., M.B., F.R.C.S., Eng.,
Assistant-Surgeon and Lecturer on Anatomy at the Hospital.

After alluding to the loss the institution had sustained by the death of the late Treasurer, Sir Francis Hicks, and of Mr. R. G. Whitfield, who for more than fifty years had been connected intimately with the School, he referred to the relation of hospitals to schools.

It could not be overlooked that, in the present day, one object in the foundation of a hospital, which, if it existed at all originally, was then a very subsidiary one, had now, by advance of education, become one of its most important functions. Hospitals were not mere almshouses; but, as schools for the education of those who would have to look after the health of the nation, as well as institutions for the skilful care of those whose injuries or diseases required more than ordinary attention, such hospitals as St. Thomas's were specially adapted, and the responsibility of the governing body was associated with one almost as much as with the other. Mr. Wagstaffe addressed a few words of advice to those who had just determined upon beginning their medical studies, and urged beginning well to be more than half the battle. He then addressed all students of all ages upon what they were striving for and what was their chance of success. The first condition of success was to understand clearly what they wanted to do. To some, the accumulation of knowledge for the purpose of satisfying examiners was made the object; but he warned them against this, and condemned cramming. To gain a livelihood was another object, and this was a justifiable one, but, though first in the order of necessity, not the highest. That his profession would give him the means of living there should be no question, for times had changed, and the position of doctors had altered; and so also had that of students. Quoting from Froude, he compared the student of three centuries ago with that of to-day, and referred to the fact of medical science being fashionable, when novelists, ladies, and royal dukes took to writing on medical matters.

The main object of a student's work and life should be Truth. The practical question which followed was, What qualities should be specially cultivated to gain this object? The first was honesty—honesty in using the means in his power to prove the truth of a statement when it was provable. There were a thousand-and-one supposed facts he would have to swallow as a student, and to disgorge as he grew older and wiser; but there were ten-thousand-and-one facts laid before him of which he could prove the truth or falsity if he liked to use his senses. Incomplete or mis- statements, false theories, half-truths due to the want of honest observation and judgment, were often more pernicious than whole untruths, for they attracted less attention at first, and blended and grew into gross unrealities. Carefulness was insisted on as an essential. A truth had to be looked at on all sides, to be tested in a variety of ways; and the exercise of caution might prevent him finding many mare's nests, might save him trumpeting imaginary discoveries and worrying the literary world to no purpose. There was already too much literature for any man to read honestly; and too often he ran the risk of becoming a literary sewer, much rubbish passing through him, and very little sticking. Perseverance was the third essential. What Dr. Arnold said of boys was equally true of men: that the difference between any two consisted not so much in talent as in industry. Few modern biographies showed better what perseverance was than that of Thomas Edward, the naturalist; and if such a man regretted his lost opportunities, how much more must anyone who has wilfully wasted them have occasion to condemn himself? And who could tell how far others might be injured by his ignorance? Courage was the last, but not the least important quality—courage in himself and in his own opinions when honestly worked out. John Hunter had said: "Is there any whom difficulties dishearten, who bends to the storm? He will do little. Is there one who *will* conquer? That man never fails." Nowadays, difficulties were much smoothed down; facilities for education were provided; and the fear was, that self-dependence was endangered.

Mr. Wagstaffe then cautioned students against the excesses or perversions of these qualities—against coarseness, want of

consideration, and brusqueness. "And," he said, "particularly steer clear of that disbelief which apes originality. You are seeking the truth in things attainable. There are many things of which the proof lies far away, and only comes from patient, long-continued search,—things made a part of ourselves by being worked into our mind from childhood's earliest time. As time goes on, and Reason tries to grasp what Memory has received, she often fails to seize the whole. But, if some part of what tradition holds is false, and much perchance is hard to prove, why cast away the whole and disbelieve in all tradition and authority?" The importance of personal influence was then adverted to. Few realised this, and few recognised how many a light word blossomed for good or evil when least expected. Our stray words and thoughts were not lost.

"Being rooted like trees in one place,
Our brain-foliage tossed
Like the leaves of the trees that are caught
By the four winds of heaven, some thought
Blown out of the world into space
And seems lost.
Being fallen like trees in one place,
Hid, buried, embossed,
Our dead leaves are raked up for mould;
But some that are sunbright and gold,
Blown out of the world into space,
Are not lost.

In conclusion, he trusted that, when their sunset was come, they might be able to say like Thierry in his last moments, "There is something in the world better than sensual enjoyment, better than fortune, better than health itself; it is devotion to knowledge, it is devotion to truth."

ABSTRACT OF INTRODUCTORY ADDRESS

DELIVERED AT THE OPENING OF UNIVERSITY COLLEGE MEDICAL SCHOOL

By JOHN WILLIAMS, M.D. Lond., M.R.C.P.,
Assistant Obstetric Physician to the Hospital.

During recent years the progress of medical science has been great and rapid. This has been the case in all departments of medicine. It is seen in the invention of new instruments for scientific and clinical investigation, in the discovery of new remedies, in the enunciation of pathological laws, in the perfection of the art of surgery, in a more intimate knowledge of the natural history of disease, and in the development of hygienic and preventive medicine. At first sight it may seem that progress has been greater in the art of surgery than in the sciences into which medicine is divided; but this is only apparent. The progress of surgery has not surpassed that of medicine. To appreciate this the present should be compared with the past. Medicine has now entered upon its ultimate phase, and has assumed a preventive character. Gynæcology has not, in this respect, kept pace with general medicine; and yet it has made great progress.

No apology is needed for making gynæcology the subject of an introductory address, for it now takes rank with medicine and surgery as a branch of special study. It is of the greatest importance in practice, and its bearing on certain social questions which at present agitate the public mind is such that, in the future, it must command greater attention than it has received in the past.

The ancients held curious views with regard to the female organs of generation, and some of the theories invented by them to explain certain phenomena were simply absurd. No progress was made in the study of gynæcology until long after the revival of anatomy in the fifteenth century. The muscular structure of the uterus was unknown until Sartorini asserted it in the beginning of the eighteenth century. Harvey was ignorant of the existence of the mammalian ovary, though he recognised in the fœtus and its membranes a true ovum. His views with regard to the formation of the ovum, however, were purely fanciful, for he thought it was formed from the juices secreted by the uterine cotyledons, which became swollen after intercourse.

The ovarian follicles were observed by Vesalius, and Van Horne called them "ova," while De Graäf gave the first full description of them, and with Van Horne regarded them as ova. There were great objections to this view—some of them insuperable, and in consequence Hahn stated that the ovum was formed in the Fallopian tube from the expelled contents of the Graäfian follicles. This view was accepted until the end of the last century. William Cruikshank published the results of his experiments confirming De Graäf's theory in 1797. The ovum was discovered by Baer in 1827, but his error with regard to it was dissipated in 1834-35, only when Coste, Wharton Jones, and Rudolph Wagner discovered and described the feminal vesicle and spot.

In 1821 Dr. John Power enunciated the law of spontaneous discharge of ova. His conclusions were drawn partly from analogy, partly from observations made on the humane female. His observations were, however, scanty; but ample proof of the laws was supplied during the twenty years following the publication of Power's book by the researches of Girdwood, Seguin, Bischoff, Raciborski, and others. At the same time, the view that the functions of the uterus are dependent on the growth and rupture of a Graäfian follicle was promulgated. This was strenuously opposed by Ritchie, but it became generally accepted, and was received until the last few years, when the evidence against it has accumulated so that it can no longer be maintained. Moreover, much evidence has been brought to light to prove the independence of the uterine functions not only of the growth of ovarian follieles, but also of ovarian influence.

Changes in the mucous membrane of the uterus were first noticed during pregnancy. William Hunter described the decidua accurately. His brother, John Hunter, soon afterwards described it as an exudation of plastic lymph. The latter view was accepted and taught until Hartz and Weber discovered the true nature of the decidua, and demonstrated its histological structure. The changes in the uterus during menstruation were comparatively unknown until within the last few years. It has been shown that they consist not in a congestion, but in a periodical development and removal by disintegration of a decidual lining.

The views maintained with regard to uterine pathology were briefly sketched, and it was pointed out that in the formation of such views too little regard had been had to the physiology of the organs of generation.

Pathology should be based in great part on physiology; and it is by increasing our knowledge of physiology that we may extend and widen our pathological doctrines. These inquiries, moreover, have a direct bearing on the employment of women. The latter question cannot be decided by prejudice nor yet by the intellectual caprice of a few experimenters in moral and social science. The problem must be solved on physiological and pathological grounds. Uterine disease is in great part the penalty of a high civilisation. It is by a knowledge of its causes and their mode of action that we can hope to arrest disease, and make gynæcology a preventive science.

Dr. Williams concluded by welcoming his hearers to University College, and with an exhortation to hard work.

ABSTRACT OF INTRODUCTORY ADDRESS

DELIVERED AT THE OPENING OF MIDDLESEX HOSPITAL MEDICAL SCHOOL

By ARTHUR HENSMAN, M.R.C.S. Eng.,
Lecturer on Botany and Comparative Anatomy at the School.

The lecturer, Mr. Arthur Hensman, commenced with a short review of the early history of the Hospital and its Medical School. In speaking of the ceremony which took place on May 15, 1755, when the Earl of Northumberland laid the first stone of the new Hospital, he said:—

"That stone, history informs us, was being laid while a fierce thunderstorm raged over London, and the painting by Pine in the Board-room depicting the ceremony truly represents this; but the painter, with that suggestive genius belonging to his art, has, I see, introduced into his work a distant gleam of sunshine, fit emblem of the light of that skill and the warmth of that charity which ever characterise the noble profession you are entering to-day, and which we know has not been lacking in those who for more than a century have manfully striven within these walls to dispel the darkness of sin and the gloom of human misery and suffering. The names of Handel, the composer, and of David Garrick, the actor, were mentioned by the lecturer, both having closely identified themselves with the Hospital as its benefactors." Alluding to the address which the medical officers presented to the Governors, urging the formation of a medical school, to which, among other names, were attached those of Thomas Watson

and Charles Bell, he said—"But these names must suggest memories of the past, and to those of us who are youngest become

"'A link among the days to knit
The generations each with each.'"

After a graceful allusion to the death of Sir Charles Bell's widow, and an expression of the pleasure it gave to be able to speak of Sir Thomas Watson as still able and willing to attract by the charm of his writing and the weight of his long experience, Mr. Hensman said—"I need trace no further this meagre outline, but I will remind you that until a comparatively recent period science was nowhere systematically taught, if we except the medical schools. The older universities, unable to embrace these new wants, the birth of a new era, clung to the old traditional method of teaching, and only now are beginning heartily to recognise the real value of natural science as a branch of general education and culture. We should all remember that it is to the long-continued efforts of men of science imbued with the pure spirit of research that we owe in large measure our advance in civilisation and our greatness as a nation. While the medical schools have grown up as necessary offshoots of those charitable institutions which everywhere mark the progress of a civilised people, having been created for the education of a special class of the community, we must never forget that they have had a still wider influence and use, for have they not found fitting employment for the energies of many who in their own departments stand in the foremost rank of scientific investigators? The scientific discoverer must ever lead the way; applied science, coming after, takes up the thread of discovery, and, once guided into a useful channel, industries are created and commerce spreads." Illustrations of this order of evolution were exemplified by the discoveries of the properties of steam and its application as a motive power. The spectroscope was shown by the speaker to have its origin in the early researches of Sir Isaac Newton, followed later by those of Wollaston and Frauenhoffer. Chemistry in this connexion was referred to as a science exercising a kind of creative power over the elements, setting them free or cementing them into new relations, and as an art vital to the right progress and development of manufacturing industry. He might weary his hearers, he said, with illustrations all tending to show how the purely scientific workers often supplied the material which later on others had utilised. Great discoveries were not made at a leap; they came slowly, after years of patient labour. In speaking of anatomy the lecturer said this must ever remain one of the great central subjects of medical study—like the keystone of the arch, touching both halves of their work, medicine on the one hand, surgery on the other, and fitly crowning the span of their knowledge; for without it neither side could stand secure. All that by their skill as dissectors they could demonstrate and verify was valuable; much of the knowledge they gained by reading alone was useless. The difference between seeing a thing and reading about it was not to be measured. The knowledge gained by the one method was practical and lasting; that gained by the other was theoretical and fleeting. Therefore he urged them to work diligently in the dissecting-room, for, though they would forget much, they would learn more, and if they did not become accomplished anatomists he promised them they would have learnt enough to make them cautious hereafter. "Remember," he said, "while you dissect you are gaining habits of observation, you are training the eye and you are educating the hand. The value of sketching in outline will assist you much in your work; you should, if possible, sketch all you see under the microscope and make outline drawings of your dissections. The art of drawing, I believe, may be a great aid to a medical man throughout his whole professional career. A careful drawing of a well-prepared dissection or a microscopical preparation may save hours of book-drudgery, and must lead to clear and accurate ideas. To the busy practitioner a rapid sketch of a morbid growth or the mere outline of a diseased limb may convey to the mind more than pages of careful notes. Drawing may be said pre-eminently to cultivate the eye as to form, size, and relation, and it certainly educates the touch in a manner scarcely second to the use of the scalpel in the dissecting-room. When it is remembered that in many surgical operations the knife is carried in curves or in straight lines, surely it must be some satisfaction to the surgeon to feel that his eye has been previously educated in these things, and will safely guide his hand." The address concluded as follows:—"Contrasting our own profession—the profession of medicine—with the other so-called learned professions, it must be obvious, I think, to all of you that while the faculties and powers of the mind are exercised alike in all, the special cultivation of the senses is necessary in ours alone. Those senses, which are the avenues through which alone a knowledge of the outer world flows into and becomes a part of our higher being, must be taught to do their work as highly trained and willing assistants. We should endeavour, then, to educate our senses, for their capabilities are great. As the blind man acquires a touch surpassing our experience, so should we strive to develope these half-expanded powers. I have often thought that John Hunter owed much of his great fame to the manual skill he gained as a cabinet-maker. Bear in mind that, although the skill of the optician gained for us a new realm outside the range of unaided vision when he constructed the microscope, yet to see aright the eye must have a special training. The murmurs of respiration, or the rush and reflex of the blood as it flows through the great centre of the circulation, are heard to no better purpose by the use of the stethoscope if the ear be untutored. While we extend the sweep of our knowledge by means of the microscope, the ophthalmoscope, and the thermometer, let us watch lest our own organs of perception—best instruments of all, created by an Eternal Will, and step by step evolved through lower forms towards perfection—be unequal to the requirements of these higher duties. Every side of the intellect must be trained, every right capacity of the body must be developed, if we would work to good purpose. Those higher faculties and nobler aspirations which express the moral side of our nature can never flag if the object and the end be so good. Remembering the history of the past, it requires, I think, no prophet to predict in what direction we may hopefully look for advance in the future. We should ever remind ourselves that cause and effect work out their end with untiring round for good as well as for evil; and a wiser generation, more in harmony, because more fully understanding the laws which govern men and the world on which they exist, will better escape those ills which surround us to-day."

ABSTRACT OF INTRODUCTORY ADDRESS

DELIVERED AT THE OPENING OF THE LEEDS SCHOOL OF MEDICINE

By JOHN A. NUNNELEY, M.B. Lond., etc.,
Lecturer on Anatomy, and Senior Ophthalmic and Aural Surgeon to the General Infirmary at Leeds.

After referring to the appropriate opportunity presented by an introductory address for bringing all interested together and for taking a preliminary survey of the commencing session, and expressing the responsibility he felt at offering, in the name of the Council, the official welcome at the opening of the forty-seventh session of the Leeds School of Medicine, the lecturer proceeded to address the students, both old and new. "To the latter, those who now make their appearance in this lecture room for the first time to-day," he said, "let not the difficulties which you will at first inevitably encounter on the threshold of this, as of every other profession, dismay you, nor induce you to turn in disappointment from subjects which must seem to you, in the first instance, incomprehensible, because you find that those who sit on the same benches with you have no difficulty about them; rather remember, and be comforted by the remembrance, that only a very short time ago they were in the same position as that in which you now find yourselves. Let this prove to you that steady industry and perseverance will meet with their usual reward—success."

"To you, then, gentlemen, who to-day make your entry into the profession of medicine, I shall mainly direct the few remarks I have to make, as I believe by so doing I shall best fulfil the purpose for which an introductory address like the present is designed.

"I propose shortly to offer you such advice on a few points as my own experience and observation of students leads me to think may not be without some little use in directing you as to the best means of acquiring and utilising the knowledge necessary to enable you to qualify yourselves as reliable medical men; for the extent and variety of the subjects that will be placed before you as the objects of your future study is so great, and is moreover yearly increasing, and the time which with most of you is available for their acquirement is so short, that the beginner is likely enough to be oppressed

with a feeling of perplexity and discouragement. There is no reason for this—but you must expect to find that the study of medicine is now, as it has always been, a laborious business, when compared with the course necessary to obtain entrance into other professions; and it is certainly likely to become each year more and more laborious, for, thanks to the General Medical Council, many of the defects in the curricula of the various licensing bodies have been exposed, and consequently removed, and these are now much more in accordance with modern scientific knowledge than they were a few years ago: the natural result is, that the requirements have become much more extensive, and the examinations more searching and comprehensive than was the case formerly, and it is now hopeless for anyone to expect to qualify himself without earnest and thorough work." The lecturer next proceeded to speak of the great improvement in the general education of the student of medicine during the last few years, and the necessity for even farther progress in this direction; and quoting Mr. Spencer Wells' opinion on this matter as expressed in his late address before the British Medical Association at Manchester—"the surgeons of the future must be educated gentlemen, and we should so order our schemes of education as to bring into the profession, as far as possible, young men who have had the advantage of the highest general culture to be obtained by an English education,"—he then passed on to insist on the necessity for method and thoroughness in the student's work, and, discussing the value of lectures as a means of learning, and the different opinions held on this subject, said: "No doubt there are portions of every branch of learning which can be more easily and completely learnt from books by each student privately than in this room, and, of course, allowances must be made for individual differences and capacities, but altogether I am satisfied that if a due proportion of tutorial instruction and supervision be combined with it, the system of lecturing, as now required by the examining boards, offers, on the whole, greater advantages than any other method of learning, and a proper amount of private reading being superadded, enables a student to gain a knowledge of a profession like ours as readily and pleasantly as it is possible to do. The great business of your first winter session will be to master the main outlines of anatomy and physiology, especially the former; and you will also have to devote a certain amount of time to chemistry. You will probably not be required to attend more than three lectures in a day—usually I believe not more than two, of which one will generally be on anatomy. And I am sure that I shall not be contradicted when I say that if there be one subject which demands more time and attention than others, it is anatomy; for indeed this, with its dependants physiology and pathology, must form the foundation of your knowledge of medicine and surgery: upon it your entire medical education will have to be constructed. It is a subject, too, which must be mastered early in your career; later, the 'romantic region' of the hospital will to many prove more attractive than the dissecting-room, and in the dissecting-room a large part of every day must be spent. And recollect, once for all, anatomy can be learnt nowhere else than in the dissecting-room; books and slates are a help, a great help, but nothing more." Next referring to physiology and pathology—"The vast advances made in these sciences, and in microscopic and experimental research, have undoubtedly been mainly instrumental in causing the remarkable progress which medicine and surgery have made of late years, and have done much to establish them upon a sure and scientific foundation. The area, however, of chemistry is so vast, that it is not possible for a student to obtain a knowledge of the whole; nor, so far as chemistry, at any rate, is concerned, is it necessary for the purposes of medicine simply that he should do so. It seems, therefore, exceedingly desirable that the examining boards should within certain limits define their requirements on these subjects, as recommended by the Medical Council, in order that the time of the medical student, far too short already, may not be occupied with what is unnecessary or not practically useful." On the subject of the amount of time which it is desirable for a first year's student to devote to hospital work, Mr. Nunneley remarked—"No doubt the attractions of the hospital are very great, and some men may be tempted to spend too much time in the wards and out-patient room, to the neglect of their proper work; but, on the other hand, I certainly hold that the opposite course of neglecting hospital work wholly during the first winter session is equally a mistake for most students. Those who intend to spend some years at this or other hospitals, as well as those who are preparing for the University of London, may advantageously postpone their hospital work, and give their whole time to elementary subjects; but, with these exceptions, I think everyone should attend the surgical practice of the hospital regularly, even during his first session, especially as apprenticeship to some busy practitioner, where much practical knowledge was obtained, is not by any means so general as it formerly was. It therefore becomes all the more essential that every opportunity for practical work at the bed-side side, and especially perhaps among the minor ailments in the out-patient room, should be sought. Besides, just as an apprentice to any trade gains by practice facility in the use of the appropriate tools, you must train your eyes, your hands, indeed all your senses. More than this—and it is of even greater importance to your future career—you should gain the knowledge of how to deal with patients, and so to obtain that mental control over them, that tact, without which all your skill may often avail you little."

Speaking of hospital practice, the lecturer dwelt on the necessity of working out cases thoroughly. "One case thoroughly worked out is of far more value than twenty only half mastered: the one case, so far as it goes, at any rate, will guide you aright; the twenty are likely enough to mislead you. While on this subject, let me warn you against an error into which I notice some students are liable to fall—viz., of running after great cases only, and neglecting the minor ones. This is a serious mistake; for, let me remind you, the lesser ailments are those which you will far the most frequently have to deal with in your after-life, and it is a perfect knowledge of these, therefore, which for a young man is of the most consequence. I fancy also some students devote themselves too exclusively to the surgical wards, neglecting somewhat the medical ones. This is an error, the more important nowadays on account of the many instruments tending to precision in diagnosis which are now used by the physician, and a knowledge of which is indispensable."

After insisting on the importance of note-taking in the wards as a valuable means of training the powers of observation and impressing the cases on the memory, and the use which a well-recorded set of hospital cases would be found in after-life, the lecturer said:—"Among the matters which are occupying and interesting the mind of the profession at present, and which cannot be without some importance to you as future members of it, is the question of admission of women to medical degrees in England. Most of the difficulties which have prevented more than a very few women from complying with the requirements of the licensing bodies and obtaining a place upon the Register are being smoothed away; and there can be no doubt that the decision of the Senate of the University of London to provide a modified curriculum and examination, and to admit women at once to medical degrees, will, if carried out, as seems likely, give great impetus to the movement. This step on the part of the Senate, however, is opposed by Convocation as an infringement of the privileges of that body and contrary to the constitution of the University, and by the great body of the medical graduates, because, as Dr. Barnes has said, 'it is a fundamental principle of the University that its degrees imply full and equal knowledge in all departments'—a principle which certainly could not be carried out in the modified course proposed, because of the impossibility of women obtaining the same professional instruction as men. We should, of course, all agree that if a new sphere of employment could be found for the large number of well-educated women who are now barely able to earn a living by teaching, etc., it would be a most desirable thing. But then comes the question, Is the practice of a profession like ours a proper vocation for women, and one which they would be likely to pursue successfully? Perhaps this question, time only can fully solve; but one thing is certain, that if it is to be decided in any degree affirmatively, it is absolutely essential that women should receive a medical education equally thorough with men upon the same examinations. 'This (I again quote Dr. Barnes) seems impossible, so long as men and women retain the physical and mental attributes which have distinguished the sexes from the time of the Creation.' From ordinary general practice, as well as from nearly all appointments, the medical woman must of course by circumstances be cut off, as also from any position involving the charge of a mixed population. She must of necessity almost be confined to large towns, as a special consulting practitioner among women and children; and here no doubt a few with unusual ability and determination may succeed, but their

number can never in all probability be large, and will not take any great share in satisfactorily removing the difficulty of finding occupation for ordinary women. And although we, I think in common with most men, both medical and others, believe that of all professions that of medicine is the one least fitted for women, such a feeling will not, I am sure, prevent us from welcoming the few whose talents and energy enable them to enter our ranks.

"In conclusion, gentlemen, I have said something to you of the work which you must undergo to fit yourselves for the noble calling which you have chosen. What is the return for this work which you may fairly look forward to? With ordinary ability, industry, and determination there is no profession in which you may so certainly expect a moderate independence—but not more; its prizes with reference to honours or public distinctions are few; your greater and more lasting return will be the gratitude of your patients, and the satisfaction of your own conscience. In order to obtain these, you must realise the responsibility of what you are undertaking. To your hands will be committed vast opportunity of doing either good or evil, for no man is so universally trusted as the doctor. Medical men are truly under the heaviest burden of responsibility that it is possible for men to be placed under: the patient resigns himself wholly into his medical adviser's hands; his—the patient's—future comfort, his very life, may depend upon the way in which this unbounded confidence is met. The manner in which you will be able to discharge this great responsibility, and the character of your whole future career, will depend upon the advantage which you take of the great facilities for acquiring a competent knowledge of your profession which will be offered to you here. Should you fail to obtain this now, the opportunity can never return."

ABSTRACT OF INTRODUCTORY ADDRESS

DELIVERED AT THE OPENING OF THE SHEFFIELD SCHOOL OF MEDICINE

By HENRY FRENCH BANHAM, M.A., M.B.,

Lecturer on Medicine at the School.

After a few preliminary remarks, Dr. Banham congratulated the students upon their choice of a profession, assuring them that they would not be likely to regret that choice if they were able to endure the inevitable hardships which it involved. He proceeded to enlarge upon the value of a preliminary training, even in cases where it had not been of a scientific character. "Indeed," said he, "not only are you not the worse for a training specifically different from the scientific work which henceforth is to be your chief business, but you are distinctly the better."

He then made some reference to the interdependence of all branches of knowledge, and showed the necessary truth of the seeming paradox that a man must know many things before he can thoroughly know one.

He next explained to them that whether fitted for their work by unusual intellectual powers, or by a suitable preparatory training, the all-important work for them was the practical study of disease—a study which must be supplemented, but could not be superseded, by the theoretical study of books. "The knowledge required," he said, "is not simply that bookish knowledge which enables you to describe a disease, but that practical knowledge which enables you to detect it—a knowledge gained at the bedside of your patient, requiring for its development trained eyes, trained ears, and trained fingers."

He proceeded to give a detailed account of the manner in which they should prosecute the practical study of medicine, quoting Lord Bacon's dicta on the necessity for the removal of all the idols of prejudice or authority from their minds, in order that an accurate observation may lay the foundation for a useful induction. Here, in illustration, he traced the changes in medical fashion by which the cupping and drenching custom of one age had revolted the common sense of the next, only to give place to an authorised but excessive stimulation by inordinate doses of alcohol.

A feeling allusion was then made to the loss that the School had sustained in the removal by death of two of the most accomplished members of its educational staff—Dr. J. C. Hall, one of the Lecturers in Medicine, and Physician to the Public Hospital and Dispensary; and Mr. Samuel Parker, one of the Lecturers on Surgery, and a Surgeon at the Infirmary.

A few remarks were then directed to those students who were about to leave the School and enter upon the responsible duties of medical practice, and special reference was made to the department of preventive medicine, to which so much of their attention would have to be directed.

He urged them to perform earnestly and faithfully their duties, remembering that it was not for themselves alone they toiled, but for the world around, needlessly wasted by sickness and death.

ORIGINAL COMMUNICATIONS.

NEURALGIA AND ITS TREATMENT.

By EVAN MARLETT BODDY, F.R.C.S., etc.

So many authorities are at variance regarding the treatment of this painful debilitating affection, that a few remarks on it will not be superfluous; for it is a malady which up to the present time has resisted nearly every remedy, so that it is considered by many as incurable. Indeed, so perplexing and unsatisfactory has its treatment been to the profession, that we can hardly find two authors of the same opinion, each having his own favourite remedy or specific, of course advocating it in preference to any other, and endeavouring to prove its superior excellence by advancing certain hypotheses; so that many are at a complete loss what drugs should be employed in its treatment.

Some, for instance, advocate aconitine; others chloroform. The valerianate and the hydrochlorate of ammonia are considered by many to be of marked efficacy. The latter drug is advocated by Dr. Hawkes Tanner, who advises its administration in drachm doses during the paroxysm. Dr. Aitken asserts that "the remedies of most value are the diffusible stimulants." Dr. Radcliffe is in favour of the hypophosphite of soda. Wood, of Edinburgh, introduced the hypodermic injection of morphia; but as regards giving permanent relief, this operation is futile; besides, it is apt to act injuriously on the cranial contents. Of late, croton hydral has been tried and found of none effect, though it was considered at first to be a specific. In fact, many other supposed remedies could be mentioned, but the enumeration of them would be useless.

In France and Germany there is the same variety and divergence of opinion as there is in our own country. Monsieur Gubler, in the *Journal de Thérapeutique*, asserts that aconitine may be looked upon as a specific in what is sometimes called facial neuralgia, but that it is useless in its other forms. Trousseau recommends a compress steeped in a solution of the sulphate of atropine. Niemeyer believes in electricity, and devotes several pages of his book to prove its superiority over all other remedies. Thus we see in England, France, and Germany, the treatment of neuralgia is a disputed point.

The origin of neuralgia is comparatively obscure, many authors ascribing it to certain lesions or local derangements. Dr. Hawkes Tanner affirms that it may arise from decayed teeth; which Sir Benjamin Brodie denies, and I think with truth. Others, for instance, say it may arise from diseased bone, or from a tumour pressing on a nerve, or from a syphilitic taint. I think that pain arising from these lesions, though simulating neuralgia, cannot justly be termed so, for the pain is nothing more than a symptom originating from some local derangement, which is remedied by surgical treatment alone. It is true that Niemeyer and others affirm that pain extending along the course of a nerve must of necessity be neuralgia, leaving the origin of it altogether out of consideration; but I hold that such is not the case, for how can we correctly term symptoms which are dependent on different causes to be one and the same disease?

If we accept the theory that neuralgia arises from some local lesion, it cannot possibly be cured by any therapeutic agent, for if a decayed tooth is the cause, the extraction of it gives relief; medicine we well know in such a case is useless. Supposing, as some authors say, it arises from diseased bone, the removal of it effects a cure generally; the administration of medicine is of no avail. Therefore I decidedly think that we are in error when we call so many different lesions neuralgia, for pain arising from a decayed tooth can be no other than simple toothache, and pain arising from diseased bone is what one may naturally expect from such a lesion. In my opinion, neuralgia is pain devolving on some obscure lesion of a nerve, unaccompanied by any local derangement. If this theory is correct, it is certainly amenable to medical treatment; but if we conclude that toothache is neuralgia, and that it may

also arise from diseased bone, we make the cure devolve upon surgical, and not medical means.

The most common form of neuralgia, which is usually called facial neuralgia, is that arising from some obscure irritation of the fifth pair of nerves, or from some inflammation of its neurilemma, giving rise to a lancinating and excruciating pain occurring at certain intervals, though I have known some cases where it has been continual.

Romberg, somewhat quaintly, though poetically, designates the pain of neuralgia as "the prayer of a nerve for healthy blood," thus making this affection arise from an impure and weakened condition of the whole system.

The following appears to me to be a true definition of neuralgia—*i.e.*, pain occurring in paroxysms arising from some obscure lesion of the fifth pair of nerves, accompanied sometimes by nocturnal exacerbations, and generally affecting one side of the face. This definition appears to me to be of some utility, for it enables us to diagnose it from neuralgic pain arising from some local lesion, which I hold is not real neuralgia, for I decidedly think that pain originating from carious teeth, etc., is nothing but a false or spurious variety.

We must now direct our attention to the treatment, and we must do so more particularly on account of so many conflicting opinions regarding it.

As neuralgia occurs in paroxysms, and periodically, and as we are cognisant of the fact that it is very often accompanied in the female sex by some uterine disturbance, and that in some instances it is dependent upon debility and anæmia: antiperiodics combined with sedatives must be administered in conjunction with tonics. Now, if we accept the several theories which owe their origin to the authorities I have quoted, such treatment would not be of the slightest avail. What medicine, for instance, would cure toothache, or even assuage its agony permanently? What drug can we administer to eradicate the pain consequent upon the pressure exercised on a nerve by the presence of a tumour? We may alleviate the suffering, but we are perfectly powerless as regards its curability medicinally. If we give to a patient, suffering from what I nuncupate false or spurious neuralgia, any amount of sudorifics and antiperiodics, we modify the pain, but there we stop; for when we omit their administration the pain instantly returns, and the patient is as bad as before. I cannot, therefore, help thinking that, as we are often prone to confound false or spurious neuralgia with definite neuralgia, we may account for the variety of treatment advocated; as the former kind invariably requires surgical aid, and the latter I know from experience is amenable to medical treatment.

Dr. Elliotson says that "in all cases of neuralgia, whether exquisite or not, unaccompanied by inflammation or evident existing cause, iron is the best remedy." This method of treatment is not to be depended on, the process of cure being very slow and uncertain. Another reason which demonstrates its comparative uselessness in the majority of cases is that the pain is sudden, severe, and excruciating, and the sufferer demands and requires immediate relief; and iron, however good it may be as an adjunct, is altogether powerless in relieving pain. To soothe the pain and to arrest its intermittent attacks must be our first endeavour; and when that is accomplished we may then direct our attention towards improving the general health.

If we merely administer a sedative, the relief is only temporary; if we give an antiperiodic, some period of time must elapse before the drug can take effect; consequently, if the two are combined, we give instant and permanent relief—that is, if the patient is suffering from definite neuralgia; if afflicted with a spurious form, the aid of a surgeon is required.

The question now arises, What two drugs can we combine? whether the combination is compatible, and whether the administration should precede or succeed a meal? If possible, the patient should endeavour to eat a full one; if unable to do so, *some* food at any rate should be in the stomach previously, to obviate any chances of injury to the coats of that viscus.

The most efficacious antiperiodic we can employ is the arsenical solution, and the sedative which should be combined with it is the tincture of opium. By so doing we alleviate the pain, and prevent its recurrence. As regards the compatibility of these two drugs, a flocculent sediment is precipitated if the mixture is kept for any length of time. Supposing the tincture of opium is impure, the same flocculent sediment is precipitated almost immediately. This decomposition does not detract from the efficacy of the remedy.

The reason why the administration should take place after a meal is obvious, for symptoms of arsenical poisoning are very liable to show themselves if the remedy is taken on an empty stomach.

I have employed this remedy in every case which I have had under my care, and the results have been such as to make me consider it as a specific in all cases of facial or definite neuralgia.

Camberwell-road.

THE TREATMENT OF DIPHTHERIA.

By W. R. MACDONALD, M.D., M.R.C.S.,
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Diphtheria, with its insidious approach, its prostrating effects, and its often sudden and fatal termination, holds a high place in the records of the causes of mortality. Its great fatality seems to point to the inefficacy of the treatment which is still employed by many; and therefore the experience of a treatment which seems to be almost, if not altogether, a specific for this disease, will, I have no doubt, be acceptable to the profession.

In the month of May, 1868, I was called to see a boy about six years of age, and found him in bed complaining of a slight pain in the throat, headache, and pain in the limbs, with great weakness. His pulse was weak and above 100, his tongue slightly furred, and his appetite gone. On examining the throat, I observed the tonsils congested, and a whitish spot about the size of a threepenny-piece on the upper part of the right tonsil. From these symptoms I concluded that I had to deal with a case of diphtheria; and not having any confidence in the ordinary treatment of this disease, I prescribed a mixture which I had previously employed in cases of tousillitis and scarlatina with very good results, consisting of potass. chlorat. gr. lx., tinct. ferri mur. ʒij., aquæ ʒiv.

Of this mixture I gave a teaspoonful every two hours, with a diet of farinaceous food—eggs, beef-tea, and milk, *ad libitum*. On examining the throat, about six hours after, there was no increase in the severity of the symptoms, and I strictly enjoined the continuing of the same treatment during the night. On calling next day, the general symptoms were improved; the spot was no larger, and was thinner in appearance. On the third day the pulse was 96, the tongue cleaner, appetite better, and the spot about half its previous size. On the fourth day I found the patient sitting up in bed; the spot had completely disappeared from the tonsil, and he was complaining of nothing but weakness, from which he steadily and speedily recovered.

Not long after, I was called, in consultation with another practitioner, to see a gentleman, whose child had died of diphtheria. His throat was considerably congested, and there was slight pain, with great depression of the system, but no spots on the tonsils. I prescribed the same mixture, and the symptoms at once began to subside; and in three days he was almost quite well. In two weeks one of the daughters of this gentleman was seized with the disease, and I was asked to undertake the treatment. I found her suffering from slight pain in the throat, which was congested, and showed two spots on the right tonsil, and a small one on the left; also headache and pain in the limbs and back, with great depression of the system. The same medicine was prescribed, with a similar diet; and on the fourth day the spots had disappeared, and speedy recovery followed, as in the previous case.

About the same time, a gentleman who had attended the funeral of a child that had died of diphtheria was seized with sore throat, and consulted me. There was considerable congestion of the tonsils, but no spots, so that after a few doses of the medicine the symptoms were allayed and he continued at his employment. Three days after this, when driving on a cold night, he felt a pain in the throat, and had an attack of shivering. On getting home he took a dose of castor oil on his own responsibility, thinking he had an ordinary cold. During the night I was called to see him, and found him in a very prostrate condition. His pulse was 104, weak; he complained of pain in the head, throat, limbs, and back, and on his congested tonsils there were several characteristic spots. I prescribed the mixture every two hours, but it was taken oftener on account of the relief experienced after each dose. The next day there was still great congestion of the throat, with a tongue slightly swollen and much furred; also slight delirium; but the spots had not increased. Egg-flip, with a few teaspoonfuls of sherry, was prescribed every two hours. On the following day the symptoms were much abated, and the dose of the medicine was gradually reduced, while the recovery progressed as in

the other cases. All the family, consisting of five children, took the disease successively, the youngest being nine months old; and all recovered with the same medicine. In a few of the cases I used a local application of a weak solution of nitrate of silver; but I gave this up, and found that they got on quite as well, if not better, without it.

Since the first case described, I have treated sixty-five with this medicine, only one of which had a fatal termination, and this under exceptional circumstances. It was a child about eight months of age, the last of three, two others having just died of diphtheria. The child had the peculiar metallic cough, but no expectoration. There was a discharge from the nostrils, with whitish spots on the throat and pharynx, and difficulty in swallowing. There was some delay in getting the medicine, as the patient resided a good way in the country. Notwithstanding, there was considerable improvement after getting the medicine, and the case progressed favourably for about eight days, the spots disappearing from the throat. On the eighth night, when the bitter blast of January was raging without, the child was placed near the window in its cradle, where it was exposed to a draught of cold air between the window and the fire. Next morning the submaxillary glands were much swollen, and the whitish membrane reappeared on the throat, and seemed to be further down the air-passages. The child became comatose, and died on the third day after the relapse, or the eleventh day after being under treatment.

In most of the cases I prescribe the first three or four doses of this medicine every half-hour, and every two hours afterwards, till the spots have disappeared from the throat, when it is gradually reduced to a teaspoonful three times a day, at which it is continued till the patient's strength is restored. The depressing and exhausting nature of the diphtheric poison renders the administration of stimulants and nutritious fluids necessary; of these I have found the best to be sherry and eggs, or brandy and milk, at such intervals as the urgency of the case may require. In medicine, it has been said that the most useful knowledge is the knowledge of what not to do. Be this as it may, it certainly holds good in the treatment of diphtheria, as nothing is more prejudicial than to pursue a wrong course of treatment in this disease. The poison of diphtheria seems to be of so subtle a nature, and to increase in virulence with such marvellous rapidity where the vitality of the system has been lowered, that the exposing of a patient to any depressing cause, or the administration of any depressing medicine, may be sufficient to convert one of the mildest cases of this disease, which might have recovered without any special treatment, into one of such severity as to have a fatal termination. And this remark applies specially to the administration of purgatives, even of the mildest nature—such as castor oil. I have not prescribed purgatives myself, but in cases where they had been employed by others the results were very serious. After the administration of castor oil there has always been increased depression of the system and an aggravation of the disease; while those patients have got on very well whose bowels were left to take care of themselves.

The action of chlorate of potash and iron in diphtheria seems to be both local and general. Locally, it acts as an astringent and disinfectant, causing contraction of the capillaries of the throat, and destroying the life in the diphtheric exudation. Generally, it acts as a stimulant and disinfectant. By giving oxygen and chlorine to the blood it stimulates the vital powers, and destroys the poison of diphtheria. This is my theory of the action of this medicine, for the discussion of which a more extended space than at present available would be required. Whatever the theory may be, there is no doubt of the rapid and beneficial effects of the preceding treatment in diphtheria.

THE NERVE THEORY OF HAY-FEVER.

By G. M. BEARD, M.D., New York.

THERE have been of late a good many references to the action of pollen in the causation of hay-fever. The whole discussion seems to come from looking exclusively at one side of a complex subject. Pollen of various kinds is one of an infinite number of exciting causes, mechanical and chemical, of hay-fever, as has been well known in this country for at least ten years. It is not, however, the disease, any more than the friction which lights a match is the fire that results from that friction. Hay-fever, as I have shown in my work on that subject, is a subjective constitutional disease, a neurosis or functional disease of the nervous system, very frequently hereditary, while the exciting causes (of which pollen is but one) are only secondary and tertiary. The prime and constant factor is the nervous sensitiveness, while nearly every irritating influence on the earth or in the air may act as an exciting cause. Everything depends on the idiosyncrasy. Irritants that are poisons to one hay-fever subject have no evil effect on others. Heat and dust are far more frequent exciting causes than pollen. These conclusions briefly stated here, but argued more in detail in my writings on this subject, are derived from the study of at least 500 cases of hay-fever.

The pollen theory, as an exclusive theory of the disease, is absolutely overthrown by the fact that in this country hay-fever appears in the *winter* as well as in the summer—indeed, at all seasons of the year. I have seen scores of patients who, in *any month* of the year are liable to attacks, with all the characteristic symptoms, whenever they remain long in a closed and over-heated room, or are exposed to the odour of flowers, fruit, ipecac or other pungent powders, to dust of any kind, or to certain animal odours, as that of a horse. I know a physician who cannot in winter or summer approach a horse without suffering from hay-fever symptoms—itching of the nose and eyes, sneezing, profuse nasal discharge, cough, and asthma. In the winter, snow sometimes acts as an exciting cause, its presence at once inducing an attack. Some persons always suffer from hay-fever when there is snow on the ground.

Here we have in the summer three different seasons for the regular attacks of hay-fever—May and June the early form, July the middle form, and August and September the later form, or autumnal catarrh. Scores of patients, whose cases I have studied, have all three of these forms; while others have but one, or in some instances two—the early and later forms. The later form is frequently extended late into the autumn, and even through the winter.

The chief exciting cause of the early and middle forms appears to be odour and pollen of grasses, hay, roses and other flowers. The exciting causes of the later form are the pollen of ragweed (Roman wormwood, *Ambrosia artemifolia*), golden rod (*Solidago odora*), Indian corn, and the odour of our fall fruits, as the peach, musk-mellon, pear, and grapes. I have seen a large number of hay-fever subjects who are obliged to leave the table at any season of the year when fruit or flowers are brought on.

No other disease that has been scientifically investigated is so markedly hereditary as hay-fever. I know of a family in which there have been ten cases of the different forms of the disease. I found fifty cases in fifteen families. Fully one-third of the sufferers have relations similarly afflicted.

It is impossible to get full statistics on subjects of this nature; but, judging from extensive personal observation and correspondence for a number of years, and from all sources of information, it is within limits to say that there are 50,000 cases in this country—probably more than in all the rest of the world. The malady is most common in the north and east, and diminishes in frequency as we go south—in this respect following the analogy of general neuralgia, sick headache, nervous dyspepsia, and other nervous diseases of the family to which it belongs. Hay-fever, like these other functional nervous diseases, appears to be increasing.

The disease is here known by different names, according to the season of the year in which the attack comes on, the special irritant that excites the paroxysms, and so forth. Thus we have the names, "ragweed fever," "peach cold" (it is quite common in the vicinity of peach-orchards), "rose cold," "June cold," "July fever," "autumnal catarrh," "strawberry cold," "snow fever," and "summer catarrh."

"Dust fever" would be a more appropriate name, since dust indoor and outdoor acts at all seasons of the year as an exciting cause more frequently than any other irritant. Some patients trace their attacks to sexual excess and to seminal emissions. The evidence on this subject is, in my mind, conclusive. Here, as everywhere, hay-fever is most commonly found in the indoor and brain-working classes. It is, in short, a disease of those who do *not* work in hay, being very rare in these latter, although I have seen ten cases in the agricultural population.

The treatment now chiefly used in this country consists of sedatives, tonics, and anodynes, used generally and locally, arsenic, quinine, nux vomica, bromides of ammonium and potassium, chloral, camphor, belladonna, electricity, Turkish baths, alcohol, and morphine. Under this plan of treatment some have their attacks rapidly broken up; others have various

degrees of relief; others still can only be helped by hypodermic injections of morphine, or by inhaling chloroform. The treatment by injections of quinine helps some cases, but frequently fails.

If Helmholtz and Tyndall and Bulkeley, and others, who have advocated parasitic, or germ, or pollen theories of hay-fever, could visit the White Mountains in August and September they would then find hundreds of sufferers from every form of hay-fever, and they would soon see that it is a subjective constitutional and nervous disease, each case differing more or less from every other case in susceptibility to external irritants; and they would then also find an unusually rich field for the study of all other functional nervous disorders.

Relief is found in the White Mountains and other extensive forest regions of the north, where the air is cool and comparatively free from vegetable irritants. Those who visit Europe at the season of an attack are usually, though not always, free.

Hay-fever also acts vicariously very frequently, taking the place of dysentery, diarrhœa, sick headache, neuralgia, dyspepsia, and being replaced by these diseases sometimes suddenly. The accumulating facts on this branch of the subject are very interesting.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

CASES OF APEX PNEUMONIA.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

[For notes of these cases we are indebted to Mr. J. A. Kempe, L.R.C.P., Senior House-Surgeon.]

(Under the care of Dr. GEE.)

Case 1.—Louisa P., aged five years, was admitted June 18.

Family History.—No phthisis. One other child has had to attend Chest Hospital on account of cough. This child had measles when two years old, but has not been subject to cough since.

Present Illness.—Quite well till June 12. Came home from school tired; went to sleep, and at 8.30 p.m. became convulsed on both sides of the body. She lost her senses, bit her tongue, and twitched for ten minutes. Mother says right half of face was more convulsed than left. Was very pale when she recovered from the fit. She was very thirsty; not paralysed; soon fell asleep again, but in about half an hour had another fit, and between then and 4 a.m. had four more of similar character and duration to one described. No return of fits since. On the following morning (July 13) it was noticed that she breathed very quickly, and had a slight cough; was thirsty and very restless. Diarrhœa; bowels opened about six times in twenty-four hours. The following day she was delirious, and, continuing to get worse, was brought here, and admitted on the 18th.

Present History.—Pale; fingers cyanotic; skin pungent; temperature 105·2°; lies low in bed, prostrate; alæ nasi working; respirations 60; pulse 150. Enlarged glands in both posterior triangles, not above clavicles. Tongue moist, coated with thick yellow fur, through which enlarged red papillæ project. Chest: Apparent fulness of whole front. Right front and lateral region, deficient mobility. Percussion—Marked dulness over right front as far as nipple-level; right axilla, resonance altered over upper quarter, not below; left front and axilla, resonance good. Auscultation—Over dull area very fine râles are heard with inspiration; respiration bronchial; vocal resonance bronchophonic; in axilla respiration is almost tubular; rest of fronts and lateral regions natural. Backs: Percussion—Right supra-spinous fossa dull; rest of both backs natural. Auscultation—Very fine râles heard with inspiration; bronchial respiration and bronchophony over dull area; rest of back free. Heart beating indistinctly at epigastrium; no impulse in natural position; sounds feeble and distant. Abdomen full; spleen and liver not palpable.

June 19.—Temperature 100·2°; pulse 124; respirations 44. Child evidently better. Diarrhœa three times in twenty-four hours. Ordered mist. hæmatoxyli co. ℥ij., quartis horis. Urine acid; trace of albumen; no diminution of chlorides.

20th.—This morning temperature 98°; skin cool; pulse fuller, 104; respirations 36; still marked loss of resonance at right apex, and at right supra-spinous fossa bronchophony; weak bronchial respiration, and occasional fine râle. Diarrhœa better.

29th.—Temperature has been normal since last note. Child's appetite good. Dulness on percussion has almost gone; respiration is vesicular, no adventitious sounds. Urine acid; no albumen.

July 2.—Got up to-day.

5th.—Went to Highgate, quite recovered.

(Under the care of Dr. CHEADLE.)

Case 2.—William G., aged three years and a half, admitted June 15.

Family History good. Child had whooping-cough at three years old, but got quite well of it.

Present Illness.—Considered in excellent health before 5 p.m. on June 9, when he came indoors, and lay down on the bed, complained of his head, put his hand to his forehead, and tossed about. At 7 p.m. vomited; brought up food and mucus. His head then seemed better, and he slept well that night. On the 10th he complained of pain in the stomach; bowels were natural. He was very drowsy—could not sit up, and cried if raised; very thirsty; not noticed to breathe quickly. Continued in this state till June 13, when he was admitted here.

Present State.—Pale; skin very hot; temperature 104·2°; irritable, prostrate; pulse 160; breathing hurried; respirations 52. Tongue red and irritable, coated with white fur. Chest: Impaired mobility at right apex. Percussion—Right front dull as low as nipple; right axilla dull over upper half, and note altered below. Auscultation—Right front, over dull area respiration is weak, but distinctly bronchial; vocal resonance, but not bronchophonic; no adventitious sounds. In right axilla, respiration over dull area suddenly becomes distinctly tubular. Left front and axilla natural. Heart natural. Backs: Percussion—Right supra-spinous fossa dull; elsewhere over both backs, good resonance. Auscultation—Right supra-spinous fossa, respiration harsh, but not much altered; no râle; over rest of back, good vesicular respiration. Abdomen: Spleen two fingers' breadth below margin of ribs. Liver just palpable; no *tache cérébrale;* no retraction.

June 16.—Urine acid; albumen; copious deposits of chlorides. Temperature 103·4°; respirations 44; pulse 152; heart beating at epigastrium. Constantly trying to get out of bed; screams. This evening, temperature 104°; delirious.

17th.—Temperature 103·6°; pulse 140; respirations 68. Had a very restless night; delirious; spleen very tender. Temperature this evening 103°. Still constantly trying to get out of bed. Pulse 160, feeble. Ordered brandy ℥j.

18th.—Temperature 102·4°; pulse 136; respirations 44. A little better. Constant cough; had a better night; not delirious; sordes on lips. Signs in lungs the same as on admission.

20th.—Breath very offensive; tongue coated with thick yellow fur; temperature 101°. Chest: Intense bronchial respiration all over upper part of right front, extending down to nipple; fine crepitation; in right supra-spinous fossa, respiration bronchial with fine crepitation. Bowels opened three times in twenty-four hours. Ordered mist. hæmatox. co. ℥ij. quartis horis, brandy ℥ij.; tent bed with carbolic steam. An ulcer about the size of a sixpence on inner side of right cheek. Glycerini acidi carbolici ♏xxv., glycerini acidi tannici ♏xv., aquæ ℥j., to be painted on ulcer.

23rd.—Temperature 98·4°. Râles at apex are coarser; a few fine râles at end of inspiration about nipple; abdomen distended; breath less offensive; sits up in bed; evidently much better.

July 7.—Still little impaired resonance at right apex; no râles; respiration faintly bronchial; back and axilla natural. Temperature normal. Ulcer on cheek healed.

17th.—Signs in chest have quite disappeared; temperature normal; urine no albumen; spleen still distinctly enlarged. Sent home to-day.

UNIVERSITY COLLEGE HOSPITAL.

(Under the care of Dr. RINGER.)

[For notes of this case we are indebted to Mr. Judson Bury, M.R.C.S., Physician's Assistant.]

Case 3.—Claude F., aged ten, admitted August 15. Mother died, aged forty-five, of consumption; one sister said to be consumptive. Boy had a cough last winter, had poor food, and not enough clothing. He was taken suddenly ill on August 11, whilst at school. He got home with difficulty, and fell down when he reached the house; he complained of pain in the head, neck, back, and right side of the chest. Since then he has had

a slight cough, and has not been free from pain in the right side. There has been no vomiting; bowels opened six or seven times on the 14th, not since.

Present State (August 15).—Lies on his left side; complains of pain in right side, especially under the collar-bone. Is very prostrate: cannot sit up in bed. Pale, with blue lips; alæ nasi work with respiration; temperature 102·2°. Has a slight dry cough, attended with much pain on the right side; respirations 48—the ratio to pulse is as 1 to $2\frac{3}{4}$. Right front, fair expansion; dull at apex; impaired below and in axilla. Right back, deficient resonance all over; dull at supra-spinous fossa. Left back hyper-resonant. Bronchial breathing right apex front and back, with a little metallic râle accompanying inspiration in a few places. Vocal resonance and fremitus increased over right upper part of chest. Heart-dulness normal; pulse 133, weak. Tongue bright red at tip and edges, elsewhere covered with thick yellow fur. Constipated. Patient was ordered carbonate of ammonia, ipecacuanha, quassia, three ounces of brandy, spoon diet, and spongio-piline to be applied over right front.

August 16.—Less pain. Breath-sound at right apex now quite tubular. Pulse 116; respirations 46; temperature 99·4° morning, 101·4° evening (7 p.m.).

17th.—Some vomiting. Cheeks flushed—equally on the two sides. Temperature 100·6° in the morning; pulse 94; respirations 48. In the evening, temperature 98·4°.

18th.—A little more resonance at the right apex. Temperature normal.

22nd.—Good resonance both sides—right side a shade less than left; and breath-sound at right apex a very little weaker than at left. Feels well; on full diet.

September 8.—With exception of slight deficient resonance at right supra-spinous fossa, physical signs natural. In good general health. Since August 22 he has had pyrexia, without anything to account for it so far as could be ascertained.

Secondary Rise of Temperature (10 a.m. and 7 p.m. where time is not specially noted).—August 22, 99·0°, 99·4°; 23rd, 99·4°, 100°; 24th, 99·8°, 100·2°; 25th, 99·8°, 100·2°; 26th, 101·2°, 100·6°; 27th, p.m., 101·8°; 28th, 99·2°, 100·1°; 29th, 100·5°, 103·3°; 30th, a.m., 100°; 31st, p.m., 101°; September 1, a.m., 102·2°; 2nd, 100·2°, 101·2°; 3rd, 99·4°, 100·6°; 4th, 99·8°, 102·4°; 5th, 100°, 100·7°; 6th, p.m., 99·2°; 7th, 100°, 99·2°; 8th, p.m., 99·4°; 9th, 100·6°, 99·4°; 10th, a.m., 98·2°. Till September 13 normal, when the boy was discharged.

Note.—These are typical cases of apex pneumonia—the first especially so, on account of the nervous phenomena attending it, and which have given rise to the term sometimes applied of cerebral pneumonia. The last case is of importance on account of the secondary pyrexia after physical signs had cleared up, with the exception of a very slight impairment at the supra-spinous fossa. The same condition was observed in a case of apex pneumonia reported recently in this journal, and is also noticed sometimes to last for weeks after pleurisy which is cured so far as physical signs determine. It is difficult to understand the cause of such pyrexia. Does it possibly depend on the slow absorption of local inflammatory products, and so far find its analogies in septicæmia? Signs of tuberculosis elsewhere were carefully looked for, but without result.

ST. THOMAS'S HOSPITAL.

CASE OF SPINDLE-CELLED SARCOMA INVOLVING THE SUPERIOR MAXILLA—REMOVAL—RAPID CONVALESCENCE.

(Under the care of Mr. FRANCIS MASON.)

[For the notes of this case we are indebted to Mr. Tebbitt, the dresser.]

The subject of this case was a married woman, aged forty-eight, who, two years before admission, noticed a small lump on the right side of the hard palate. This gradually increased in size for a period of six months, when it was about as large as a filbert. In another month some ulceration took place, when she became alarmed, and subsequently applied to the hospital for relief in October, 1876. The patient remained under observation for some time, and up to about March last the growth enlarged very gradually, and never gave her the slightest pain or annoyance. It then made rapid progress, and she was therefore admitted into the hospital on April 19, 1877, when the following notes were recorded:—

"On examining the affected part there is an upraised elastic growth situated on the right half of the palate, involving both the hard and soft parts. At the junction of the hard with the soft palate there is an irregular excavated ulcer about the size of a sixpence, having hard edges, but painless to the touch. On making firm pressure on the external or facial surface of the superior maxilla the bone is found thin, leading to the supposition that the growth extends into the antrum, but there is no bulging of the cheek, nor any prominence of the eyeball, nor is there any obstruction of the right nasal fossa. There is no family history of similar disease."

On April 28, the patient having been placed under the influence of ether, the growth was removed in the following manner:—The right lateral incisor of the superior maxilla having first been extracted, an incision was made through the upper lip exactly in the median line. The right cheek was separated from the bone; and a narrow-bladed saw having been introduced into the right nasal fossa, the alveolar border of the superior maxilla was notched at a point opposite to the lateral incisor that had been removed. The saw was then applied to the malar process, which was very thin, and then to the nasal process of the superior maxilla. With the cutting pliers the upper jaw was loosened, and the greater part of that bone, together with the tumour, removed with the lion forceps. Further examination showed that the tumour extended into the antrum, and this part was readily enucleated by means of the gouge. The removal of the remainder of the growth was completed by grasping a portion about the size of a walnut, which invaded the soft palate far back. There was free hæmorrhage, but no more than is usually noticed in such operations. All bleeding having ceased, the edges of the upper lip were brought together by means of silk sutures, and the patient was taken back to the ward.

On a microscopic examination of the tumour, it proved to be a well-marked example of spindle-celled sarcoma. It was for the most part firm to the touch, but here and there were softer portions which broke down under pressure of the finger.

The subsequent history of the case may be very briefly told, for, beyond being somewhat weak for a day or two after the operation, the patient made a rapid rally, and was up on the fifth day. The sutures applied to the lip were removed on the second day, and the scar of the incision was even then scarcely perceptible. In a few days she was sufficiently convalescent to leave the hospital, but she remained to have an artificial palate applied, which was admirably constructed by Messrs. Elliott and Ranger, the surgeon-dentists to the hospital. She was discharged on June 1.

Remarks.—In speaking of this case Mr. Mason dwelt upon the facility with which such operations are performed, if something like method is employed in their execution. There was no necessity to use undue haste; but the operation should be completed as rapidly as was consistent with the removal of the tumour. The application of the saw and cutting-pliers in the proper and in telling situations was all-important, and the student had only to look at the skull to understand that the superior maxilla could be readily removed by making such incision as had been employed in this case. Mr. Mason alluded to the extra room afforded by the division of the upper lip, and remarked on one point of importance, which was that in making this incision he first notched the skin with a sharp scalpel, so as to get a perfect line superficially. The completo division was effected by a second incision through the deeper structures. He also referred to the method of bringing the edges together with ordinary silk sutures, which he was in the habit of using, and preferred to the application of the harelip-pins and twisted suture. Hæmorrhage was known to be in some instances very free; but it was seldom alarming, for, as a rule, the bleeding ceased directly the growth was removed. It was so in this case, the application of the cautery or ligature being unnecessary. At one part of the operation the patient became faint, but revived on the application of smelling-salts to the nostrils. Reference was also made to an interesting point respecting the vision of the patient, for in the right eye there was after the operation a trifling external squint, which was probably due to some slight paralysis of the third nerve. The orbit itself was not opened, and as the adjustment of muscles was daily improving, it was believed that the palsy arose from pressure, due possibly to temporary inflammatory thickening, and that the harmony of muscles would soon be completely restored. The prognosis in many of these cases was not favourable; but, inasmuch as, in this instance, the growth appeared to be entirely removed, that it was more encapsuled than usual, that there

was no lymphatic enlargement, and that the patient's general health was good, there was great hope that a radical cure had been effected.

HOSPITAL FOR DISEASES OF THE CHEST, BROMPTON.

[For the notes of this case we are indebted to Mr. H. Lighton, House-Physician.]

(Under the care of Dr. DOUGLAS POWELL.)

J. L., aged thirty-nine, widow, admitted into the hospital on June 12, under the care of Dr. Douglas Powell, suffering from severe cough, accompanied with abundant muco-purulent expectoration. Dyspnœa on slight exertion, and profuse night-sweats.

There appeared to be no inherited tendency to phthisis, and the patient stated that she had always enjoyed good health until January, 1874, when she had a sudden attack of profuse hæmoptysis (about one pint). Since that time the cough had been gradually increasing, accompanied by night-sweats, occasional attacks of diarrhœa, and considerable emaciation. On admission her pulse was 108; respirations 32; temperature 101·1°.

Physical Signs.—Right: Dulness in front, with amphoric breathing at apex extending to third rib, together with coarse gurgling sounds; vesicular breathing at base. Left: Respiration harsh, with prolonged expiration in front, and scanty moist crepitation after cough. Behind, amphoric respiration with gurgle in supra-spinous fossa and over upper third of scapula, moist crepitation extending to base. For the first six or eight weeks after her admission to the hospital the patient's general condition showed little marked alteration, though the physical signs gradually increased.

The temperature continued considerably above the normal during the greater part of the time (varying from 99° to 102·8° Fahr.), notwithstanding the exhibition of salicylic acid, of which drug the patient seemed very intolerant (four-grain doses given every six hours as a pill causing headache, nausea, and other symptoms of salicylism).

The cough continued troublesome throughout, and occasional attacks of diarrhœa proved very obstinate. The patient, however, was not confined to bed for any length of time, but was able to get up and walk about the ward.

August 12.—Whilst sitting in the corridor this evening, she was suddenly seized with an attack of intense dyspnœa, and at present (half an hour afterwards) appears to be almost in a state of collapse. Pulse very rapid and weak; respiration hurried, shallow, and accompanied by a low moaning sound. Hands and feet cold; lips blue.

13th.—Pulse 116, very weak; respirations 56. Dyspnœa less urgent. Complains of no pain. As far as any examination of the chest was practicable, no marked alteration in the physical signs could be detected.

14th.—Slept at short intervals during last night, and is breathing rather more easily this morning. Complains of pain in right scapular region. 9.30 p.m.: Had another sudden increase of dyspnœa this evening. Respirations 52; pulse 132.

15th.—Is suffering from a third attack of same character as the preceding. Respiration hurried and shallow; pulse small, rapid; face livid; lips blue. 10 p.m.: Breathing more quietly. Otherwise as yesterday.

19th.—Condition unchanged. Pain in right side as before. Respirations 44; pulse 112; temperature 99·2°.

21st.—Very weak and low. Unable to move in bed without assistance. Cough troublesome; expectoration abundant, fetid.

22nd.—This morning a localised patch of gangrene, about the size of a crown-piece, appeared in the hollow between the great trochanter and the tuberosity of the ischium; on the right side it is distinctly circumscribed; is hard and dry. Patient complains of no tenderness on pressure over the part. The bony prominences around the part have been of late painted daily with stimulating lotions, and no discoloration has appeared until this morning. Patient complains also of pain over the left side of the face, which is somewhat swollen.

23rd.—Circumscribed patch of gangrene as before, except that a line of demarcation appears to be forming around the slough. Great pain of a dull aching character over left side of face, which is considerably swollen. There is slight drooping of the left corner of the mouth, and partial ptosis of left lid. Breathing easier; pain in the right side as before. No fresh signs on auscultation. Urine acid, no albumen, specific gravity 1018.

24th.—Cough more troublesome; expectoration abundant, very fetid. General condition unchanged.

26th.—Respirations 40; pulse 116; temperature 99°. Line of demarcation has formed round greater part of slough (which has been daily dusted over with oxide of zinc, and wrapped in oakum). The left eyeball appears to be rather more prominent than the right, and there is considerable œdema of the conjunctiva on same side. There is distinct drooping of left corner of mouth, and partial ptosis on same side; also some anæsthesia on the left side of the face. No other symptom of paralysis.

27th.—Slight delirium last night; perfectly conscious this morning. General symptoms unchanged, except that the prominence of the left eyeball is more marked, and the œdematous condition of the conjunctiva considerably increased.

28th.—Appears to be sinking. Pulse very small and weak. Cough troublesome, with inability to expectorate. Breath very offensive. Protrusion of left eye is still more marked. Anæsthesia has disappeared. The slough in gluteal region in much the same condition as on last note. Complains of no pain.

29th.—Death.

The treatment of the case consisted in general stomachic stimulants, and sedative mixtures for the cough. Night-sweats were checked by a pill of two grains of oxide of zinc, combined with hyoscyamus; and occasional attacks of diarrhœa were treated with bismuth and opium.

Post-mortem, twenty-eight hours after Death.—Rigor mortis absent. Convolutions of brain somewhat flattened; small quantity of fluid beneath arachnoid; ditto in ventricles; brain-substance pale; left middle lobe much discoloured and greenish, though not softened; circle of Willis full of dark semi-clotted blood. The left anterior cerebral artery contained a small decolorised semi-adherent clot. The orbit was opened, and the left eye carefully examined, but no pus was discovered. Lungs: Left adherent at apex, and in axillary region. A large ragged-walled cavity occupied upper two-thirds of upper lobe, the walls of which were extremely vascular, and lined with a patchy membrane. Below the floor of the vomica were numerous tubercles, solitary and closely studded in proportion to their approximation to the cavity. The right also contained a large ragged vomica. Middle lobe emphysematous. Lower lobe in a condition of catarrhal pneumonia, with recent solitary tubercle sparsely scattered. On examining the pulmonary artery the three main divisions were found blocked by decolorised adherent clots, which were larger than the apparent calibre of the vessels. In one branch there was a thread of decolorised fibrine connecting two blocks. Heart very small, five ounces in weight. Both ventricles dilated, containing semi-decolorised clots. Beyond the valves the clot was without colour; in the ventricles it was dark black. The valves were healthy, and no fibrine was detected attached. Liver pale, weighing two pounds six ounces. Spleen very small, weighing two ounces and a half. Kidneys together weighed eight ounces and a half; capsules adherent; fatty. One small block of fibrine found in left renal artery, but this was non-adherent (about the size of a mustard-seed). Vessels of pelvis carefully examined, but nothing abnormal discovered.

THE SECRETION OF SWEAT IN SKIN DISEASES.—M. Aubert read at the Havre meeting a paper on this subject, in which he first described his mode of ascertaining the normal conditions. Having applied papers opposite the glandular orifices, they became moistened, but the traces left were invisible. In order to reveal them, he resorted to various procedures, and found the best of these to be the passing over the papers of a pencil of nitrate of silver, which, by acting on the chloride of sodium in the sweat, gave rise to violet points, each of these corresponding to the orifice of a sudoriparous gland. By this means he then proceeded to examine the modifications produced in the sudoral secretion by various diseases of the skin, as nævus, wine-stains, ichthyosis, erysipelas, psoriasis, etc. In all these he was able to make out the general law that irritations of the skin completely suppress the sudoral secretion, and that even after the irritation has disappeared, a certain period of time is required before the secretion reappears. In cicatricial tissue a very large number of glands are destroyed, but those which remain possess an exaggerated secretion.—*Gaz. des Hôp.*, Sept. 25.

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Medical Times and Gazette.

SATURDAY, OCTOBER 6, 1877.

THE INTRODUCTORIES.

One of the pages of our great contemporary, the *Times*, began on Tuesday last with the statement that, "Yesterday being the commencement of the academical year of the English Schools of Medicine, inaugural addresses were as usual delivered in the schools attached to the various metropolitan hospitals, with the exception of St. Bartholomew's, the London, and Guy's." Then followed some columns of abstracts of the "inaugural addresses" which had been delivered; and in several of the other daily papers considerable space was devoted to the same purpose. It would be somewhat interesting and curious, though not instructive, or, as some would say, edifying, to speculate on how few or how many years will pass before like announcements will disappear from all our journals, daily and weekly, and the "Introductory Lecture" at our medical schools will have become a thing of the past. But a very few years ago, an "introductory lecture" was given at each of the eleven metropolitan schools, and the School of St. Bartholomew Hospital was the first to make a breach in the time-honoured custom, in the first year of the present decade of 1800. We believe the last "introductory" at that school was delivered in 1869. Guy's School followed at an interval of a few years; and now the lecture has been given up at the London Hospital School also. Three schools out of eleven have abandoned the custom in eight years; how many years will elapse before the eight other schools follow the example set by the three largest hospitals? Not many, we suspect. It is true that this year there have been ten Introductories delivered—Mrs. Garrett-Anderson, M.D., having delivered an inaugural address at the London School of Medicine for Women; and Dr. Cockle an introductory lecture at the opening of the clinical branch of the same school, at the Royal Free Hospital; but nevertheless we doubt much whether the Introductory Lecture will remain for many years longer a feature of the opening of the winter session at the metropolitan medical schools. It seems highly probable that, should one or two of the smaller schools follow the example of the large ones, the custom will everywhere be rapidly abandoned. We still hold, as we have before this said, that for some reasons the innovation is to be regretted. The Introductory served several good purposes. It drew together again at each school the old students and their former teachers; was a meeting-point in the year for old friends and co-workers; and it introduced the new students to their teachers and their work, while to the lecturer it afforded an opportunity of giving to the new men some general idea and plan of the studies upon which they were entering, of warning them against the temptations that would most beset them, of encouraging them to face boldly and wisely the difficulties they would encounter, and of assuring them of the ever-ready sympathy and help of their teachers. The *conversazione*, which at Guy's and at the London Hospital has taken the place of the old Introductory, answers some of its purposes well, and affords a very pleasant reunion-ground for old friends and new; but it does not fulfil the more important function of introducing the new student in a like way to his new work. It must be confessed, however, that of late years there has been exhibited on some occasions a tendency to forget or ignore the special intention and function of the "Introductory." In these days of universal reporting and publicity the lecturer has a much larger audience than those whom he directly addresses, and it is well that he should remember this, and make a wise use of the opportunity of telling the public somewhat of what medicine is, or should be. But it is not well that he should altogether, or almost altogether, forget that his address was originally intended for the students, and specially for the youngest of them. And this has sometimes been the case. The lecturer has been ambitious, and, forgetting the medical student, has addressed the public, chiefly or entirely, on some point or points concerning the public health, or on some of the links between them and the profession; or he has delivered a discourse on some scientific question; or he has felt disinclined to reiterate to the student truisms about steady, persistent, hard, honest work, the necessity of being constantly on guard against waste of time—and so on; or he has been unwilling to offer advice and warnings which have not always been listened to courteously or respectfully; and so the Introductory Lecture has lost its speciality, and become but "one lecture more." If such a change is a necessary growth of the days we live in, the abandonment of the "Introductory" is not much to be regretted. And it may perhaps be said that so much more watchfulness and supervision is now exercised over the student than in former times; so much more care bestowed upon him individually, especially in the principal schools, through their colleges and increased staffs of professors and tutors, that the *raison d'être* of the special introductory lecture has ceased to exist. Anyhow, we suspect it is doomed, unless perhaps in such schools as may not be large enough or strong enough to replace it by a *conversazione*, or some similar mode of opening the winter session. If, however, the old custom is to be continued, we would suggest that the duty of giving the lecture be always undertaken by a senior physician or surgeon of the hospital, or lecturer in the school, and not entrusted, as is so generally the case, to the man last appointed on the hospital or the teaching staff; the counsel and advice given would then carry greater weight, and would more probably be listened to with attention and profit.

We do not propose to say much about the Introductories delivered this year. We publish one *in extenso*, and abstracts of others, elsewhere in our columns, and may well be content to recommend them in that way to our readers. The inaugural address at King's College, delivered by Professor Lister, was a purely scientific discourse, and therefore, though very able and interesting, is not, according to our views, an Introductory

Lecture properly so called. At St. Mary's Hospital, Mr. Herbert Page found great fault with the instruction given in our schools for general education, and came to the conclusion that "Happy is that man who finds when he has left school that he has learned something which will be of real value to him in the world in which he moves"; but we venture to think that he much underrates the value of even the classical instruction that a boy receives there, and that he forgets the education. The boy was learning how to learn; and without the instruction he gets in the dead languages, he would be pitiably at fault when he comes to read scientific and technical works. From this subject of general education Mr. Page passed on to give some excellent advice as to the spirit in which, and the ends for which, medical students and medical men should work. He spoke much of the wide-spread and powerful influence for good that medical men ought to be able to exert over their fellow-men, dwelling with especial earnestness on the work they might do in helping to teach the virtues that will prevent intemperance. We do not feel at all sure with him that the habit of thrift will cure or prevent drunkenness, but we are quite in accord when he says, "Great ought to be the influence of our profession, for who more than its members have the opportunity of giving encouragement, advice, and sympathy which many a human creature needs? To do it we must be equal to the task, and our own lives must not fall short of the lofty aims which should be our glory."

At University College the Introductory Address was delivered by Dr. John Williams, who spoke of the great and rapid progress made in medical science, as a whole, during recent years, especially in medicine and surgery. Gynæcology, which he defined as that branch of science which treats of the changes, healthy and morbid, in the female body, had not kept pace with general medicine—not, at least, in gaining the power of preventing disease. He then sketched the progress made in gynæcology, described the views taken at successive periods of time of the physiology and pathology of the female body; spoke of the advances made in the diagnosis of diseases; and referred to the labours of Brown, Wells, Keith, and others in rendering curable diseases which thirty years ago were incurable, and the operations for them fatal. He then exhorted the student of gynæcology to study pathology, to trace back the course of disease to it, to discover its causes; and so give gynæcology a preventive character. Such inquiries, he observed, had a most important bearing on a social question lately and now much discussed—the employment of women. "Persistent and strenuous efforts had been made to admit women to professions which demanded from their members strength, energy, and a power of continuous and severe effort and application. The importance of this subject could not be over-estimated, not to the few women for whose sake such clamour had been made, but to society and to the race. It could not be decided by prejudice—if that were prejudice which had existed for ages,—nor yet by the intellectual caprice of a few experimenters in moral and social science. It was a physiological and pathological problem, which could be solved on physiological and pathological grounds only."

At the Westminster Hospital, Dr. Chapman Grigg spoke of the way in which the profession discharges its duties with regard to general medicine, and of the impediments offered to science by the Vivisection Act; and then went on to enlarge on the subject of State medicine, and on its immense value and power to prevent sickness and to save life in peace and in war. He dwelt on the uselessness and irritating effects of half measures in sanitary legislation—and there we agree with him; but when he declared that "it is doubly necessary that a well-digested, carefully-matured measure, one that may last a generation, should be, without further delay, brought before Parliament, and should, if possible, be approved of in all its essential bases by the heads of both parties in the State," we cannot quite go along with him; for we greatly doubt the possibility of such a measure—a measure that would or should last a generation—being either matured or passed yet. We do not believe that either our legislators or the public are educated enough yet in sanitation, or sanitary science itself sufficiently assured for that. At any rate, we do not think that such legislation can be forced on the people yet; and Dr. Grigg himself declares that "the difficulties that exist in impressing on the public mind the necessity of sanitary improvements are very great, confounding statesman and philanthropist alike." Dr. Grigg concluded his lecture with some words of welcome and encouragement to the students. We observe, by-the-bye, that in speaking of the benefit "to students and the public" of the practice of giving introductory lectures, Dr. Grigg expressed the opinion that the relinquishment of that practice at some of the principal London hospitals was due "to the severe criticism of the public press." We must beg to differ from him entirely. We do not believe that the public press had anything whatever to do with it.

Mr. Wagstaffe, at St. Thomas's Hospital, made a few sensible observations on the immense importance of health to the students, and expressed a hope that a serious effort would be made to provide them with suitable dwelling-houses, "upon some such plan as that adopted at the Colleges in Oxford and Cambridge"; but he devoted his lecture almost entirely to advising, warning, and encouraging the student, and to telling him what his life should be as a student and as a practitioner. He warned the students against mistaking knowledge for wisdom. He said, "One thing that would make them honest in their work, and careful, persevering, and courageous observers—that would make them do their duty to their profession, their fellow-creatures and themselves, was to take as their aim in all their work, simply—truth." Then he enlarged on the meaning of this text—so to call it, and also warned them not to let their honesty be marred by their coarseness, to be considerate in their relations with others, and not to allow "over-carefulness or caution to prevent their ever making a step forwards, or to lead them to become the victims of care." His address is an admirable one, of the old introductory-lecture kind.

The introductory lectures given by Mr. T. P. Pick at St. George's Hospital, and by Mr. A. Hensman at the Middlesex, were likewise very good. Mr. Pick, taking for his text, as it were, the boyhood and early career of Hunter, Astley Cooper, and Brodie, entreated the students, with their immeasurably greater advantages, to endeavour to follow in the steps of those men, and, like them, do some good in the world. He pointed out that they could succeed in such endeavours only by steady, earnest, and thoughtful work, and by a just appreciation of the value of time, showed how to do this, and warned them especially against superficial and hurried work. Mr. Hensman, in his finished and excellent address, dwelt particularly on the necessity that "every side of the intellect shall be trained, every right capacity of the body be developed, if we would work to good purpose; and spoke at some length on the importance of training the eye and educating the hand. "The value of sketching in outline," he told the students, "will assist you much in your work; you should, if possible, sketch all you see under the microscope, and make outline drawings of your dissections. The art of drawing, I believe, may be a great aid to a medical man throughout his whole professional career. A careful drawing of a well-prepared dissection or a microscopical preparation may save hours of book-drudgery and must lead to clear and accurate ideas. To the busy practitioner a rapid sketch of a morbid growth, or the mere outline of a diseased limb, may convey to the mind more than pages of careful notes. Drawing may be said pre-eminently to cultivate

the eye as to form, size, and relation, and it certainly educates the touch in a manner scarcely second to the use of the scalpel in the dissecting-room."

We cannot afford space to say anything concerning other lectures, except that at the Charing-cross Hospital Mr. Astley Bloxam delivered a good practical address; and at the Royal Free Hospital, Dr. Cockle gave to the students of the London School of Medicine for Women an introductory lecture to clinical work, replete with wise and sound advice. An abstract of this lecture we hope to give our readers next week. And we must mention that in delivering an inaugural address at the School of Medicine for Women itself, Mrs. Garrett-Anderson, M.D., spoke with the sound good sense and moderation she almost invariably displays when speaking in public. She warned her hearers not to forget how much depended on the judgment, moderation, and good taste of the earliest supporters of a new cause, and how necessary it is that they should carry the community with them; she urged them to remember that henceforward they would be not merely women who desire to help the best interests of all other women, but also members of a noble profession, and that they had the responsibility which is linked with comradeship towards every other medical person, man or woman; and she said—"Whether women can be trained into first-rate doctors or not, and whether it is a solid advantage to society to have them so trained, are questions which can only be answered by experience on a somewhat large scale. A good many of the objections might doubtless be dismissed as imaginary. Women could certainly do as well as men as students, while in examinations they were also quite equal physically to what was needed of them. But, on the other hand, some of the advantages sometimes claimed by the advocates of the change would not be found to exist. The argument that women would understand women's ailments much better than men, was, in her judgment, misleading. Women would understand disease in proportion to their knowledge and intelligence, and not through any occult or mysterious sympathy with its subject." But she did think, she said, that women would understand better than men the conditions of life which underlie much chronic disease and debility among women.

THE PENGE CASE.

It is with a certain amount of reluctance that we approach this case, to deal with which, however, is a duty. It is no part of the business of a medical journal to deal with questions of ordinary morals, and when such are mingled with details which do concern us, we have to encounter the difficulty of keeping them distinct in our own minds, and of keeping them separate in endeavouring to form a sound judgment. To a well-trained mind this is not difficult, but the majority of minds are not well trained, and we are much inclined to believe that such must have been the case when four people notoriously and obviously culpable in different degrees were all found guilty of a crime to which there is but one punishment, and that punishment is death.

Looking at the conduct of the case in its broader aspects, there were two features which forcibly struck us. These were the behaviour of the judge and of the Attorney-General, who acted as prosecutor. Mr. Hawkins was a most distinguished and successful advocate; it will require other behaviour than that in the recent case to secure him the reputation of a distinguished judge. There is a sound maxim in our profession that "meddlesome midwifery is bad"; a meddlesome judge is worse, and one who will play the part of both judge and counsel must infallibly land in mischief. Illustrations of this in the Penge case are abundant. Neither can one keep from admiring the conduct of Sir John Holker in this painful case. It was worthy of the best and highest traditions of the English Bar. Everything was stated against the prisoners with the most studious moderation; if a point could be safely waived, it was waived in their favour. As it seems to us, the moderation of the prosecutor was in marked contrast to the meddlesomeness of the judge. But it is time for us to turn to what more especially concerns us, the medical evidence. That resolves itself into two parts—the few symptoms noted during life by Mr. Longrigg, and the details of the post-mortem examination made a week after death.

When seen by Mr. Longrigg, Harriet Staunton was perfectly insensible; the pulse was weak, but quick—110 per minute; her breathing was stertorous and laboured; her arms were rigid; the pupil of the right eye was dilated, that of the left contracted to a pin's point. These were the essential facts noted during life. From their observation Mr. Longrigg came to the conclusion that the patient was suffering from cerebral disease; and, when death happened, gave a certificate to that effect. No thought seems to have crossed his mind that the cause of death was other than here stated.

Next came side-information—not as to the medical history of the case, but statements of relatives; and the certificate founded on medical observation was withdrawn.

The next phase of the case that concerns us is the post-mortem examination, of which the following are the main facts, separated from the mass of inference with which they were interlarded:—

Body much emaciated; skin, especially on the abdomen, dry and harsh, very dirty; hair full of pediculi; thighs dirty, shrunk, and skin very dry; ecchymoses on both ankles and legs; feet very dirty and very dry; eyes sunk, conjunctivæ not injected; mouth open, dilated, containing food at back; tongue coated with thick dry fur. Measurement from vertex to heel of foot, 5 feet $5\frac{1}{4}$ inches; weight, 74 lbs. (5 st. 4 lbs.). On removal of the skull-cap, adhesions were found between it and the dura mater and arachnoid, and between this last and the pia mater; no appearance of lymph or of effusion into the ventricles or cavities of brain. There were some small patches of rough millet-seed-like deposit in the meshes of the pia mater, probably tubercular. There was well-marked and universal congestion of all the external bloodvessels of the brain, of the membranes, of the sinuses, and also of the internal vessels of the skull, especially of the longitudinal and lateral sinuses—*i.e.*, the bloodvessels appeared as if injected. Brain firm, healthy, and remarkably well preserved. No adhesions between the pleura and lungs. Pericardium contained about 1 oz. of fluid, but was not adherent to surface of heart. Heart small and contracted; weight $7\frac{3}{4}$ oz.; both auricles and ventricles empty and contracted; no trace of any valvular disease. Lungs free from disease except at left apex, where a small patch, about $1\frac{1}{2}$ in. to 2 in. square, contained tubercular deposit (grey and hepatised). Liver very small, healthy-looking, smooth, no adhesions; weight 2 lbs. $2\frac{3}{4}$ oz. Gall-bladder full. Spleen small and congested; weight $4\frac{1}{2}$ oz. Kidneys healthy, no adhesions, smooth; weight—right $3\frac{3}{4}$ oz., left 4 oz. Bladder healthy; contained about 3 oz. of urine. Uterus: Weight $1\frac{1}{2}$ oz., length $2\frac{1}{8}$ in., breadth (at fundus) $1\frac{3}{4}$ in.; internal surface congested; os uteri patulous; muco-gelatinous fluid exuding. The stomach contained food undigested, in which could be recognised egg and bread, and meat, and grey fluid. There was very marked and intense congestion of the internal lining, especially along the upper curvature. This congestion was unlike ordinary post-mortem congestion. The intestines, both small and large, were quite empty and contained no food or fæcal matter whatever. The duodenum was much congested throughout the whole of its upper part. The omentum was shrunk and contracted; it contained no fat, and no fat whatever surrounded the intestines, or any other organ—neither heart nor kidneys. The rectum was much congested throughout the last four inches.

From these facts the inference was plainly and clearly justified, that the deceased had been grossly and shockingly neglected. This was evident from the condition of the surface of the body.

The body was greatly emaciated, and was unusually light. The emaciation and loss of weight were incompatible with health. It would be very hard to say whether they were incompatible with life. Cases of extreme emaciation have been known to recover. It is not long since several such cases were brought before the Clinical Society.

On the surface of the brain were found many bodies described as tubercles, visible to the naked eye; but little or no effused fluid, though the vessels were congested.

In the apex of one lung were found tubercles again.

The stomach was congested; the bowels completely empty.

Such, we believe, were the main medical facts on which a purely medical opinion had to be founded. Let us suppose this body had been found under conditions which precluded any history being obtained—a not unfrequent occurrence. What would have been the conclusions to draw from such post-mortem appearance? We think it is hardly possible to arrive at any other inference than that the actual cause of death was tubercular meningitis. True, there was the additional evidence of a gross want of personal cleanliness, but not greater than is to be found among scores of casuals. True, again, the emaciation might have been due to want of food. But such emaciation has been known, as we said before, when the supply of food has been unlimited, and when it has even had to be forced on the patient.

Taking, therefore, the whole case on its purely medical bearings, the statement that death was due to wilful neglect and starvation is, as it seems to us, totally unjustifiable. If starvation was proved as the cause of death, it was not by medical evidence; and when we come into the wilderness of the ordinary evidence, we simply hold our hands. Opinions are hopelessly divergent, and it is not for us to attempt to reconcile them.

Two points more, and we have finished. We have not gone into the detailed evidence of each medical witness; but it, on the whole, conveys the idea of a degree of mismanagement and weakness, on the side of the prosecution, hard to conceive. It shows the utter folly of leaving such inquiries in the hands of men not specially trained to, and skilled in, such inquiries. Perhaps the height of absurdity was reached when, if we are to believe the reporter, a witness deposed to the post-mortem appearances being very similar to those the result of chronic poisoning by sulphuric acid: as if sulphuric acid ever formed tubercle in the lungs or brain! It is high time the system of medical evidence in criminal cases was reformed.

Again, we think the judge was quite right in rejecting Dr. Greenfield's evidence. Evidence in such cases, founded on "ifs," and "ands," and "buts," is unworthy of reception. Human life is at stake, and the fate of prisoners on their trial should not be thus decided.

THE FLESH OF CATTLE AFFECTED WITH CONTAGIOUS PLEURO-PNEUMONIA.

The question of the wholesomeness or otherwise of the flesh of oxen affected with contagious pleuro-pneumonia is causing no little excitement in Ireland at the present moment. We lately reprinted two queries addressed by the Public Health Committee of the Corporation of Dublin to every registered medical practitioner, and commented on the more than dubious results likely to be gained by an inquiry so conducted. The question has now reached a further stage; and this week a lengthy Report, prepared by direction of the Committee of the Irish Cattle Trade Defence Association, has been widely circulated in Ireland. This Report has been drawn up by Dr. Rawdon Macnamara, Surgeon to the Meath Hospital, Dublin; Dr. Alexander Macalister, Professor of Zoology in the University of Dublin; and Dr. J. Emerson Reynolds, Professor of Chemistry in the same University. These gentlemen are unquestionably distinguished men in their several callings; but we should have been better pleased to see one or two pathologists and one or two sanitary experts associated with them in an inquiry which certainly demanded much special knowledge. The unfavourable impression excited by a consideration of the qualifications of the reporters is not removed by a perusal of their Report, which seems to us to be little more than a clever bit of special pleading, and by no means a satisfactory solution of the questions involved.

The Report opens with a historical review of the disease epidemic pleuro-pneumonia. Its stages are then described in popular language, the fact of the constitutional, as distinguished from the local, nature of the malady from the beginning being throughout kept out of sight. The authors say—"The disease presents itself in two widely different stages, in the first of which the animal seems but to be out of sorts, its condition is unimpaired, and it presents but little, if any, symptoms of fever. In fact, it would require an experienced eye to detect the difference, whilst living, between such an animal and one in health; what amount of difference is observable after the animal is slaughtered we shall allude to further on, contenting ourselves here with remarking that none such can be observed in the flesh of the animal by the most experienced butcher, or the most skilful chemist, microscopist, or pathologist. In the second stage the symptoms during life are far more easily recognised, but the flesh of the slaughtered animal is not distinguishable by any known means from the flesh of any other animal *similarly reduced in condition. It is almost unnecessary, however, to add that animals, from any cause, so reduced in condition should not be looked upon as marketable commodities.*"

To most minds, we imagine, the passage marked by us in italics would seem to tell altogether and most forcibly against the view maintained by the writers. The mode of propagation of the disease, and its pathology, are next considered; and an argument as to the innocuousness of the flesh of cattle affected with pleuro-pneumonia is grounded upon the fact that the disease is infectious only through the medium of the air-passages. The authors observe—"The conclusion from this is plain—the disease is a local one, and, though contagious, yet is limited, as far as its specific nature is concerned, to the lung affected. This Dr. Burdon-Sanderson has also verified, by showing that the blood and other juices of cattle which are affected with pleuro-pneumonia, even in the most advanced stages, are incapable of producing any specific effect by inoculation, that power being limited to the fluid taken from the diseased lung (see the Official Report to the Medical Officer of the Privy Council, 1876)." In endeavouring to ascertain the effects produced on man and healthy animals by the consumption of the flesh of cattle affected with pleuro-pneumonia, the authors have consulted many authorities, from whose works they quote copiously; and they sum up by saying that from the considerations advanced they have arrived at conclusions of which the following is the pith:—"That the consumption of the flesh of cattle slaughtered in early stages of pleuro-pneumonia is perfectly harmless, and the destruction of such meat is a wasteful expenditure of a material which is capable of supplying a perfectly wholesome animal food."

We are further told that "it would appear, then, that the opinions of some sanitarians on the subject, and of many medical men who have not had time to specially investigate this important question, are in part founded upon the Livingstone cases and the hypothesis of the Scotch Registrar-General, of both which we have completely disposed; and in part on inferences hastily drawn from experience of the well-

known ill-effects which attend the consumption of the meat of animals affected with anthrax, milzbrand, etc.—diseases which are essentially different from pleuro-pneumonia in their nature and effects upon the animal tissues. Notwithstanding the fact that these inferences have no foundation in common experience or scientific investigation, they have been acted upon as if their truth had been established, and have been accepted by the popular mind, doubtless because they are in accord with the natural feeling of dislike to contact of any kind with diseased animals, and of aversion to the consumption of their flesh."

The Report concludes with a consideration of the nutritive value and quality of the meat of pleuro-pneumonic animals, which goes to prove that "the fresh and unchanged meat of animals slaughtered during an attack of pleuro-pneumonia may be safely consumed, and that such meat is not sensibly less in nutritive value than that of other animals unaffected by any disease, but that it is of lower quality, owing to its greater tendency to undergo change." We do not question the industry, skill, and time which have been spent upon the compilation of this Report, yet we must observe that it is admitted that the flesh of the pleuro-pneumonic animal has an unnatural tendency to undergo changes which would make it admittedly unwholesome; that the dislike to eat the flesh of diseased animals is a natural and healthy dislike; that it is very difficult indeed to *prove* direct results from feeding on the flesh of diseased animals; and, finally, that such a question as that here dealt with certainly cannot be solved by any *ex parte* report.

THE WEEK.

TOPICS OF THE DAY.

Amongst the numerous and varied adulterations in articles of our food supply, the question of the purity of the bread daily supplied to us has not yet been sufficiently considered. One day last week a baker of Pitfield-street, Hoxton, was summoned at the Worship-street Police-court for having sold bread adulterated with alum. Mr. Walker appeared to prosecute on behalf of the Vestry of the parish of St. Leonard, Shoreditch. He produced the certificate of the public analyst of the parish, showing that the bread submitted to him, which had been purchased from the defendant, contained fifteen grains of alum per two-pound loaf. The solicitor for the defendant said that his client had trusted the bread-making to his foreman, and, from what he had since learnt, he would submit to the judgment of the court; but he added that there was a disagreement between the professional gentlemen as to the bread being injurious to health, Professor Wanklyn, who was in court, stating the contrary. The magistrate said he should like to ask the Professor a question, and Mr. Wanklyn was accordingly sworn. He deposed that there was no evidence to show that in this case the quantity of alum used would be injurious to health. The danger from alum was in producing constipation; here it was not in sufficient quantity. Mr. Bushby asked the object with which alum was used in bread. The witness explained that it enabled sound bread to be made from unsound flour; flour that had begun to "go" would not make good bread. Mr. Bushby supposed that "go" meant "ferment," and asked if the flour had begun to ferment what would be the effect of alum on it. Professor Wanklyn replied that it would arrest the change, and further explained that alum was used to arrest the metamorphosis of nitrogenous substance, which the incipient fermentation set up would destroy. Mr. Bushby was obliged to the Professor for the light he had thrown on the matter. This case, he said, was not particularly affected by the question whether or not fifteen grains of alum per two-pound loaf was injurious to health; it was clear the bread was of inferior quality from the fact of alum being in it, and inferior from the loss of nitrogenous substance. He would deal with the case on that point, and as the defendant had pleaded guilty he would not impose upon him the heaviest penalty, but fine him 20s. and costs. Mr. Walker intimated that on a future occasion he would be prepared with scientific evidence to support the statement as to the injurious effect of alum.

It is singular to imagine why the uneducated classes should be so credulous on the subject of medical treatment, but it is a fact that the more impudent the imposture the more readily they become dupes. A proof of this was afforded by the proceedings which took place at an inquest held last week before Mr. Carter, at Camberwell, on an infant aged twenty months. The mother of the child was called, and said she was induced to go to a Mr. Stokes, a herbalist, of 105, Southampton-street, Camberwell, to get a mixture for her child, after reading a pamphlet entitled "Truth *versus* Error," alleged to show in a few brief extracts "the danger of using poison as a medicine, and the doctors' inability to cure diseases, and showing a brief way how to cure by the use of herbs as a medicine, by W. D. Stokes, medical herbalist." She saw Mr. Stokes's assistant, who prescribed for the infant, with the usual results. At the last moment, of course, a qualified medical practitioner was called in—too late to save the life of the child, sacrificed through the folly of the mother. The result of a post-mortem examination showed that the child died from exhaustion consequent upon a severe attack of diarrhœa. The mixture supplied by the herbalist had been tested, and it was not a proper medicine to give a child suffering from that complaint. In answer to the coroner, Mr. Stokes's assistant said two tablespoonfuls of the stuff was not an overdose for an infant; he generally gave an adult half a pint as a dose! A verdict of "Death from exhaustion" was recorded; and there does not seem to have been the slightest comment from the jury on the practices of the "herbalist," who is left to circulate his pamphlets, and trade on the credulity of the silly public, without so much even as a reprimand.

At a meeting of the Court of Common Council of the City of London held last week, £100 was voted for Queen Charlotte's Lying-in Hospital, £105 to the Royal General Dispensary, and £210 to the Westminster Hospital. Some rich prospective legacies have been left to different charities by the will of Mr. John Miland, late of Clairville, Wimbledon. At the death of his wife, the Metropolitan Convalescent Institution (Walton-on-Thames), the Royal Free Hospital (Gray's-inn-road), and the Charing-cross Hospital, are each to receive £1000; and the Seaside Convalescent Hospital (Seaford), the Westminster Hospital, King's College Hospital, the Ophthalmic Hospital (King William-street, Strand), and the Hospital Sunday Fund, £500 each.

It would be too much to expect perfection in the laws of any country, but what must be the reflection of everyone on reading the following case? Mr. C. E. Merrington, barrister-at-law, at present residing at Ventnor, was recently summoned before the Newport (Isle of Wight) county magistrates for an assault on Sidney Axhorn. The complainant was engaged by a quack doctor of Ryde, to distribute objectionable medical pamphlets, and the defendant having observed him giving them away to ladies, young girls, and children, struck him several blows with a stick, and finally knocked him down. The Bench, after regretting that the law did not give them power to prevent the circulation of such pamphlets, convicted Mr. Merrington of the assault, and fined him £1 0s. 6d., including costs.

It is stated that Mr. Alderman Stone, at the request of an influential body of the governors, has decided to allow himself to be nominated for the Treasurership of St. Thomas's Hospital, vacant by the death of Sir Francis Hicks. In the

face of the discussion which has recently taken place in the papers on this appointment, and what is expected of the gentleman who undertakes the duties of it, it argues that Mr. Stone is thoroughly determined to give up a sufficient amount of time to insure the success and prosperity of the Hospital, so far as the efforts of his department are concerned.

Ignoring the question of the importance, from a sanitary point of view, of hanging pictures on the walls of hospitals, Mr. Joseph Moore, chairman of the Committee of Management of the Seamen's Hospital, Greenwich, has, through the medium of the press, made an appeal to the public to assist him in decorating the wards of that institution with pictures, so as "to dissipate the depressing monotony of dead walls upon the patients." There is ample space, Mr. Moore reports, to put up 250 specimens. Towards this number fifty have already been received from the residents in and around Blackheath and Greenwich; and, as the institution is free to seamen of every nation, and therefore truly national, it is hoped that very many of all classes will respond to this call. It is desired that the pictures should be simple in character, coloured prints and chromo-lithographs being preferable to engravings.

The new reservoir, situate at the top of Heddington-hill, to supply the University and city of Oxford with water, was formally opened last week by the chairman of the Waterworks Committee, Mr. John Gilpin, in the presence of the Mayor and Corporation, and a distinguished company. The new reservoir has been built, from the plans of Messrs. L. and C. Hawksley, by Mr. Dickinson; it will contain a million and a half gallons of water, which will be supplied from the Lake at Oxford. The pressure from the new service will be so great that in case of fire a copious supply of water will be able to be produced capable of reaching the highest tower in Oxford.

Another discussion has taken place at the West Derby Board of Guardians respecting the administration of stimulants to paupers. Mr. Bradford expressed his surprise at the large amount (upwards of £1000) spent for the Workhouse in stimulants last year; and he added, that on speaking to the medical officers on the subject they were likewise astonished at the largeness of the sum. The two doctors attached to the institution were called in, and Dr. Little remarked on the fallaciousness of a comparison of statistics between one workhouse and another in this matter, and pointed out that there were in Mill-road Hospital during a limited period 3000 patients, 2000 of whom suffered from small-pox. Dr. Little added (Dr. Archer afterwards concurring), that the prescription of stimulants in cases of life and death ought to be left entirely in the hands of the medical officer. The explanations and statements of the doctors were ultimately pronounced satisfactory, and the debate ended in a resolution to the effect that a return on the subject should be placed on the table.

The number of accidental poisonings by carbolic acid must strike everyone as very large. Its smell is strong and peculiar —sufficient, it might almost be thought, to warn anyone against a mixture containing it; yet, recently, numberless lives have been sacrificed through it. An inquiry was held at Liverpool, on Saturday last, respecting the death of Emma Greenwood, forty-four years of age, an inmate of Brownlow-hill Workhouse. A bottle that contained cough-mixture was partially refilled, accidentally, with carbolic acid. The mixture in this state was taken to the wards. The deceased took a drink of it, and found she had been poisoned. Dr. Goshan attended her, using the stomach-pump and restoratives, but she died in six hours. The jury found that the deceased had been accidentally poisoned, and added that in a public institution like the workhouse people should be more careful.

It is satisfactory to find that after the recent epidemic of small-pox which visited the East-end of London with so much severity, the health of the Hackney district is now reported by the medical officer in charge there to be "singularly good." During the past fortnight only eighty-three deaths have been registered, being at the rate of only 16·6 per 1000 of the population, and the smallest proportion ever recorded for Hackney, except in the first fortnight in October, 1876, when it was 13·2 per 1000. It should, however, be remarked that, during the same period, the death-rate for all London was only 18 per 1000 of the population.

We learn from *Nature* that a Swedish paper has published "an interesting article under the heading, 'Why is the Climate of Europe growing Colder?'" We are tempted to ask, as King Charles did with regard to the famous question about the fish and the bowl of water, "Is it a fact?" But the writer of the article has no doubt on that score. He says that "in the Bay of Komenok, near Koma, in Greenland, fossil and very characteristic remains of palm and other trees have been discovered lately, which tend to show that in these parts formerly a rich vegetation must have existed. But the ice period of geologists arrived, and, as a consequence of the decreasing temperature, this fine vegetation was covered with ice and snow. This sinking in the temperature, which moved in a southerly direction, as can be proved by geological data—*i.e.*, the discovery of fossil plants of certain species—seems to be going on in our days also. During the last few years the ice has increased far towards the south; thus between Greenland and the Arctic Sea colossal masses of ice have accumulated. On European coasts navigators now frequently find ice in latitudes where it never existed before during the summer months, and the cold reigning upon the Scandinavian peninsula this summer results from the masses of ice which are floating in the region where the Gulf Stream bends towards our coasts. This is a repetition of the observations made in the cold summer of 1865. The unaccustomed vicinity of these masses of ice has rendered the climate of Iceland so cold that corn no longer ripens there, and the Icelanders, in fear of a coming famine and icy climate, begin to found a new home in North America."

LONDON HOSPITAL MEDICAL COLLEGE.

THE opening of the present session was inaugurated on the evening of the 1st inst. by a *soirée*, the old-fashioned custom of an "Introductory Lecture" having been set aside for the first time. We hear that it is contemplated alternating the *soirée* and lecture method of opening. The *soirée*, as such, was a very successful one indeed, the various rooms and theatres of the Medical College being thronged with a company of which a large proportion consisted of ladies. *Soirées* have this undoubted advantage over introductories—that ladies can be invited; and their presence undoubtedly conduces much to the success of such entertainments. But we see no reason why these methods should not be combined. We agree with some remarks made by Mr. Hutchinson at the Hospital Biennial Festival, held on Tuesday, October 2, that these lectures are looked forward to with great pleasure by a considerable number of the new, and not a few of the older, students; and that, although they may be somewhat stale and common-place to those who listen to them for a number of years, yet that there is always a new congregation of listeners present for the first time, and that the words of welcome and kindly advice thus given are valued and not seldom acted on. For our own part, we should regret to see the annual custom die out. It is one of the very few occasions on which the medical profession as a body comes before the outside world, and it ought to be a great inducement to come out well. It is certainly an opportunity of which not a few make good use; and if the orator be chosen early on in the year, it gives him both time and opportunity to prepare that which ought to be neither common-place nor stale. Might

not a short introductory lecture be given, and the gathering then resolve itself into a *soirée?* The undoubted advantages of the two now distinct methods of procedure would be gained. The *soirée* was very well attended, and the large number of new faces promised a good entry for this enterprising school. There was an excellent concert, including pieces by Mendelssohn, Haydn, and other classical composers. Mr. J. Gardner gave a clever ventriloquial performance, and Dr. Tidy demonstrated the beauties of polarised light. There was an exhibition of microscopic, scientific, and medical instruments and appliances; articles *de vertû* also were lent for the occasion, including some magnificent autotypes by the Autotype Company, chromographs by Messrs. Hanhart, graphoscopes and stereoscopes by the London Stereoscopic Company. The medical and lay staffs were well represented, though some of the most distinguished were unavoidably absent. On one point only have we any fault to find—the arrangement for coats and hats was very defective indeed, and the crush which preceded the break-up considerably ruffled the tempers of not a few, and somewhat marred what would otherwise have been a most agreeable evening. The refreshment-stall was not managed much better. On subsequent occasions the authorities will no doubt provide a better refreshment-room, which, as is well known, is always largely visited. Mr. Kershaw, the Medical Secretary of the College, must be congratulated on the success of the *soirée* as a whole; we hear that the organisation was entirely under his supervision.

RUSSIAN AND ROUMANIAN HOSPITALS.

The following remarks of the special correspondent of a contemporary, on medical arrangements around Plevna, are interesting and instructive:—"No war of modern times has paralleled this for ferocity, nor for human suffering. No medical service, however well provided, could supply the need of these armies. Russia has done her best, and spent money on the ambulances as freely as on her combatant army. The doctors are well paid, even extravagantly in the higher ranks; there is abundant provision of necessaries, and the hospital attendants show great courage in picking up wounded men, the ambulances going as far forward as could possibly be called prudent. Upon the other hand, the carelessness visible all through the Russian army is prominent here. Under the most thoughtful arrangements, thoroughly carried out, the hospitals could not bear the strain put upon them; but when good-humoured carelessness reigns supreme, the breakdown may be expected to be painful. Some doctors lose their heads before the flood of work, and in hurrying and fussing imperfectly treat the cases that fall under their eye, and neglect more than they treat. Most of the doctors are untrained to the work; stores and instruments, though there be plenty of them, are not forthcoming at the right place at the right time; the essential condition of cleanliness is not fulfilled, and the neighbourhood of a field hospital is almost as foul as that of any other camp. As an exception, under immense difficulties, the hospital at Gabrova is kept as clean as may be, and the chief doctor is never too much occupied to say a cheering word to each patient. But if grave fault must be charged against the Russian hospitals, the Roumanian are yet more open to stricture. It is reported on good authority that the Government intends to make an example of those doctors who conspicuously shirked their work on the battle-field, and of those stretcher-men who refused to take up the wounded under fire. The whole system, of which the head surgeon, M. D'Avila, was so proud, has tumbled to pieces at the touch of war. Rarely has been beheld a sight so pitiful, shocking, and scandalous as that in the Grivitza redoubt on the afternoon following its capture. The wounded lay in the sun without notice or attention. There was not a drop of water for them, nor had there been all night. Nobody even looked at them; the blood and dirt curdled over their wounds. Even of those 400 slight cases sent to the Princess's Hospital at Bucharest, none had had their bandages changed since the first dressing, nor their clothes removed. I am told that the average of those who survive amputation in Russian hospitals is about 3 per cent The same competent authority informs me that in the Roumanian ambulances, scarcely a fortnight in real service, amputation would be but another name for execution."

THE FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

At a meeting of this Corporation, held on the 1st inst., the following office-bearers were elected for the ensuing year, namely:—*President:* Andrew Buchanan, M.D. *Visitor:* R. Scott Orr, M.D. *Treasurer:* John Coats, M.D. *Honorary Librarian:* James Finlayson, M.D. *Vaccinator:* Hugh Thomson, M.D. *Councillors:* The President, *ex officio;* the Visitor, *ex officio;* the Treasurer, *ex officio;* J. G. Fleming, M.D.; Henry Muirhead, M.D.; J. D. Maclaren, M.D.; James Morton, M.D.; Andrew Fergus, M.D. *Board of Examiners:* R. Scott Orr, M.D., Medicine and Materia Medica; James Dunlop, M.D., Clinical Surgery; Alexander Patterson, M.D., Clinical Surgery; P. A. Simpson, M.D., Medical Jurisprudence; James Dunlop, M.D., Surgery and Surgical Anatomy; Joseph Coats, M.D., Physiology; Alexander M. Buchanan, M.D., Anatomy; H. C. Cameron, M.D., Surgery and Surgical Anatomy; Eben. Watson, M.D., Physiology; J. G. Wilson, M.D., Midwifery; M. Charteris, M.D., Clinical Medicine; R. Scott Orr, M.D., Clinical Medicine; James Morton, M.D., Surgery and Surgical Anatomy; R. Perry, M.D., Chemistry; A. Wood Smith, M.D., Medicine and Materia Medica; H. C. Cameron, M.D., Clinical Surgery; James Morton, M.D., Clinical Surgery; William MacEwen, M.D., Medical Jurisprudence; Alexander Lindsay, M.D., Chemistry; James Finlayson, M.D., Clinical Medicine; J. D. Maclaren, M.D., Clinical Medicine; R. D. Tannahill, M.D., Midwifery; Mr. H. E. Clark, Anatomy. *Examiners in Arts:* J. B. Russell, M.D.; John Pirie, M.D. *Secretary and Librarian:* Alexander Duncan, B.A.

THE SOCIAL SCIENCE CONGRESS AT ABERDEEN.

In the "Health Section" of the Social Science Congress, the proceedings of which were last week brought to a termination at Aberdeen, one of the special questions set down for discussion was "The present state of house-accommodation in rural districts, and can its evils be remedied?" Dr. Haviland, medical officer of health for one of the Northamptonshire districts, opened the proceedings, but his remarks were objected to, as applying to England and not to Scotland. Dr. Stevenson Macadam, of Edinburgh, also read a paper in which he dealt with the air-space, water-supply, and drainage that should be provided in cottages. On the following day the latter gentleman contributed another paper on the ventilation of drains and sewers, which was followed by a discussion in which the President (Mr. Edwin Chadwick, C.B.) and others took part. Mr. E. J. Watherston, of London, read a paper on "The Laundry as a Source of Contagion," in which he showed the mischief done by washing being undertaken in dirty and unhealthy places, the remedy suggested being the establishment of proper washing depôts; and Dr. Cornelius B. Fox wound up the proceedings in this department with some remarks "On the Mode of Registering Sickness."

SANITARY ORGANISATION IN IRELAND.

The representations on this subject recently made to the Government by the Irish Colleges of Physicians and Surgeons, the Irish Medical Association, and the Dublin Sanitary Association, have already borne fruit. At the meeting of the Corporation of Dublin held on the 1st inst., a letter was read from Mr. B. Banks, Secretary of the Local Government Board

for Ireland, in reference to representations made to the Chief Secretary for Ireland, as Chairman of the Local Government Board, that in the large towns in Ireland sanitary administration would be better conducted under the superintendence of one medical officer of health. The letter pointed out that the 10th section of the Public Health (Ireland) Act, 1874, authorised the Corporation, as the urban sanitary authority, to make such an appointment as they thought fit. The Corporation were requested to consider whether, in their opinion, the appointment of such an officer was necessary, and to state the conditions as to salary, etc., upon which (if at all) they proposed to appoint him. After consideration the letter was referred to the Public Health Committee.

DEATH FROM OVER-STRAIN IN WALKING.

Our contemporary, the *Globe*, says that the pedestrian feat by T. Hunter, aged thirty-five, of Sunderland, has terminated fatally. On Thursday Hunter commenced walking 160 miles in forty-eight hours, ten miles further than Weston; and on Saturday evening he completed the distance, with thirty-five minutes to spare. On Sunday afternoon, while in bed, he was discovered to be ill, and speedily died from heart disease through over-exertion and excitement. We trust that this sad occurrence may stop, or at least lessen, the rage for pedestrian feats. Medical advice and warnings have been uttered in vain against these and other senseless and dangerous ways of straining to the utmost man's powers of physical endurance. Rapidly fatal disease will speak with a louder and, we hope, more effective voice.

MADEMOISELLE TITIENS.

We deeply regret having to announce the death of Mdlle. Titiens. It has long been known in medical circles that she was suffering from a malady the cure of which is as yet beyond the reach of our science and art, however much we may be able to do in relieving the sufferings caused by it, and in delaying its fatal termination; but we were very loth to believe that we should never again hear the great singer, or again see her on the stage. She died on the morning of Wednesday, the 3rd inst. This is not the place to speak of her glorious gift of song, and her grand powers as an actress; but numbers of us will cherish a most grateful memory of delight and recreation derived by us through the exercise of her talents.

THE CHAIR OF ANATOMY AND PHYSIOLOGY IN THE UNIVERSITY OF GLASGOW.

Dr. Cleland, F.R.S., who has held the Chair of Anatomy in Queen's College, Galway, since the appointment of Dr. Croker King as Inspector of the Local Government Board, Ireland, in 1863, has just been appointed to the Chair of Anatomy and Physiology in the University of Glasgow, *vice* Professor Allen Thomson, resigned. Dr. Cleland enjoys the highest reputation in his special department. He received his education in Edinburgh University, of which he is a graduate in medicine.

LONDON HOSPITAL MEDICAL CLUB.

A large gathering of the members of this Club was present on October 2 at the opening dinner of the session. Dr. Little was in the chair, supported by Dr. Davies, Dr. Rygate, Mr. Ernest Hart, Mr. Hutchinson, etc. Upwards of a hundred members of the Club mustered on this occasion, including past and present members of the staff, as well as old and actual students of the Hospital. A very good dinner preceded an unusually successful and enjoyable evening.

Preservation of Solutions of Morphia.—Solutions of hydrochlorate of morphia cannot be long preserved in a transparent condition, and their turbidity prevents their being then employed for subcutaneous injections. If to one part of morphia a hundredth part of salicylic acid be added, no change will be found to occur in the solution for a month.—*Wien. Med. Zeit.*, No. 32.

A CASE OF HYDROPHOBIA CURED BY CURARE USED SUBCUTANEOUSLY.

The following case we give entirely on its own merits, and without venturing on any judgment as to the exact nature of the disease. It is, however, so important in itself that we feel bound to submit it to the judgment of the profession. The narrator is a Dr. Offenburg, belonging to Wickrath, in Rhenish Prussia, and the patient was a country-girl, aged twenty-four, belonging to a healthy family. She was bitten by a dog, strongly suspected to have hydrophobia, on July 28, 1874. The wound was burnt with caustic soda, but not until three days after the injury; suppuration was then promoted. She was admitted into Münster Hospital on account of the wound, and with a view to its being healed. One evening about 8 p.m., eighty days after the bite, some very characteristic respiratory and swallowing spasms occurred quite suddenly on her attempting to drink. About one hour before this some irritability and a tendency to cry had been observed. In the course of the next two hours the whole train of symptoms of ordinary human hydrophobia came on. The spasms, with difficulty of breathing, were repeated about every two minutes; they were especially severe when any attempt to drink water was made, or even at the sight of the glass. She was excited also by light, and there was hyperæsthesia both of the sense of smell and of the skin. She complained of great thirst, and was greatly depressed by the knowledge that she was hopelessly ill with hydrophobia.

After having tried the injection of morphia and inhalations of chloroform without any benefit, it was decided to try full doses of curare, seeing the good results which had been obtained in tetanus. A subcutaneous injection of two centigrammes of curare (about one-third of a grain) in water was administered. This was three hours after the sudden onset of the disease. A quarter of an hour later, there having been no visible effect, the dose was repeated, after which the condition began slightly to improve—that is, there were longer intervals between the spasms, and the muscular movements became less, and finally ceased.

This result induced to a continued trial of the same treatment. The injections were continued, a somewhat larger dose (three centigrammes) being used. They were timed in such a way that an interval sufficiently long between the doses was allowed for the physiological action of the drug, and for any manifestation of the curare-intoxication to be obtained. Thus, at twelve o'clock the third injection was given, and the intervals of spasm became longer. In an hour another injection was ordered, and the intervals again became longer. At the same time the feeling of anxiety and oppression was less intense. A fifth injection was given at 2 a.m., and a sixth at 2.30. The intervals between the spasms now extended to ten minutes, and the pain in the chest and throat was almost gone. Indeed, there was a peculiar condition of hilarity and talkativeness, instead of the previous anxiety. Then the first appearances of loss of voluntary power just began to show themselves. After one more injection (the seventh) at 3.20 the spasms ceased entirely, and symptoms of a general paralysis of all voluntary movements became quickly apparent. The eyelids could only be moved with difficulty; there was difficulty also in speaking. Breathing continued normal; only twice was there any arrest of respiration, and this was overcome easily by making one or two rhythmical movements with the abdominal parietes; the breathing then continued regular. After these toxic effects had lasted with this intensity about two hours, movements again became freer. Some hours after the last injection of curare, it was seen that the dread of water no longer existed, as the girl could drink freely without any difficulty whatever. The sensitiveness to light also disappeared, and indeed all the symptoms of hydrophobia subsided. Thus within four hours and thirty-five minutes seven injections had been administered, representing altogether nineteen centigrammes of curare. During the course of the next few days, a mixture of symptoms, partly arising from the curare, and partly from the effects of the recent disease, developed. The latter consisted of slight muscular movements and involuntary spasmodic respiratory troubles, which for the most part were produced by the irritation of drinking, or fright, though they occurred spontaneously every now and then. On the

evening of the next day but one, some of these symptoms assumed a serious aspect, and another injection of curare was at once ordered, after the administration of which they disappeared. These symptoms, though of much less intensity, continued to recur until the eighth day, after which they finally disappeared.

The girl was discharged cured on December 3 of the same year, and went into service a few weeks later. She is now in perfect health.

Remarks.—The favourable action of curare in human hydrophobia may be explained as follows:—The chief symptom certainly is the frequent spasms. These spasms, which become more violent after each attack, are the cause of the constantly increasing danger of the disease, and they are finally the cause of death, which results either from exhaustion or from acute asphyxia. Curare, unlike other narcotics, does not act directly on the nerve-centres, but seems to act rather on the peripheral nerves. Its chief action seems to consist in paralysing the motor nerves, and especially (and soonest) those of the voluntary and striped muscles; then, after large doses, those of the involuntary muscles. An animal to which large doses of curare have been administered cannot move about voluntarily, neither can reflex movements be produced. If the motor nerves or even the spinal cord are irritated by a very strong electric current during the action of curare, muscular contractions cannot be produced; the muscles seem to be cut off entirely from the nervous system. The administration of curare in hydrophobia is not new. Niemeyer seems to have been the first to have tried it. He injected in his case five milligrammes, and then one centigramme, at intervals of three or four hours. "This treatment seemed to be of temporary service, and to produce greater relief than very large injections of morphia." Niemeyer strongly urged a further trial of this drug in larger doses in other cases of hydrophobia. No other successful results seem to have been obtained. Gualla has used curare in four cases of hydrophobia, and without success, but it is doubtful whether his doses were large enough. Theoretical arguments, no less than the above case, seem to indicate that the paralysing effect of curare is necessary to secure success. This case also proves that life may be sustained in spite of general muscular paralysis, the chief effort being, of course, to keep up respiration by artificial means. There is less danger of cardiac paralysis. It is a misfortune that a definite dose of curare cannot be indicated, the doses variously allowed by authors ranging from one milligramme to fifteen centigrammes. The difference depends, probably, on the quality of the drug. Another explanation, however, may be given. The action of curare depends chiefly on the excitability of the nervous system. The greater, then, the excitation and the excitability, and the greater the psychical exaltation, the more violent and intense will be the spasms, and the greater, therefore, must be the amount of the curare to hold these spasms in check. Thus, not only in different cases, but also at different periods in the course of the same case, entirely different doses of the same preparation will be indicated. A dose of curare such as in a healthy individual with a normal nervous system would produce decided effects on the motor powers, would produce scarcely any effect whatever on one who is the subject of hydrophobia. The knowledge of this circumstance is of great importance, and we may commence at once with larger doses than we should probably otherwise employ; yet the difficulties of administering the drug are only partially overcome, especially as we have to administer it until we get paralysing effects. Obviously the safest way, then, to administer curare is to give small doses, and to repeat them at short intervals until the effects we desire are brought about; and as a subcutaneously injected dose is absorbed and commences to act in a few minutes, and further, as (according to Demme) the action of a dose of curare only lasts from four to five minutes, so then we may most surely and safely obtain the effects of curare by oft-repeated small injections. Thus, if an injection be practised every half hour—a period of time which largely suffices in order to get the action, and the whole action, of an injected dose of curare—we shall be able within four or five hours to make eight to ten injections. In using curare in this manner, we not only secure its physiological action, but also guard ourselves against any sudden and too energetic manifestation of its toxic qualities. The action of small doses is proportionate both in intensity and duration, and so soon as any dangerous symptoms show themselves we should withhold its further administration, and take precautions suitable to the occasion, as in the case just given. It is of importance to commence this treatment early on in the disease. If the spasms are still slight, very small doses will suffice; if they have become more intense, a corresponding dosage will be indicated. It must be remembered, however, that any possible toxic effect will also be proportionate to the dosage. Nor must it be forgotten that the administration of such a remedy itself produces spasms; the irritation of the injection-puncture may sometimes be so great that the patients will seriously dread it. The various precautions to take, then, and the dosage, will depend on the individual case, and must be left to the discretion of the surgeon in charge.

FROM ABROAD.

Professor Broca on Cerebral Thermometry.

We have already published a short notice of Prof. Broca's paper on this subject, but we believe that our readers will be pleased to see it in fuller detail as it has appeared in the *Révue Scientifique* (September 15):—

Prof. Broca closed the session of the French Association at Havre by a very remarkable communication on cerebral thermometry, and the part which it may play in the diagnosis of diseases of the encephalon. To obtain the temperatures he employs thermometers one side of the bulb of which is applied against the cranium, while the other is supported in a kind of pocket covered with layers of wadding, so that the external temperature may not influence the thermometer. In general, he employs six thermometers placed side by side, forming a kind of crown around the head. The temperature is thus taken at six different points, two of each being symmetrical. The two anterior are placed directly behind the external orbital apophysis; the two middle ones above the ear in the temporal region; and the two posterior in the occipital region. For brevity sake, the three thermometers on the left side are designated F, T, O, and those of the right side F′, T′, O′. When the figures derived from the six are added and divided by 6, the mean temperature is obtained; but as each thermometer indicates the temperature of the point to which it is applied, its figure may be compared with those of the other thermometers. It is this comparison alone which can furnish important indications.

M. Broca's researches on this subject were commenced about 1865; but it is especially since 1873 that he has applied them to the diagnosis of cerebral affections. In order to obtain a fixed basis it was first necessary to ascertain the normal temperature of different regions of the brain. To obtain this he had recourse to those of the students in his service who were of about the same age and intellectual development, so as to conduct his experiments under conditions as identical as possible. He desired to obtain the mean temperature of the brain, the temperature of the right compared with the left hemisphere, and the temperature of the frontal, temporal, and occipital lobes. An objection at once arose. The thermometer in these different regions is separated from the brain by very different thicknesses. Thus, F and F′, situated at the anterior part of the temporal fossa, are only separated by a thin muscular layer and by the bone, the laminæ of which are inconsiderable. T and T′ have no separating muscle, and bone only of very slight thickness, but the hair (which is pushed away as much as possible) is a bad conductor. O and O′ are also covered with hair, and the occipital is of considerable thickness. But still, these causes of error are too slight to explain the notable differences of temperature observed in the different regions.

The observations were made on twelve students, in as nearly the same physiological conditions as possible, and the thermometer was always left *in situ* for twenty minutes. The maximum temperature of the brain was found to be 34·85° C. and the minimum 32·80°; so that the mean temperature would be 33·82°. But if the left thermometers, F, T, O, be compared with the right, F′, T′, O′, it is constantly found that the temperature of the left side is sensibly higher than that of the right. Thus, while the mean temperature on the right side is but 33·90°, that of the left is a little more than 34°. There is, therefore, in the normal condition a somewhat higher (about one-tenth of a degree) temperature on the left side. But, strange to say, this inequality exists only in a state of rest; when the brain is worked, an equilibrium between the two hemispheres is established, the temperature being alike in both. Must we not admit with Prof. Broca that the left hemisphere is better

irrigated, receiving a larger quantity of blood; but that when the brain works, as the right hemisphere, less prepared, and *plus malhabile*, has to make great effort, the arrival of blood becomes more considerable on that side, and the equilibrium tends to establish itself between the two hemispheres.

Pursuing the investigation, Prof. Broca, comparing the different lobes of the same hemisphere, found that the temperature of O was 33·92°, of T 33·72°, and of F 35·28°. These figures exhibit to what an extent the functional activity of the frontal lobe surpasses that of the occipital and temporal lobes. These results are obtainable when the brain is in repose; but the figures are no longer the same when the organ is in a state of activity. It was not an easy matter to give to the brains of the different subjects experimented upon work which was identical and not more difficult for one than another. Prof. Broca resorted to reading as equally familiar to students of medicine. The result was, that while the temperature in a state of repose was 33·92°, after reading aloud for ten minutes it attained 34·23°—a difference, therefore, of nearly half a degree in favour of the brain at work. Another result, already indicated, was obtained, viz., the equilibrium between the right and left hemisphere. While, in order to pass from the state of repose to that of activity, the temperature on the left side was raised by twenty-two hundredths, on the right it was raised by thirty-four hundredths.

Prof. Broca's clinical researches are not less important, and he is enabled by thermometry to furnish a certain sign of cerebral embolism, and to determine the part of the brain deprived of sanguineous irrigation. Long since he demonstrated that in embolism of the limbs curious phenomena as regards temperature may be observed. As might be expected *à priori*, he showed that the general temperature of the limb was lowered; but, at the very level of the point where the vascular obliteration had taken place, there was an increase of temperature. It was sought, in the case of ligature, to explain this paradoxical condition by the constriction of the nerves which surrounded the artery; but such an explanation is of no worth in cases in which the obliteration is spontaneous, as in embolon, the nerves surrounding the artery being in nowise injured by the clot. Prof. Broca explains this elevation of temperature at the level of the embolon by the collateral circulation which becomes established. The blood not being able to pass by the deeper vessels penetrates into the superficial ones, and dilates them, and the peripheric circulation becoming more active, the temperature is raised. *The maximum of temperature in the limbs will therefore be found opposite the embolon.* In the encephalon nothing of this kind can take place, because the vessels of the collateral circulation are not sufficiently abundant. When a cerebral embolon occurs, seven times out of ten the clot occupies the left sylvian (middle cerebral artery), and obliterates it entirely or only one of its trunks. What ought to take place theoretically in this case? The blood no longer penetrates into the territory of the sylvian, and the temperature of the corresponding thermometer ought to fall; but the irrigation becoming more active in the frontal and the occipital lobes, where the compensatory afflux of blood takes place, so the temperature ought to rise in the occipital and frontal thermometers. Prof. Broca produces two cases in illustration of these facts. The first of these related to a rheumatic woman, who was suddenly seized with hemiplegia and loss of speech, and on applying the thermometer the following temperatures were observed:—Left side: frontal lobe, 35·2°; temporal lobe, 34·3°; occipital lobe, 35·6°. Right side: frontal lobe, 34·8°; temporal lobe, 34·8°; occipital lobe, 32·9°. A diminution of temperature is thus observed, and most decidedly at the left temporal lobe, the blood of which comes from the sylvian. It will be seen that the temperature of the corresponding lobe is higher on the right, although this is contrary to what takes place in the normal state. Moreover, the temperature of the frontal lobe and of the occipital lobe, especially the latter, is very superior to that which is generally obtained. Theory and clinical observation are in this case in complete agreement, and we must admit that opposite the embolon a diminution of temperature takes place. In the same way the second case also shows that the left temporal exhibits a lower temperature than the right, and that the temperature of the left frontal and occipital is sensibly higher than in the normal condition.

American Diplomas Abroad.

Under this heading the *New York Medical Record* (August 4) has an article which we reproduce, believing the reproach it contains has in some measure a just foundation:—

"It would appear that our English cousins are never to learn what constitutes a true medical diploma in this country. The name 'American diploma' is so constantly associated in their minds with the bogus certificates which are sold by *quasi* institutions here, that it is difficult for them to understand that we have any other legal guarantee for medical education. The facts of this abominable traffic have been brought to the notice of the profession across the water time and time again, and it should be pretty generally understood that the quacks who settle in London, and who claim to be 'American' physicians, are no more recognised here than they are there. The profession here has done its best to check the bogus diploma trade, and to a certain extent it has succeeded. It should not be held accountable for what it cannot control; and further, it is hardly fair to class what are really well-educated medical men here with a class whom even our English brethren acknowledge are transparent frauds. Every little while a new case comes into the London courts under the sensation caption, 'Another American Physician in Trouble,' and we read the account to find that a 'Dr.' Hamilton or 'Dr.' Jones has been guilty of unlawful conduct in assuming a spurious title, etc., etc.; and then, in the course of the comments upon the value of American diplomas, and the laxity of requirements for a medical degree, the usual absurd questions are asked if there be such a recognised medical school in the United States as the Metropolitan Medical College, the School of Medicine of New York, the Medical University of Philadelphia, *et id omne genus*. We protest that we have had enough of this, and think it about time that our critics should inform themselves of the true state of medical affairs in this country before indulging in further remarks."

REVIEWS.

On Curvatures of the Spine: their Causes and Treatment. By Richard Barwell, F.R.C.S., Surgeon to Charing-cross Hospital. Third edition. London: Macmillan and Co. 1877. Pp. 238.

Mr. Barwell, in the preface to this, his third edition, affirms that "a large number of deformities depend on muscular conditions; their cure, therefore, is better and more perfectly effected by causing the muscles to act aright than by preventing their acting at all." Few surgeons will be disposed to disagree with this dictum, as far as it goes; but it very imperfectly describes what is needful in a large proportion of cases of spine disease; for it is well known that the muscular conditions, even when they are the primary cause of curvature, do not long remain, if they *ever* constitute, the only pathological changes. Indeed, deformities (so-called) could not be brought about were it not for certain alterations in the bony structures which result from unnatural muscular action. Thus, then, something more is required than simply "causing the muscles to act aright," and unless this "something" is properly recognised and applied, there are many cases where it would be better for the muscles not to act at all. This principle is recognised by the majority of surgeons, and tenotomy and myotomy are the results of this doctrine. Dr. Sayre has well laid down, during his recent and frequent demonstrations in this country, that, when muscles and tendons are simply contracted, stretching often suffices to overcome it; but when there is pathological shortening, then any attempt to stretch acts as so much additional irritation, and leads to a result which is diametrically opposed to what is desired. This, by the way, is no new doctrine, though, even now, there are a few surgeons who seem to disregard it.

The work before us is practically a re-issue of the last edition; certainly there are a few alterations, but they are rather in manner than in matter. The most noteworthy addition to the book is Chapter x., "On Angular Curvature of the Spine, and its Treatment by Plaster of Paris." This is an account of the new method of treating spine disease which was devised by Dr. Louis Sayre, of New York, and it professes to be "a fuller narrative of his procedure than is contained in his work on 'Orthopædic Surgery.'" Mr. Barwell, though his experience of this new method extends "only over a few months," ventures to say of it, "This plan offers the one desideratum so long sought—a means of enabling persons suffering from spinal disease to sit up instead of lying in bed; to take a

healthy amount of exercise in the open air, instead of being dragged about in a wheel-couch, and to get well with as little, instead of with as much, deformity as possible." Mr. Barwell says he has made "a few minor modifications in the management."

Our own experience quite confirms that of Mr. Barwell, and we look with confidence for greater and more substantial successes in the treatment of spine disease as the result of Sayre's method than of any other hitherto proposed.

GENERAL CORRESPONDENCE.

THE TREATMENT OF SPINA BIFIDA.

LETTER FROM DR. J. W. ROSEBRUGH.

[To the Editor of the Medical Times and Gazette.]

SIR,—In your journal of July 28 there is a review entitled "The Treatment of Spina Bifida by a New Method," by James Morton, M.D., Glasgow. I have been expecting some writer on your side of the water would call in question Dr. Morton's claim to priority as the originator of what you are pleased to designate his "new method." The concluding paragraph of your review is as follows:—"The book is very suggestive, and we hope the success which Dr. Morton has had may induce others to try his 'new method,' for the invention of which Dr. Morton deserves no little credit, the treatment of spina bifida having hitherto been a very thankless task."

In March last year the *Canada Lancet* reproduced a part of an article concerning this "new method," which did not mention the name of the author. Upon inquiry, I was informed that the writer was Professor Watson, of Glasgow, and upon this information I addressed a note to the editor, which he kindly published.

If Dr. Morton has been pursuing this treatment further than any previous investigator, and has given the profession the result of his experience, we all must join in returning him our thanks; but, at the same time, it is to be presumed he will not wish to take the credit of originating the plan of treatment, which had been successfully practised and recommended in the medical journals several years previously.

Inclosed is a copy of the note published last year by the *Canada Lancet* anent this question, and I trust you will be kind enough to give it a place in your journal, in order that we may ascertain how far Dr. Morton is entitled to credit as the originator of this procedure. I am, &c.,

Hamilton, Canada, Sept. 7. J. W. ROSEBRUGH, M.D.

N.B.—*A Case of Spina Bifida.*—At the Congress of German Surgeons, held in Berlin in April last, Professor Langenbeck presented a boy, *twelve years of age*, who, when an infant, presented a spina bifida tumour in the lower part of the back. The tumour, which was about as large as the fist, was treated by puncture and the injection of iodine. At the present time the only mark of the affection is a small cicatricial depression; the bones have developed, and now close the spinal canal completely. J. W. R.

THE PENGE CASE.

[To the Editor of the Medical Times and Gazette.]

SIR,—Doubtless the Penge prisoners deserve to be hanged, but it seems to me that innocent persons would be in danger of suffering the same fate on similar evidence. The leading thread throughout the whole history of the unfortunate Mrs. Staunton—from the time of Mrs. Butterfield's attempt to make her daughter a lunatic, down to the post-mortem examination—is brain disease. Is it conceivable that a woman with a healthy brain would allow herself to be shut up and slowly starved, without the means of ordinary decency, and with her child by her side undergoing the same fate? Would she not go and take food for herself, or would she not find means of escaping, or of revealing her condition to the tradespeople who came to the house? That over-trusted witness, Clara Brown, might have been asked further details about the starvation and confinement, but was not.

In these days of full and accurate newspaper reports it is surely competent for any medical person to form an opinion on a case without having been in court during the trial; and the judge's refusal to admit such independent testimony had an appearance of great harshness, more especially as a strong suspicion of the prisoners' guilt seems to have existed in the mind of the learned judge from the first.

That there was gross and possibly criminal neglect is clear; but the evidence of imprisonment and starvation seems to be insufficient; whilst the brain disease, of which there can be no doubt, furnishes a clue to the case from beginning to end.

I am, &c., EMERITUS.

MANCHESTER WORTHIES.

[To the Editor of the Medical Times and Gazette.]

SIR,—I find that I have wrongfully accused the *Medical Times and Gazette* of substituting the name Ward for Wood, in the report of Dr. Priestley's address at Manchester, so I humbly beg to withdraw my accusation, and to thank Dr. Lloyd Roberts for telling me of one more Manchester worthy—Mr. Ward, of whom I knew nothing. I am, &c., R. D.

MEDICAL NEWS.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, September 27:—

Boreham, Frank Squire, Lowestoft.
Lyddon, Richard, Folkestone.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Clark, Thomas Furze, King's College.
Sturge, Henry Havelock, Guy's Hospital.
Whitworth, William, Guy's Hospital.

At the Preliminary Examination in Arts, held at the Hall of the Society on September 28 and 29, the number of candidates that presented themselves was 106, of whom two retired, thirty-four were rejected, and the following seventy passed and received certificates of proficiency in general education, viz.—in the First Class, in order of merit:—

1. Charles S. Evans; 2. R. D. Brinton and S. C. Townsend; 4. T. W. Bullock, H. Fickling, E. O. Newland, Reginald Rygate, and W. G. Tyrrell; 9. L. M. Anderson, H. Appleton, Edith Croft, J. Dowson, W. E. Driffield, Arabella M. Kenealy, J. F. Lea, J. Sinclair, and Ernest L. Wright.

In the Second Class, in alphabetical order, viz.:—

F. T. Bennett, T. Christie, J. H. Crouch, G. H. Darwin, D. J. Dixon, J. B. Dorrian, S. Ellis, G. A. C. Fletcher, E. Fraser, J. C. Garman, Mary Ann Handson, J. Hepburn, M. Henry, J. Hern, J. Hick, G. F. Hobson, W. Holdsworth, W. Jeffrey, E. J. Johnson, F. R. Johnston, C. H. Jones, J. W. Jones, R. Lee-Huzzey, A. W. Low, J. S. B. McBurney, H. M. Massey, H. R. Mead, J. D. Menzies, J. Miller, A. M. Moore, J. S. Murr, E. M. E. Munns, W. Murch, A. E. Nelham, F. Oldfield, F. H. Pike, G. F. Rhodes, H. E. Richardson, F. S. Rix, J. Royston, Adela H. Ryate, J. R. Rygate, D. G. Sandeman, H. L. Smith, H. Stott, F. M. Swallow, E. C. Thomas, W. R. Tytheridge, S. Whitten, R. H. Wilkinson, W. Wilson, T. C. Winn, and Richard S. Wright.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

LAMB, JOSEPH, M.R.C.S., L.S.A.—Medical Officer to the Post-office, Birkenhead.

BIRTHS.

CARR.—On September 30, at 6, Lee-terrace, Lee, S.E., the wife of W. Ward Carr, M.D., of a daughter.

COLEMAN.—On September 30, at Holly Lodge, Streatham, the wife of Alfred Coleman, F.R.C.S., of a daughter.

DE LA COUR.—On September 27, at 282, Camden-road, N.W., the wife of G. F. De la Cour, M.D., of a son.

DUKE.—On September 30, at Fernside, Sydenham-hill, the wife of Allen A. Duke, M.D., of twins—boy and girl.

GREENHOW.—On October 1, at Lillesworth, Esher, the wife of H. M. Greenhow, F.R.C.S., Surgeon-Major Bengal Army (retired), of a daughter.

HURLSTONE.—On September 29, at Richmond-gardens, West Brompton, the wife of M. de G. Hurlstone, M.R.C.S., of a daughter.

NICHOLSON.—On September 29, at 89, Camden-road, N.W., the wife of Emilius Rowley Nicholson, M.D., of a son.

RAVEN.—On September 28, at Barfield House, Broadstairs, the wife of Thos. F. Raven, L.R.C.P., of a son.

STOCKER.—On September 26, at Sanghall, near Chester, the wife of J. R. Stocker, M.B. Lond., M.R.C.P. Lond., of a son.

TEMPLE.—On August 14, at Gulmarg, Cashmere, the wife of Surgeon-Major Wm. Temple, M.B., V.C., A.M.D., of twin sons.

TUCK.—On October 2, at Seaford, Sussex, the wife of Buckmaster Joseph Tuck, M.R.C.S., of a daughter.

VISE.—On September 17, at Holbeach, the wife of Ambrose B. Vise, M.R.C.S. Eng., of a son.

MARRIAGES.

CAMPBELL—MILTON.—On September 29, at All Saints, Stoke Newington, William Campbell, L.R.C.S. Edin., of Wellington-square, Hastings, to Harriet M. A., only daughter of the late John Milton, of Doctors' Commons.

NICHOLLS—CROMPTON.—On September 6, at St. George's Church, Dominica, West Indies, Henry Alfred Alford Nicholls, M.D., to Marion, third surviving daughter of the late John Corney Crompton, Esq.

SMITH—CAMERON.—On October 2, at St. Jude's, Southsea, Henry R. Smith, L.R.C.P. Edin., of Dover House, Southsea, to Arabella Mary, only daughter of the late Major Donald Mint Cameron, 3rd Buffs and 94th Regiment.

SPRING—INGLIS.—On September 26, at St. Helier's, Jersey, Frederick William Mackenzie Spring, Captain R.A., to Ellen Harriet, elder daughter of Surgeon-General J. Gordon Inglis, C.B.

STURGE—BOVELL.—On September 27, at St. Saviour's Church, Paddington, William Allen Sturge, M.D., of 9, Wimpole-street, Cavendish-square, eldest son of William Sturge, of Tyndall's-park, Clifton, to Emily Bovell, M.D., daughter of the late John Roach Bovell, of Demerara.

WINTLE—RUMBLE.—On September 26, at St. Leonards, Streatham, Henry Wintle, M.B., of 12, Park-road-villas, Forest-hill, to Amy, second surviving daughter of Frederick Rumble, Esq., C.E., of Telford House, Balham.

DEATHS.

BOW, JOHN CAMPBELL, M.D., Deputy Surgeon-General, Meerut Circle, at 19, Queen's-crescent, Edinburgh, on September 29.

CLEAVER, LOUISA, wife of Henry A. Cleaver, M.R.C.S. Eng., at North-end, Croydon, on October 1, aged 62.

DICKINSON, WILLIAM, M.R.C.S. Eng., at 12, St. Leonard's-terrace, Chelsea, on September 29, in his 82nd year.

GILL, WILLIAM PERCY, only son of William Gill, L.R.C.P. Edin., at Somerset House, St. Philip's-road, Sheffield, on September 28, in his 7th year.

GRANT, MARY ANNE, wife of Surgeon-General J. M. Grant, M.D., at Park-street, London, on September 25, aged 59.

LUPTON, ALFRED WILLIAM, M.B., at Patani, Singapore, on September 18, 1876, aged 32.

PAXON, ESTHER AUGUSTA, wife of George Kirkham Paxon, M.R.C.S. Eng., at Dorking, on September 28, aged 57.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BERKHEMPSTEAD UNION.—Herts and Bucks District of Berkhempstead. Medical Officer. Candidates must be duly registered practitioners, and hold the certificate of proficiency in vaccination required by the Local Government Board. Applications, with recent testimonials, to Samuel Statton, Clerk, Hemel Hempstead, on or before October 15.

CASTLE WARD UNION, NORTHUMBERLAND.—Medical Officer. Applications, accompanied by testimonials of recent date, and evidence of qualifications and registration under the Medical Acts, to Thos. Arkle, Clerk to the Guardians, Highlaws, Morpeth, on or before October 13.

ROTHERHAM HOSPITAL.—Resident House-Surgeon. Candidates must be M.R.C.S. Eng., and Licentiates of the Society of Apothecaries or of the Royal College of Physicians, London, registered, and unmarried. Applications, with testimonials as to professional ability and moral character, to the Honorary Secretary, on or before October 15.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

APPOINTMENTS.

Cardigan Union.—William Davis, M.R.C.S. and L.S.A. Lond., to the First District.

Carmarthen Union.—Thomas Hope Lewis, M.R.C.S. Eng., L.S.A. Lond., to the Carmarthen District and the Workhouse.

Cheadle Union.—Joseph Fitzgerald, L.R.C.S. Ire., L.K.& Q.C.P. Ire., and L.M., to the Ipstones District.

Chesterfield.—Alfred H. Allen, F.C.S., as Analyst for the Borough; salary by fees.

Drayton Union.—John Lyon, M.B. and M.C. Aber., to the Hodnet District.

Worksop Union.—Frederick Joseph Elsom, M.R.C.S. Eng., L.R.C.P. Edin., to the Cuckney District.

RESIGNATIONS.

Berkhempstead Union.—Mr. Thomas C. Lawson has resigned the Berkhempstead District; area 9835; population 6342; salary £65 per annum.

Brentford Union.—Mr. B. S. White has resigned the Ninth District; area 2240; population 8070; salary £90 per annum.

Manchester Township.—Mr. Walter Needham has resigned the office Assistant Medical Officer at the Workhouse Hospital; salary £190 annum.

Runcorn Union.—Mr. W. Carruthers has resigned the Halton Distr area 9807; population 3442; salary £40 per annum.

West Bromwich Union.—Mr. Benjamin S. Browne has resigned the W Bromwich South District; salary £85 per annum.

MORTALITY OF CHILDREN IN BERLIN.—This at present time has reached so fearful a height that it surpas that of all other large towns of Europe. The Berlin Pub Health Society has appointed a committee for the purpose investigating the calamity, its attention being especia directed to the connexion of this with the mode of feedi children.—*Wien. Med. Zeit.*, No. 32.

LOTION IN INTERTRIGO.—M. Delioux recommen from two to four parts of borate of soda to one hund of distilled water. After using the lotion a powder is to applied, consisting of subnitrate of bismuth two parts, star fourteen parts. If the oozing is considerable, the quantity bismuth may be increased, or oxide of zinc may be substitut for it. M. Delioux states that he has also employed this tre ment with success in some cases of acute eczema with mo or less abundant oozing.—*Union Méd.*, September 27.

THE RADICAL CURE OF BRONCHOCELE.—Prof. Oll described at the Havre meeting his mode of radical treatm of cysts of the thyroid. Bonnet used to make repeated a plications of Canquoin's paste, but this constituted a ve prolonged and horribly painful mode of procedure, a Prof. Ollier has modified it in the following manner:—I carefully dissects layer by layer until he reaches the walls the cyst, dissecting away the sterno-mastoid and fixing it the skin, when he finds it, as is often the case, spread over t tumour. Having thus exposed the wall of the cyst, he appl Canquoin's paste freely to it. The wall sphacelates and ope spontaneously without producing any hæmorrhage, and then passes a drainage-tube into the interior of the cyst, a washes it out frequently, in order to prevent the transform tion of organic matters and the septicæmia which mig result. By this procedure Prof. Ollier has obtained so very excellent results, and has only had one fatal issue.—*Ga des Hôp.*, September 25.

ENUCLEATION OF THE EYE.—Dr. Warlomont sur up a paper on this subject read at the Congress of Geneva follows:—1. The sympathetic accidents consequent on injuri of the eye are primary or secondary, the former occurri soon after the injury, and the latter after a more or less lo period—of months or years—after the patient has "doubl the Cape" of the early accidents consequent on the traumat action. 2. When an eye is *destroyed* by a traumatic cau and all hope is lost of the persistence or return of usef vision, an immense service is rendered to the patient by r moving the eye then and there by enucleation under anæsthetic He is thus spared the immediate consequences of the tra matism, as ophthalmitis, etc., and is restored at once, so say, to his occupation in an excellent condition for short receiving an artificial eye, which is then worn without inco venience. He is certainly preserved from consecutive acc dents. When there is reason to suppose that the wound globe contains a foreign body, the indication for enucleatio is still more pressing. 3. When an eye, lost from any cau (traumatic or other), or the stump which represents it, becom the seat of continuous or intermittent sensibility, or the sub ject of acute or chronic inflammation, or the asylum of foreign body, or of a crystalline that has become cretaceous- enucleation is indicated as a preventive means, even when a sympathetic manifestation is absent. 4. Enucleation of a lo eye, even if completely painless, is still indicated if, as possible even under these conditions, the second eye becom the seat of symptoms attributable to sympathy.—*Gazet Hebd.*, September 28.

ANÆSTHETICS DURING LABOUR.—M. Piachaud, Geneva, read a report at the Congress held in that city, which he strongly advocated the use of chloroform in natur labour. The precept is generally delivered, he observed, administer it only during the period of expulsion; but i certain cases of extreme nervousness (*neurosité*) and agitatio it is advantageous not to wait for complete dilatation befo employing it. It is also indicated when labour is suspende or retarded by suffering induced by anterior diseases, or whic may arise during its course; and also in cases in whic

ular or partial contractions occasion internal and almost inuous suffering without furthering the progress of the ur. Chloroform, he adds, should never be given without consent of the woman and her family. Prof. Courty, of tpellier, observed that the French school had shown too t timidity in the obstetrical employment of chloroform, thus left lying-in women exposed to numerous accidents. Dubois rejected chloroform in general, but admitted its loyment when the pains were so abnormal as to call for r sedative means or surgical intervention. Since that the question has not advanced a step in France. Prof. ty feels himself authorised by the results of his own tice to strongly advise the use of chloroform in labour. not indicated in cases that are quite normal, but only n the pains are too severe and irregular, or when the nts demand its employment. A semi-narcosis suffices to er the pains quite supportable. It diminishes perineal tance, so that all the force of the uterus is usefully loyed, and the duration of labour is diminished by nearly half. Uterine inertia is of much rarer occurrence—so chloroform has the advantage of chloral and ergot united. *zette Hebd.*, September 28.

OMPOSITION AND QUALITY OF THE METROPOLITAN ERS IN SEPTEMBER.—The following are the returns (by Dr. mott Tidy) of the Society of Medical Officers of Health:—

nes of Water ompanies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, etc.	Nitrogen: As Nitrates, etc.	Ammonia.		Hardness. (Clarke's Scale).	
				Saline.	Organic.	Before Boiling.	After Boiling.
ames Water ompanies.	Grs.	Grs.	Grs.	Grs.	Grs.	Degs.	Degs.
d Junction .	20·80	0·000	0·090	0·001	0·009	13·7	3·3
Middlesex .	17·30	0·048	0·111	0·000	0·009	12·6	3·0
wark and uxhall . .	19·70	0·110	0·118	0·002	0·010	13·2	3·3
ea . .	21·00	0·092	0·105	0·001	0·009	14·3	3·3
eth . .	20·70	0·079	0·130	0·001	0·009	13·7	3·0
er Companies.							
. . .	26·60	0·010	0·268	0·000	0·002	19·4	5·1
River . .	16·10	0·017	0·090	0·000	0·006	12·6	3·3
London .	20·00	0·041	0·099	0·000	0·007	12·6	3·0

e.—The amount of oxygen required to oxidise the organic matter, es, etc., is determined by a standard solution of permanganate of h acting for three hours; and in the case of the metropolitan waters uantity of organic matter is about eight times the amount of oxygen red by it.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

ffenburg.—Please send copy of thesis referred to.

rer.—We hope to publish next week the list of the successful candidates the Preliminary Examination of the Royal College of Surgeons.

. L., Pilstlin, Bavaria.—The lectures in question derive their name m the circumstance that there was founded at the College of Surgeons, honour of John Hunter and in perpetuation of his memory, a Hunterian" Professorship of Pathology and Surgery. This profesship is generally held for two years by the same person, who delivers h year a course of six lectures upon some surgical subject selected himself. No translation of the lectures could be published without permission of the author; but this would probably not be difficult obtain.

. S.—Under the head of "Secret Service" money, in the time of orge I., between the dates March 25, 1721, and March 25, 1725, we ice the following instructive items, in a list of "gifts, rewards, nties, and extraordinaries, of divers natures":—"To Dr. James uglas for his performance and publishing his anatomical observans, £500." (Douglas was a London practitioner of some fame, and n in Scotland in 1675.) "To Dr. Thomas Renton, for making known art, skill, and mystery in curing of ruptures, etc., £5000." "To Charles itland, surgeon, for inoculating Prince Frederick for small-pox, 00." "To Gideon Harvey, Doctor in Physic, Physician at the Tower, visiting the State prisoners, £300." (Harvey was appointed to the wer about 1689, and is said to have been physician there for fifty years).

Lancashire.—Professor Huxley's remark in regard to the proposal to a university charter for Owens College, was—"A university is, in judgment, a corporation which has charge of the interests of owledge as such, and the business of which is to represent knowledge the requirements of its members, to increase knowledge by their investigations, to diffuse knowledge by their teaching."

Cyrus.—Dutchmen, though great drinkers, are not drunkards. Much beyond the point where the average Englishman begins to feel decidedly the worse for liquor, the Dutchman is only imbibing medicinally. If he took the pledge, he would have to change his habits and abandon his favourite enjoyments.

P. H. P. S.—The "Association of German Natural Philosophers and Physicians" is the oldest of its kind. It was founded in 1822, and became the predecessor, therefore, by several years of the British Association, a similar institution.

L. C. P.—Voltaire scornfully called the air "a blue and white heap of exhalations." Of Nature he observed, "She is most wrongly named, for she is in reality all art, and not nature at all."

Students.—Dr. Paris's maxim to his patients was—that they might eat anything they liked, provided they were *regular* in their hours of feeding.

A Pupil.—For Italian medical research the *Gazeta Medica di Roma* is a well-known and excellent journal.

A Sanitary Inspector.—The total amount of accommodation secured by the London School Board for sites of schools up to March 24 last was for 172,914 children.

Max.—1. No. 2. Pliny relates that the coffin in use among the Romans was generally of stone. In some cases it was made of a certain stone from a district in Troas, which had, or was believed to have, the peculiar faculty of destroying all the body, the teeth excepted, in forty days. Hence the name "sarcophagus" (see Plin. H. N. ii. 98, xxxvi. 27). This stone was probably a species of limestone.

Paterfamilias.—Service in the Indian Medical Department may be said to have two branches—as an army official in medical charge of a native regiment and as a civil official in medical charge of first-class civil stations. These lead up to the higher appointments of Inspector-General and Deputy Inspector-General. Besides these regular appointments there are many other special appointments, such as Principalships of Medical Colleges, Superintendentships of Gaols, Lunatic Asylums, etc. Except in the case of officers holding special staff appointments, private practice is not forbidden, and in many civil stations this adds very substantially to the income of the doctor.

Prison Science.—A most useful book is "Prisons and Reformatories at Home and Abroad," being the *Transactions of the International Penitentiary Congress*, London, 1872. It is a perfect compendium of the prison systems of every country in Europe, of the United States, and of other nations.

An Old Subscriber.—You will find a record of the circumstance mentioned published exclusively in the *Medical Times*, vol. xviii. There is a complete copy from the commencement in the Library of the College of Surgeons.

L.S.A.—At the Arts Examination, which was brought to a close last week at the Hall, there were some female candidates.

Art Student.—The lectures at the Royal Academy, on Anatomy, are delivered at Burlington House about Christmas. The following distinguished members of our profession have occupied the chair:—The first was Dr. William Hunter, who held the appointment from 1768 until his death in 1783, when he was succeeded by Mr. John Sheldon, who also held it until his death in 1808. Sir Anthony Carlisle, who succeeded him, resigned in 1824, when Mr. Joseph Henry Green received the appointment; he resigned in 1851, and was succeeded by Mr. Richard Partridge; and, after his death, the present distinguished occupant of the chair—Mr. John Marshall—was elected.

Archæologist.—Drs. Akinside, Arbuthnot, and Sydenham were buried in St. James's, Piccadilly; Oliver Goldsmith in the Temple Church; Cheselden at Chelsea; Hunter at St. Martin's-in-the-Fields, afterwards reinterred in Westminster Abbey.

A Provincial Surgeon.—The registration at the College of Surgeons will not terminate until the 15th inst.

Mr. Williams, Islington.—The person named has no right to place "M.D." after his name because he holds the "L.K. & Q.C.P. Ire."; only graduates in medicine of a university can do this.

A Student, St. Bartholomew's.—Sir Trevor Lawrence, M.P., who took the chair at your annual dinner, is the only son of the late Sir William Lawrence. He received his education at St. Bartholomew's, and was admitted a Member of the College of Surgeons in 1853, soon after which he entered her Majesty's Indian Army.

A Lecturer.—The operation for popliteal aneurism was first performed by John Hunter in 1785, and the preparation deposited a few years ago in the Museum of the College of Surgeons.

GERMAN SURGEONS AND THE WAR IN THE EAST.

Nine army surgeons left Berlin on the 28th ult., for Bucharest, to take charge of the great hospital erected in the capital by the Roumanian Government. They have received indefinite leave of absence. The dispute as to whether those gentlemen were ordered, or departed of their own free will to the seat of war, is not yet settled.

River Pollution.

The Mayor reported to the meeting of the Town Council of Dorchester that Mr. Floyer, M.P., had objected to any further outfall of town sewage into the river Frome, and that a Government Inspector was coming down to examine the drainage system of the district.

COMMUNICATIONS have been received from—

Mr. Timothy Holmes, London; Mr. John Chatto, London; Dr. Thos. Barlow, London; Dr. W. R. Macdonald, Ayr; Mr. Francis Mason, London; Mr. B. R. Wheatley, London; Dr. Robert Smith, Sheffield; The Secretary of the Clinical Society of London; Dr. R. Druitt, London; Mr. G. J. S. Causden, Rhyl; Mr. Hensman, London; Mr. John Slatter, Radcliffe Infirmary; S., March; Mr. J. D. Campbell, London; The President of Guy's Hospital, London; Mr. Blyth, London; The Principal of the Veterinary College, London; Dr. Bate, London; Mr. Nunneley, Leeds; Mr. De Watteville, London; Mr. R. B. Carter, London; Dr. J. W. Moore, Dublin; Mr. W. W. Wagstaffe, London; Dr. Meymott Tidy, London; Mr. T. Nelson Hardy, London; Dr. Spencer Cobbold, London; Dr. Banham, Sheffield—Mr. Farrington, Diss; Messrs. Calvert and Co., Manchester; The Registrar of the Apothecaries' Hall, London; Dr. J. Williams, London.

BOOKS AND PAMPHLETS RECEIVED—

Medical Reports for the Half-Year ended March 31, 1877, forwarded by the Surgeons to the Customs at the Treaty Ports in China—Charles Bell Taylor, M.D., Clinical Lectures on Diseases of the Eye: Lecture III., Squint—Cassell's History of India, part 22—Rickman J. Godlee, M.S., F.R.C.S., Atlas of Human Anatomy, part 1.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Cincinnati Clinic—Dairyman—Night and Day—Morningside Mirror—Chicago Medical Journal and Examiner—Home Chronicler—La Province Médicale—Sunday at Home—Leisure Hour—Medical Temperance Journal—Hardwicke's Science Gossip—Gazeta Medica da Bahia—British and Foreign Medico-Chirurgical Review—Guy's Hospital Gazette—Obstetrical Journal of Great Britain and Ireland—Monthly Homœopathic Review—Toronto Sanitary Journal—Veterinarian—Edinburgh Medical Journal—Students' Journal and Hospital Gazette—Archives Générales de Médecine—Union Médicale et Scientifique du Nord-Est—Analyst.

APPOINTMENTS FOR THE WEEK.

October 6. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

8. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

9. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Royal Medical and Chirurgical Society, 8½ p.m. Dr. A. E. Sansom, "On a Case of Noma in which Moving Bodies were observed in the Blood during Life." Mr. Furneaux Jordan, "On Two Peculiar Varieties of Hydrocele of the Cord."

10. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

11. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

12. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.; Guy's, 1½ p.m.

Clinical Society, 8½ p.m. Mr. Bryant, "Cases to illustrate the behaviour of the Carbolised Catgut Ligature upon Human Arteries." Dr. Henry Thompson, "A Case of Hysterical Anæsthesia in a Male." Dr. G. H. Evans, "Some recent Cases of Paracentesis Thoracis." Mr. Lawson (for Dr. Aikman), "A Case of Injury to the Lower Portion of the Spinal Cord, followed by Wasting and Contraction of the Muscles of the Lower Extremities."

VITAL STATISTICS OF LONDON.

Week ending Saturday, September 29, 1877.

BIRTHS.

Births of Boys, 1245; Girls, 1165; Total, 2410.
Average of 10 corresponding years 1867-76, 2162·4.

DEATHS.

	Males.	Females.	T
Deaths during the week	646	591	
Average of the ten years 1867-76	655·5	627·8	
Average corrected to increased population ...	...	...	
Deaths of people aged 80 and upwards ...	...	...	

DEATHS IN SUB-DISTRICTS FROM EPIDEMIC

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.
West	561359	2	3	7	1	1	...	2	...
North	751729	7	5	16	2	4	...	2	...
Central ...	334369	...	1	6	...	2	...	2	...
East	639111	...	4	11	...	4	1	6	1
South	967692	4	3	9	1	7	1	5	2
Total	3254260	13	16	49	4	18	2	17	3

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	30·03
Mean temperature	48·5
Highest point of thermometer	63·7
Lowest point of thermometer	33·3
Mean dew-point temperature	44·4
General direction of wind	N.W., N., &
Whole amount of rain in the week	0·03

BIRTHS and DEATHS Registered and METEOROL during the Week ending Saturday, September 29, 1877, i following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Sept. 29.	Deaths Registered during the week ending Sept. 29.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	In Inches.
London	3533484	46·9	2410	1237	63·7	33·3	48·5	9·17	0·0
Brighton	102264	43·4	75	40	60·4	33·0	49·9	9·94	0·0
Portsmouth ...	127144	28·3	72	43	59·3	43·0	50·2	10·11	0·0
Norwich	84023	11·2	54	36	62·5	40·0	49·3	9·61	0·2
Plymouth	72911	52·3	51	30	62·0	41·5	51·4	10·78	0·0
Bristol	202950	45·6	137	79	64·3	36·8	49·6	9·78	0·0
Wolverhampton ...	73389	21·6	58	38	59·1	35·5	46·9	8·28	0·0
Birmingham ...	377436	44·9	297	161	...	...	...	...	...
Leicester	117461	36·7	92	40	65·5	35·8	49·4	9·66	0·0
Nottingham ...	95025	47·6	52	26	65·6	33·2	47·5	8·61	0·0
Liverpool	527083	101·2	402	251	61·9	45·2	51·6	10·90	0·0
Manchester ...	359213	83·7	273	196	...	...	...	...	...
Salford	141184	27·3	122	70	66·0	37·0	49·6	9·78	0·0
Oldham	89796	19·2	88	35	...	...	...	...	...
Bradford	179315	24·8	138	80	60·3	39·9	47·7	8·72	0·0
Leeds	298189	13·8	215	121	59·0	39·0	48·5	9·17	0·0
Sheffield	282130	14·4	217	68	65·0	35·0	48·2	9·00	0·0
Hull	140002	38·5	119	52	60·0	33·0	46·9	8·28	0·0
Sunderland ...	110382	33·4	71	48	...	...	...	...	...
Newcastle-on-Tyne	142231	26·5	92	54	...	...	...	...	...
Edinburgh	218729	52·2	137	81	63·8	39·0	51·6	10·90	0·0
Glasgow	555933	92·1	413	236	61·2	40·5	52·9	11·61	0·0
Dublin	314666	31·3	232	163	66·9	33·3	51·8	11·01	0·0
Total of 23 Towns in United Kingdm	8144940	38·3	5817	3185	66·9	33·0	49·5	9·72	0·0

At the Royal Observatory, Greenwich, the mean reading of the baro last week was 30·03 in. The lowest reading was 29·74 in. on S morning, and the highest 30·23 in. on Thursday morning.

* The figures for the English and Scottish towns are the nu enumerated in April, 1871, raised to the middle of 1877 by the ad of six years and a quarter's increase, calculated on the rate which vailed between 1861 and 1871. The population of Dublin is tak stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

INTRODUCTION TO A

COURSE OF CLINICAL SURGICAL LECTURES

DELIVERED AT ST. GEORGE'S HOSPITAL.

By TIMOTHY HOLMES, M.A., F.R.C.S. Eng.,
Surgeon to, and Lecturer on Surgery at, St. George's Hospital; Surgeon to the Hospital for Sick Children, etc.

GENTLEMEN,—In appearing before you to commence a course of clinical lectures, I think it desirable on the present occasion to do what I should regard as superfluous generally—viz., to tell you very briefly what objects I propose to myself in these lectures, and how I conceive such courses of lectures are related to the general subject of clinical instruction in surgery. I say that this seems to me necessary on the present occasion especially, since you must have lately seen our whole system of clinical instruction in London spoken of in terms which, if they were susceptible of polite or candid interpretation, were undeniably extremely in want of such an interpretation, for at first sight they read like an absolute, and indeed arrogant, denunciation of the method of surgical instruction pursued in the very schools in which the lecturer had himself received his own surgical tuition. But on that specially personal aspect of the matter I will not waste more words. Rude epithets seem to me much out of place between those who profess to be colleagues in the pursuit of the same science. The accusation of one's brethren is not a graceful occupation, and it derives no added grace from an admixture of self-laudation. I will only say that if our clinical teaching is deficient in reality, it is less our fault than our misfortune. We spend our best thoughts upon it, and our best energies as far as the time at your disposal and at ours allows. We have inherited at this Hospital, and elsewhere in London, the traditions of some of the most famous clinical teachers that the world has as yet seen; and if we have degenerated from our predecessors, it has been in power, not in zeal. But it is possible that I, in company with some other London surgeons, take a different view of the objects, and therefore of the necessary methods, of clinical teaching from those which the critic to whom I allude—Professor Lister—would adopt. If so, a difference in our proceedings is inevitable. I am not prepared, however, to abandon my practice without better ground than has yet been shown for doing so.

What, then, is the chief object of clinical teaching? I reply, to instruct the student in the elements of every-day diagnosis, so to familiarise him with the aspect, and the physical characters, and the symptoms of the commonest diseases, as to give him a good groundwork on which he can start for himself in after-life. Now, this can no more be given by lectures or by demonstrations in a crowded theatre than a knowledge of practical anatomy can. As the student of practical anatomy learns not a tenth part in the lecture-room of what he acquires in the dissecting-room, so the student of clinical surgery acquires not a tenth part so much in clinical lectures as he does in the wards of the hospital. The elements of diagnosis—that familiarity with the cases which will make you to tell a hernia from a hydrocele, for instance, with certainty and rapidity—must be acquired by feeling, touching, and examining carefully for yourselves, and with your own hands and eyes, a sufficient number of patients in the wards and out-patient room. Hence, as it seems to me, the radical vice of the system upheld by Mr. Lister, of having a single professor of clinical surgery—a great luminary who is to drag along in his orbit a galaxy of students, who derive certainly a sort of reflected light from having been his satellites, but who, if I am not much mistaken, do not learn much of the elements of diagnosis in a method of instruction almost exclusively demonstrational, and in which the demonstrations are shared by too many to be of much practical utility. It is, indeed, not very much that can be imparted by demonstration in any circumstances. Still, the two or three students who stand close enough to an operation really to follow its successive steps, or the few who can be admitted to verify for themselves the salient features of a well-marked case, may carry away useful information about it, and obtain hints which they do not afterwards forget. But a man on a back bench, who can hardly see the patient's body, far less verify his symptoms, must content himself (be he ever so attentive and intelligent) with jotting down a few of the precepts of the lecturer—which, after all, he could as easily have looked out in a book. Even in a school so small as this, it appears to me that our four surgeons and two assistant-surgeons are too few, though all are, I believe, zealous in that real clinical teaching which consists in admitting the students who accompany them to ascertain and verify for themselves the salient points in the diagnosis of the most practically important (*i.e.*, the most familiar) cases. I would add to these six the two house-surgeons, whose accident-practice in the early morning is a most important and rich field for the diagnosis of those every-day accidents which you will all of you be expected to be familiar with on the first day that you begin to practise for yourselves. What melancholy, what ludicrous, what disastrous mistakes has not every experienced surgeon seen from a neglect of this primary maxim in clinical instruction!—that the great object of the student during his hospital career should be to acquire a knowledge of the first rudiments of diagnosis. Everybody could tell you of dislocated shoulders and hips left unreduced, of herniæ opened by mistake for abscesses, and iliac and psoas abscesses mistaken for herniæ, and all kinds of disgraceful and criminal errors which a very little rudimentary skill in diagnosis would have made impossible. I am not conjuring up imaginary circumstances. I refer mentally to cases which I have myself seen, and in which, by the culpable negligence or ignorance of the surgeon, mischief was caused, which in many instances inflicted lifelong mutilation on the patient, and in all might have been the ground for legal punishment to the medical practitioner. This diagnostic precision, like all other acquirements, is largely the result of habit. When you come to meet other practitioners in consultation, you will, I think, be ready to admit the fact that many of them hardly ever make a precise diagnosis in cases which admit of any doubt whatever. They have not been trained to do so, and they are glad to take refuge in the haze of some ambiguous expression, instead of definitely stating to themselves the possibilities of the diagnosis, excluding the rest, and fixing upon one as the correct solution. I do not mean to assert that the course of surgery pursued at this or any other hospital is long enough to make the student an accomplished diagnostician; but I say that the elements of diagnosis, and especially the method and habit of forming a diagnosis, can be acquired, and that this acquirement should be the first and main object of every clinical course, and that any hospital system is woefully incomplete which does not make use of the services of every one of the members of its staff in the work of clinical tuition; for even at the smallest schools the number of students is usually larger than can be efficiently instructed, and where it is not so, it is an undoubted benefit to the student to be brought into contact with various minds, and be familiar with various ways of looking at the same class of cases.

Clinical tuition in therapeutics is, to my mind, an inferior object of our hospital system, though I do not deny its very great importance. I say expressly of "our hospital system," because we must never forget how extremely limited the time is, and that all our pupils are at the very commencement of their studies. In foreign countries there may be professors who address audiences composed of expert practitioners; but we, in this city, are speaking to students who know sometimes absolutely nothing, and never more than the mere rudiments, of surgery, and whose period of study is limited to two years. What possibility is there of indoctrinating such an audience in the therapeutic controversies of the day? and what profit in spending time in such an attempt which is already too short for the all-important object I have above stated? There are, indeed, great principles of surgical treatment which are incontestable, following as they do logically from the diagnosis; and there are traditions of each school which may fairly enough be laid down before its students. Nor do I think it is time wasted if the clinical surgeon turns aside sometimes from his main object, as a teacher of diagnosis, to set forth and defend those methods of treatment which he has adopted, or possibly originated. But I hold the therapeutical part of the clinical tuition as being inferior, both in importance and value, to the diagnostic; and in both parts I think it is of the greatest importance that the whole staff of the hospital should co-operate, and that the instruction should take place in the wards of the hospital over the bed of the patient, where the student can realise and verify for himself the points brought under his notice.

If this be so, what is the function of formal courses of lectures like these? They bear, in my view, somewhat the same relation to the surgical instruction as anatomical lectures do to the instruction of the dissecting-room, but are almost more necessary for the completeness of the surgical than those are for the anatomical course. Since there is much in

surgery that can hardly be described in text-books,—we meet in practice with many apt illustrations of disputed or neglected points in diagnosis and therapeutics,—and the surgeon can hardly employ an hour more usefully than in bringing such matters before the larger audience of all the students of the hospital, as well as the smaller class which accompanies him on his visit,—elaborated and completed by reference to other cases in his own experience and that of others, more than the familiar intercourse of the wards will allow. And I need hardly say that, holding the views I do about clinical instruction, I should regard it as a distinct loss to the school if any one of the surgeons alone was appointed to perform this or any other part of it. The students benefit by hearing the various topics which occasion brings up treated by various persons, and the patients benefit by the greater interest which the surgeon naturally feels in his cases when he has to make them the subject of special study. Any hospital in which a single member of the staff is appointed clinical professor appears to me to be in danger of sacrificing a good deal of its available resources, and of obscuring the more important bedside work by the undue exaltation of the work of the lecture-room; in fact, of putting the professor's demonstrations in place of the student's work.

These, however, are only my individual views, coloured, no doubt, by the habits and traditions of the school in which I have been brought up. I know that many excellent schools of clinical medicine and surgery in London and elsewhere have adopted the method of appointing special clinical professors. I no more wish to speak disrespectfully of their practice, than I expect to hear them do so of ours. I only wished in these few introductory remarks to protest—though, I hope, without any anger—against the statement that clinical surgical instruction in London is a sham. At this school we do all we can to make it a reality; and, if it were not so, we should indeed have strangely departed from the traditions of St. George's. We follow the method of teaching which we have inherited from our great predecessors, because it appears to us to give the students the best opportunities for real work, and the greatest available amount of practical instruction.

THE PRESENT POSSIBILITIES OF SANITARY LEGISLATION.(a)

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Mr. President,—I have selected as the subject of my discourse this morning "The Present Possibilities of Sanitary Legislation"; or, in other words, the inquiry what amendments of the law, in the interests of public health, are practicable in the existing state of enlightenment and of opinion. It is universally admitted that no law can be useful which does not command the willing assent of the majority of those who live under its provisions; and I think it is also admitted that legislation, especially when it has regard to questions upon which knowledge is increasing, and is becoming every year more widely diffused, may with propriety be a little in advance of prevailing practice, so that it may to some extent exert an educational influence. A legislature has to ask, in such a case, first, how far it must go in order to fulfil a plain duty; and next, how much farther it may venture without fear of frustrating its own endeavours by an excess of zeal. We shall perhaps find it more easy to reply to both these questions if we begin at the beginning, and if we briefly consider why it is that laws in the interests of public health are required at all, and what purposes they are intended to fulfil.

If we enclose a warm-blooded living animal—a human being or any other—in a case impervious to air, the inmate will soon perish of suffocation, because he has rendered the air enclosed with him irrespirable, or incapable of sustaining life. If the case were so arranged as to allow a partial renewal of the contained air, the inmate would none the less perish after a time, poisoned by the excretions of his own body. The rate of poisoning, and in some degree also the symptoms, would depend upon the size of the case and upon the amount to which the air was renewed, but the process would always be essentially the same. If the case contained two or more animals instead of one only, they would exert a reciprocally injurious influence upon one another, and each would hasten the deaths of his fellow-prisoners. In order to render it possible for them to live in the supposed confinement, air must be admitted freely, and the case must be cleansed at stated periods. In these few facts we have at once the basis of all sanitary science, and the explanation of the need for sanitary legislation.

The state of the members of a crowded community bears a very close analogy to that of several animals imprisoned in a cage with an insufficient air-supply and with inadequate provision for the removal of nuisances. The latter element of the supposed condition may be seen under two chief forms: one, in which the nuisances remain about the dwellings of those who have produced them; another, in which the nuisances are carried a little way from these dwellings, to some other place where their noxious influence is exerted upon persons who are innocent of having produced them. In either case, the noxious influence displays itself in the production of symptoms of poisoning, which are differentiated by various known and probably by some unknown conditions, and which are called, or are said to constitute, different contagious or communicable diseases. Among the known causes of variation, I may mention the different proportions in which the symptoms may be due to deficient air-supply or to the influences of filth, together with the different degrees of individual resisting power which may be produced by inherited strength or weakness, good or bad living, and the like. Among conditions the operation of which is unknown, although their activity may be surmised, I may mention various telluric or atmospheric influences, and various methods of the propagation or diffusion of the poison.

In former times, the experiment of compulsory overcrowding and of the imperfect removal of nuisances was systematically tried in English prisons; and the results obtained were of a twofold nature. In the first place, the prisoners so treated became the subjects of pestilential disease, which was described under different names, as "black death" and so forth, by successive contemporary chroniclers, but which was probably always what we now know as typhus fever. In the next place, not only did the prisoners suffer, but they also revenged themselves in a terrible manner. The disease engendered by the conditions under which they were placed was not restrained within limits imposed by those conditions, but diffused its poison from the persons and from the clothing of those who were first affected, and was even carried long distances by the intermediation of people and of things. Prisoners who themselves escaped fever, but who were brought into courts of law from the dens in which it prevailed, brought with them, in their garments or in the emanations from their bodies, the means of conveying it to others, by the process which we now call contagion or infection. Judges, counsel, jurymen, spectators, all fell victims; and at the famous Black Assize at Oxford, held on the 4th, 5th, and 6th days of July, in the year 1577, it is recorded by Holinshed that "when one Rowland Jenkes was being arraigned for his seditious toong, there arose amongst the people present such a dampe that almost all were smouldered. The jurors died presently; shortly after died Sir Robert Bell, Lord Chief Baron, with twelve others whose names are given. There died in the town of Oxford 300 persons, and there sickened there, but died in other places, 200 and odd more from the 6th of July to the 12th of August." The plague, which in the following century almost depopulated London, was indebted for its power of mischief, if not for its existence, to the filthy houses of our ancestors, in which the removal of nuisances was systematically neglected, and where the floors were strewn with rushes, placed in successive layers over the refuse of all kinds which was suffered to rot below. The glorious history of the British Navy is shamefully chequered by the records of the pestilences which from time to time have been originated or cultivated on board our ships; and it is only comparatively recently that the health of the inmates of public buildings and institutions has in any case been duly cared for. To this care, if we believe only a portion of what is said, the War Office still remains a striking and instructive exception.

In times within living memory, the apparent origination of sickness by insanitary conditions has become a less familiar phenomenon than its propagation under circumstances favourable to its increase. We have now constantly amongst us seven principal types of communicable disease, classified by the Registrar-General under the names of small-pox, measles, scarlet fever, diphtheria, hooping-cough, fever, and diarrhœa. These seven destroy in England and Wales often more, and never less, than sixty thousand lives every year; and it is known that some of them, it is with much reason surmised that all, are produced or propagated by means of filth; that is, they are results of

(a) An address delivered before the Sanitary Institute of Great Britain, at the Leamington meeting, on October 5, 1877.

imperfect nuisance-removal, or, in other words, of that self-poisoning or reciprocal poisoning process which would occur in the cage or case imagined at the beginning of my address, and which occurred in mediæval gaols. These results, however, are modified by various circumstances which have tended to mitigate the intensity of the poison; and therefore, regarded from an experimental aspect, they seem less conclusive than such histories as that of the Black Hole at Calcutta, or the Black Assize at Oxford. Moreover, the diseases in question, apart altogether from their first origin, have now acquired, or at least possess, a power and method of self-propagation which have caused them to be called zymotic. No one is able to say that the process of fermentation and the process of contagion-increase are identical, and it is even possible that there may be important differences between them; but there is certainly enough resemblance to justify the use of the word "zymotic" as a reminder of the way in which a morbid poison may be multiplied in the human body, so long as we do not become enslaved by the word, nor suffer it to restrain the freedom of our thoughts.

The phenomena resembling zymosis, with which we are abundantly familiar, are that some small portion of the poison generated by a disease, say the matter of small-pox, is introduced into a susceptible human body, and that it gives rise there to symptoms of illness which issue in the formation of a great deal more material similar to itself, and capable of communicating the same disease to others. We find that nearly every zymotic, or, to use the better phrase of Dr. Budd, which expresses a fact instead of a hypothesis, every self-propagating malady, attacks its one especial part of the organism, and discharges its poison by its own especial channel. For this reason, among others, it has been assumed by some that the poison is to be regarded as consisting of seeds or germs, necessarily reproducing their own kind; and we have heard much talk about these germs, and about germicide remedies, as if the existence of germs were a fact, instead of only a convenient assumption, like that which is conveyed by the word "zymotic" itself. It is perfectly conceivable that the poison may not consist of germs at all, but that it may be dead matter, acting by means of chemical affinities; and it is an inconvenience incidental to the use of the word "germ," that it tends to impose a hypothesis upon us for a truth. People often talk about germs as if they were known to exist, as if they could be seen and felt; whereas, in fact, we have no certainty even of their existence. This want of certainty does not matter much as far as scientific men are concerned, because they are not likely to be misled by what South felicitously called, "the terrible imposture and force of words"; but it matters greatly with regard to some of those to whom the Legislature has committed the care of the public health in districts or localities, because it may lead them to fancy that they know something, to fancy themselves less ignorant than they are, and thus to undertake responsibilities, and to pursue conduct, from which wiser or better instructed persons would shrink with something like dismay.

The ordinary traceability of zymotic disease to infection from a pre-existing case of the same kind, and the uniformity with which the chief zymotic diseases retain their peculiar or distinctive characters, have led to the further inferences that these diseases, as we now know them, are the results of distinct varieties of poison, that they have ceased to originate spontaneously, and that they always depend upon infection. It is held by some, however—and by some whose opinions are entitled to weight,—that the evidence is against all of these suppositions; that different types of disease may originate from a common cause; and that the epidemic maladies with which we are familiar may be generated anew under certain combinations of circumstances. Dr. Budd and his followers hold very strongly that every case, say of typhoid, whatever may have been the origin of typhoid fever in the first instance, must now be the offspring of a pre-existing case, as strictly as a child must be the offspring of its parents; and this is manifestly the view to which the habitual use of the word "germs" would lead. On the other hand, there have been many instances of typhoid and of analogous diseases in which no source of contagion could be discovered. Not very long ago, for example, there was a single case of cholera in the gaol at Agra—a case which terminated fatally within four hours, and was of the most malignant type. The disease was not known to be existing in the vicinity; the man who was the subject of it had been a prisoner for more than two years, and the daily routine of his gaol-life had not been departed from in any discoverable way. There were a great many prisoners in the gaol—speaking from memory, I think over 2000,—but there was no second case of cholera. If we take the reverse of the picture, we find many instances in which the origin of what at first seemed to be spontaneous typhoid has been traced to its parent case as soon as the investigation has been undertaken by a person of sufficient skill and knowledge; and no more notable example of this could be quoted than Dr. Buchanan's discovery of the channel through which typhoid poison found entrance to Caius College. The question thus raised is not merely a speculative one, but it is of the highest practical importance to all who seek the preservation of the public health. It is manifest, if the period of the new generation of any disease has passed away, if every case of it must now be the outcome of a pre-existing case, that the entire extinction of such a disease is at least theoretically practicable. We should only have to destroy all the newly-formed poison for a certain number of weeks or months, and the malady would disappear, only to be reintroduced, if ever, by importations from foreign countries, against which it should not be insuperably difficult to guard. On the other hand, if it be true that the zymotic diseases constantly spring up afresh, that they arise out of certain combinations of favourable conditions, and especially if favourable conditions which are essentially the same may give rise to different forms of disease under circumstances of accidental or trivial variation, then the work of sanitary reformers, although by no means hopeless, is almost inconceivably more difficult and more arduous. Which of these views may be true, we are at present wholly uncertain; and we must not suffer ourselves to imagine that certainty can be attained by the simple process of talking about germs. It can only be attained by the patient investigation of competent observers—that is to say, of men who are possessed of all the knowledge necessary to perceive the nature of the facts which come before them, and who seek for truth without reference to preconceived opinions. I think it must be universally admitted that the question is of great practical importance. We do not want to follow some philosophers in their disputes over the necessarily insoluble problem of spontaneous generation, over the question which Froude put so happily, "Which came first, the bird or the egg?"—but we do want to know whether, as a matter of practical fact, a case of typhoid fever necessarily presumes a pre-existing case and a channel of contagion, or only a pre-existing combination of physical conditions. The great difficulty of answering this question arises from the extraordinary complexity of the conditions favourable to the diffusion of disease which we have allowed to spring up around us. We cannot say that typhoid has arisen spontaneously, unless we are able to exclude every possible channel through which its poison could have been introduced from without. Such channels are at present innumerable; and one thing which we ought to seek from the law is their gradual closure. As soon as it is certain that the poison of typhoid commonly reaches us by some particular inlet, that inlet should be made secure against it for the future; and so, in time, by the mere process of stopping inlets or of guarding them, we should arrive, by a method of exclusion, at certainties which are at present unattainable. A few years ago I lived near some people with whom I had no acquaintance, who had young children, and these children were accompanied in their walks by a very pretty, gentle, playful dog, which we knew well by sight. One day this dog found its way into my garden, where it joined my children in their play, and, as we supposed, gave them all scarlet fever. The children to whom it belonged, as we discovered afterwards, were all down with the disease, and the dog had come straight from their beds to us. So, when scarlet fever appears, and we want to trace it to its origin, we have first to consider that it may have been conveyed in some such unsuspected manner as this, by a stray dog, by a beggar, by a tradesman's messenger, in a public conveyance, in a place of amusement, or by casual contact in the street. It may have been put into the letter-box by the postman, or delivered with the clean linen by the laundress. As long as all these possibilities exist, we can be sure of nothing; not even that the disease has actually found admission through the particular channel which we chiefly suspect. In my own case, for example, I suspected my neighbour's dog; but it could not be said that I had a tittle of evidence either against the dog or against its owners. In like manner, any research into the means of the diffusion of cholera is hopeless in India, where the possible channels of diffusion are countless; and first became practicable in this country, where circumstances afforded a greater simplicity of data.

Now, one of the things which I think we may ask from the law, even in the present state of knowledge, is adequate assistance in closing or guarding some of the channels, such as soil-

pipes and water-courses, through which the diseases most familiar to us are daily distributed.

It cannot be said that in preferring such a request we are asking the Legislature to interpose in a small matter, or to take upon itself duties unworthy of an Imperial assemblage. One of my first lessons in politics was to read in the writings of Lord Macaulay that the business of a government is to protect the lives and property of the governed; and both the lives and property of the English people suffer terribly from the state of things which we now permit to exist amongst us. Three years ago, in an address to the Medical Society of London, I made an attempt to express the amount of this suffering in figures. I found that the seven so-called zymotic diseases had caused in twenty-five years the loss of two millions and a half of lives in England and Wales, out of a total mortality of eleven millions, or one death in every 4·48. By adding another half-million for another five years we shall arrive at a zymotic mortality of three millions, nearly equal to the population of London, in the course of a single generation. I multiplied the average annual mortality by six, so as to obtain a very low estimate of the average annual sickness; and I divided the resulting number into adult males, adult females, and children, according to the census proportions of the three classes. Dr. Buchanan was good enough to furnish me with estimates of the duration of each form of sickness. He set the duration of typhus and of relapsing fever at five weeks, that of typhoid at six weeks, that of febricula at three weeks, and that of scarlet fever at four weeks, reckoning from the first appearance of the symptoms to the time when the duties of life may be resumed. From his data I obtained an average duration of four weeks and a half. I estimated the lost earnings or productiveness of each male adult at £1 per week, and the cost of nursing, maintenance, and medical attendance at the same amount, making a total of £9 an illness. In the case of adult females, I estimated cost and loss at £6 an illness; and in the case of children, cost alone at £1 an illness. These estimates mount up to a total of more than two millions and a half sterling, to represent what would be the total annual cost and loss occasioned by the zymotic diseases in England and Wales, if they fell upon the wage-earning classes alone. The greater cost and loss of their incidence upon the better classes cannot be estimated from any data known to me. The illness of the Prince of Wales disturbed the whole current of English society; and the value of such a life as that of the Prince Consort, or the value of some of the lives which were destroyed by the milk typhoid in Marylebone, transcends my powers of expression. The money cost, whatever it may be, falls partly, of course, upon the relatives of the sick, partly upon the members of clubs and benefit societies, partly upon the savings of the sufferers, and partly, and very largely, upon the poor-rate. The 100,000 premature interments must cost at least two pounds each; and they raise our money total to more than two millions and three-quarters (£2,796,402) yearly. Besides the mortality, and the cost of sickness, we must also take cognisance of the loss to the community which is occasioned by imperfect recoveries. It is my lot, at two hospitals, to see a large number of children suffering from eye-disease; and my inquiries about the origin or duration of the malady are constantly followed by the reply, "Ever since he had the scarlet fever," or "Ever since he had the measles." In the Irish census return for 1871 it is stated that out of 6347 blind persons living in that country, 526 had lost their sight from small-pox, 31 from measles, 34 from scarlet fever, and 99 from fever, or 690 in all; so that more than one-tenth of the existing blindness was due to zymotic diseases. Typhoid fever, scarlet fever, small-pox, and measles, all entail upon some of their victims an indefinite period of broken health or of impaired usefulness, of which Bright's disease after scarlet fever, or a consumptive tendency after typhoid, or blindness produced by small-pox, may be cited as extreme, though very common, examples. In cases of a less marked kind, these maladies often leave a protracted feebleness which may be communicated to offspring. The miscarriage of pregnant women is common in typhus, still more common in relapsing fever, and occurs occasionally in all zymotic diseases, whence it seems reasonable to suppose that unborn children may habitually be more or less injured in such cases. If the several evils which I have described were to fall, for the first time, upon a community paying due heed to sanitary regulations, scarcely any sacrifice would be thought too great for the sake of removing them. It is only the deadening influence of habit which enables so many among ourselves to regard them with comparative indifference.

It would be too much to say, of course, that all zymotic disease could be prevented by proper legislation and by adequate care; and no such statement could in any case be made until our uncertainty about the possibility of its originating anew is removed; but past experience is distinctly in favour of the proposition. We know that the improvement of the public health of England, coincidently with improved nuisance-removal, has been very remarkable; and this not only if we compare the plague period with the present day, but even in our own time. In the sixth volume of Mr. Simon's masterly Reports, there is one by Dr. Buchanan on the changes produced in certain towns by works for promoting public health. Time does not allow me to repeat Dr. Buchanan's statement in detail; but I may mention that at Macclesfield a death-rate of 33 per 1000 was in a few years replaced by a death-rate of 26, which implies a saving of 250 lives annually; and that the inhabitants of four streets, who received £158 5s. 6d. from the poor-rate in 1848, received only £25 4s. 9d. in 1855. You all know the old scholastic definition of the relation which a cause bears to its effect: "Præsens facit, mutata mutat, sublata tollit,"—and the relations of insanitary conditions to disease afford a manifest fulfilment of the first two clauses of this definition. When our forefathers lived in filth unspeakable, the country was ravaged by pestilences of greater severity than we can now easily realise—*præsens facit*. As we have become somewhat more cleanly, our epidemics have become of changed character and of less severity—*mutata mutat*. If we could become cleanly altogether, I for one have little doubt that we should realise the final clause also—*sublata tollit*,—and that we should banish epidemics altogether from the land.

It is by these preliminary considerations that I am led to what seems to me to be the proper answer to the question, What can the Legislature now do for us, consistently with the present state of public opinion and intelligence, which may lead, in due time, to a more complete recognition of the value of public health, and of the necessity for taking, in the public interest, such measures as may tend to its preservation. It is obvious that the nature of the answer must depend upon the nature of the impediments which stand in the way of complete and effectual reform. These impediments, as it seems to me, depend chiefly upon four causes—(1st) upon the manner in which legislation is made subservient to the interests of party, without sufficient reference to the needs or to the welfare of the State; (2nd) upon the degree in which local government is impeded by centralisation; (3rd) upon the real or apparent inequalities in the incidence of the local taxation from which the cost of sanitary reforms must be defrayed; and (4th) upon the existence of an apathy which is the result of almost inconceivable ignorance, largely tempered by superstition. These four causes are so intermingled in their operation, that although they may be separately stated, they can hardly be separately considered; and it is unnecessary to point out that the last of them—the apathy engendered by ignorance and superstition—is practically that which permits the existence of the others. If the inhabitants of this country were once to realise that the 10,000 annually recurring deaths, say from typhoid fever, are not due to any occult or supernatural causes, but are simply so many murders, resembling, in everything but the element of individual criminality, the starving to death of children in baby-farms, or the wanton destruction of life by any other description of neglect, the indignation which would be aroused would make short work of imaginary obstacles to reform. As long as the ignorance and the superstition remain, all that can be done is to regard insanitary abuses as giants to be circumvented—not as pigmies to be overthrown,—and to avail ourselves of every opportunity for endeavouring to spread abroad knowledge. In respect of this endeavour, and without any present infringement of the liberty of every free-born Briton to diffuse contagion where he pleases, the law might be so modified as to render assistance of the greatest possible value.

The first step towards such assistance would be, I think, to provide for the registration of every case of self-propagating disease which came under the notice, in his official capacity, of any public practitioner; any surgeon, that is, to a parish, district, a gaol, or a workhouse. I should like to see far more than this—that is, a complete registration of all the self-propagating disease of the country. I should like to see it made a matter of statutory obligation upon every medical practitioner to report to the sanitary authority of his district, in the person of its appointed officer, every case of contagious illness to which he was called. We must not, however, aim at too much at once; and the benefits which would arise from the registration of self-propagating disease among public patients would soon lead to its registration among private patients also

When a fire breaks out in a densely populated quarter, we do not try to conceal the fact, but we give an alarm, and we do all in our power to restrain the spreading of the flames. When a contagious disease breaks out in the same locality, we treat it, as long as may be, as if the facts were matters of confidential medical knowledge, not to be divulged beyond the houses in which they occur. The result is that we leave open many doors for the diffusion of infection—doors which should have been closed with the most jealous care—and we prepare the way for a tenfold greater degree of alarm than the truth would justify, as soon as the inevitable time comes at which some distorted and exaggerated version of it creeps out. The use which should at once be made of the registration of infectious illness among public patients should be that the central health officer of the country, under whatever title known, or to whatever department of Government affiliated, should immediately, upon the appearance of any such malady in a place where it had broken out afresh, send down an inspector to ascertain how the disease had been introduced, and by what channels it was being diffused. Permit me to say explicitly that by an inspector I do not mean a barrister, nor an engineer, nor a surveyor, nor a person who does not know scarlet fever from measles, nor one whose report, from very stress of ignorance, would be certain to contain as many blunders as words, but that I mean a physician, thoroughly trained in the difficult art of sanitary inquiry, and thoroughly conversant with every branch of the subject to which his attention would be directed. Especially he must be conversant with the natural history and possible variations of the disease under consideration, with all its known channels of diffusion, whether of an ordinary or of an exceptional character; and with all the circumstances capable of modifying its period of incubation, that is, of latency after infection has been received. If anyone would desire to know the amount of medical learning, and the qualities of mind, which are necessary for a successful sanitary inspector, he may find them shadowed forth in the chain of reasoning by which Dr. Buchanan determined that the cases of typhoid fever in Caius College were not due to the cause to which they had been attributed, and by which he traced them to their actual source of origin. As an illustration of how needful it is to leave no element in such a question out of sight, I may remind you that, when Prince Albert Victor of Wales sickened with typhoid, it was at once announced, on what seemed to be authority, that he must have contracted the disease at Sandringham, and a very circumstantial story was told of the how and the when. A simple comparison of dates showed that this story had no foundation in fact, and that the infection must have been received at Marlborough House. Passing on from this digression, I will suppose that, by a proper system of registration, the central sanitary authority is made aware of every outbreak of disease as soon as it occurs, and that he straightway sends down an inspector, not to interfere with local authorities, but simply to find out and to declare the truth. The report of this inspector, after having been approved by his chief, should be made public in the place where the facts occurred. It should be communicated to the local authorities, and then, of course, it would be published in the local papers. It should be part of the inquiry to bring the cost of sickness into prominence; and every week some board of guardians or other health authority would receive a document tracing out the history of events in which their parishes had been concerned. The general tone of such reports would be, say with regard to typhoid fever, that some passing tramp had poisoned the contents of Farmer Jones's cesspool, that the cesspool leaked into the adjoining brook, that the water of the brook was drunk by the inhabitants of the neighbouring village, that there had been so many cases, so many deaths of adults, so many of children, so much expense for temporary relief, so much for the maintenance of widows or orphans left permanently chargeable, and a total cost which might be capitalised, and estimated, let us say at £1500. All this would have been saved if Farmer Jones's cesspool had not leaked into the brook, and it might have been prevented from leaking, say for £5. What I would have, therefore, is that every occurrence of an epidemic should come without delay under the cognisance of the central authority, who should not override the local authorities, but should send down an inspector, again and again if necessary, for the sole purpose of observing the facts, and of writing them down in simple language. When the epidemic had ceased, the local authorities would be presented with an impartial account of their stewardship. They, or their constituents, would be made to see the cost of this piece of ignorant parsimony, or the consequences of that instance of presumptuous rashness. I think it would be wise for the central authority to confine its activity, for a time at least, to the one disease of typhoid fever, partly because this alone would provide work enough for a considerable staff, and partly because it is known to be frequently diffused through two very simple agencies—by sewer-gas in towns, and by polluted water in all places. It is hopeless to talk to the average vestry or board-of-guardian mind about sewer-gas or polluted water as abstract agencies. You must tell them about the leakage from Farmer Jones's cesspool, which they have seen and can realise, or about the escape of sewer-gas into the house of this or that neighbour. You must put aside misery, and must keep, with steady persistence, to the question of expense. You must show them, again and again, how much money their respective parishes have paid for having the fever, and at how small a cost they might have been saved from having it. Every report which put such facts as these into plain words, and forced them upon the attention of people living in the places where they happened, would furnish seeds of thought, which would germinate surely, even if slowly. A time would come in which there would be a growing public opinion in favour of ventilating sewers and of protecting drinking-water from pollution; and hence a readiness to submit to any legislative enactments which were manifestly necessary for the attainment of these ends. At present, although the medical inspectors of the Local Government Board pay visits of inquiry and make reports, these reports do little more than swell a mass of evidence which sanitary reformers highly value, but of which they have enough. The inquiries are conducted under circumstances highly detrimental to their usefulness. The department does not hear of the prevalence of the disease until it writes itself down in the quarterly returns of mortality, or until it reaches alarming dimensions; and, in either case, the difficulties of investigation are enormously increased. The facts of the beginning of the epidemic have been driven out of memory by subsequent ones; or the first patients, whose histories it would be most desirable to trace out, have died, or have gone away. The first cause, no bigger than a grain of mustard-seed, is obscured and lost sight of among subsequent occurrences, and the public interest in the whole question has perhaps begun to flag with the subsidence of fear and with the diminution of sickness. In order that such inquiries may be useful, or, more properly, in order that they may be useful in the greatest possible degree, they must be instituted concurrently with the events to which they relate; and they must be instituted not only with regard to epidemics of exceptional prevalence or fatality, but with regard to all occurring illnesses of a certain kind. The important fact, scientifically speaking, would be the presence of fever in a given district; and the subject for inquiry would be how it came there, and then, if it were to spread, through what channels or means of communication. Whether the fever attacked two persons or two hundred would be a very serious question in one sense, but a matter of comparative indifference in another; and it would be highly probable that groups of three or four cases in a locality, by the simplicity of the data which they would furnish, would afford the means of clearing up some of the most obscure points in the natural history of disease. If public opinion were sufficiently enlightened to insist upon the ventilation of soil-pipes and the protection of drinking-water, the two ordinary channels for the diffusion of typhoid would be closed. We should then come fairly face to face with the questions whether there are other channels of diffusion, now concealed from us by the universal presence of the common ones, and whether there are instances in which the disease originates *de novo* from certain combinations of conditions. I therefore ask it of the Legislature, as our most urgent present requirement, that infectious disease occurring among public patients should be registered, that the attention of the central medical officer of health should be directed to this register, and that the occurrence of self-propagating disease should be made the subject of regular official investigation and report. By the fulfilment of this requirement I should expect the eyes of householders to be opened to the true nature of events which are constantly taking place at their doors; and hence the growth of a public opinion which would ultimately demand reforms by which the chief of the existing facilities for the diffusion of disease would be taken away, and the problems incidental to the investigation of its modes of origin or of propagation would be so far simplified. In this suggestion I think there is nothing to which, on the score of the liberty of every Englishman to do that which is right in his own eyes, exception could be fairly taken.

In the meantime, while registration and investigation were doing their appointed work, there are yet other directions in

which present progress might be made. In the first place, politicians should, I think, turn their attention without delay to the question of the incidence of rating; not to trifle with it, not to allay discontent by a tiny bribe from the consolidated fund, but to revise and rearrange a system which the nation has long since outgrown. Real sanitary reform, whatever its nature, and whatever prospects of future saving it may hold out, must cost money, and this money must be obtained from rates. I do not know, for I have never studied the question, whether the apparent injustice and inequality of rating are real, or only apparent, being corrected by some compensating influence; but I do know this, that vast numbers of people who see and feel the inequalities neither see nor feel the compensations, if such there be, and that these people would oppose any increased expenditure from rates, however desirable in itself, merely because they are dissatisfied with the way in which rates are levied. The next direction in which legislation would be immediately practicable would be in a great extension of the powers of local self-government. We are supposed to have local government; but what we have is little better than an imitation of it, and not a very good one. Our so-called local authorities are so tied and bound in the chains of centralisation that we often can only obtain somewhat inferior persons to hold offices which entail considerable trouble, and which confer no real authority. A board of guardians, for example, is elected by the votes of the ratepayers; but a board of guardians has no more control over the expenditure of the funds which it is supposed to administer than if its members were so many automata. A board of guardians cannot give an extra shilling a week to a workhouse porter, or an extra half-pint of beer to an inmate, cannot engage a servant or dismiss one, not so much as a "probationary wardswoman," without the sanction of the Local Government Board; and the supposed reason for this is the necessity of protecting the ratepayer against the extravagance of his own nominees. Would he not be much better protected, in the long run, if he had to protect himself; and if he were therefore forced to be careful about the abilities and the characters of the men for whom his votes were recorded? Under the present system boards of guardians are often elected by a party vote, without any reference to their capabilities, and in municipal boroughs they are largely composed of persons who cannot aspire to be town-councillors, but whose services to their party are rewarded by this minor degree of promotion, which gives them a claim to have their speeches reported in the local papers. Again, would it not be much better if corporations and other local authorities were empowered to pass any by-laws, not in contravention of the laws of the kingdom, which their local circumstances might render desirable? Why should not our great towns, for example, be at liberty to act as pioneers in the way of social or sanitary legislation, by bringing the opinions of a majority of the inhabitants to the test of practice in the shape of local enactments. Why should not the corporation of Birmingham be allowed to control the local liquor traffic in its own way, and to control it without any appeal to the Imperial Legislature on a question which is of local and not of Imperial concern. At present, we find Parliament constantly unable to accomplish the work which it commences, and this, to some extent at least, because so much of every session is consumed over matters which might be perfectly well settled by local bodies. I feel sure that a gradual emancipation of such bodies is the direction in which our steps must tend; and that either we or our near posterity must see local government a reality. The result of making it so would be that communities which elected incapable men would smart for their mistake and would learn not to repeat it; and communities which elected capable men would be able to bring measures of improvement, sanitary or social, to practical tests which would guide other communities with regard to them. The blunders of any locality would furnish warnings to be avoided, and its successes would furnish examples to be followed. The lessons of caution which would be taught by the results of municipal elections, would lead inevitably to increased care in the exercise of the Parliamentary franchise. In health matters, of which alone I must speak, we should almost certainly see the towns which are known as health-resorts eager to take the lead in endeavours to diminish local mortality; and, if they succeeded, they would also diminish local charges. Their success in this direction would not fail to obtain for them, before long, the sincere homage of imitation.

I had intended, sir, before concluding this discourse, to say a few words about that unclean idol of Party Politics, which has been so great an obstacle in the way of sanitary reform, and before whose shrine, therefore, the lives of the people of England have been offered up. But the hour warns me that I must not longer trespass upon your indulgence; and this part of the question is one upon which I feel so warmly, that if I were to express my feelings I might unwittingly give offence, and might thus perhaps even hinder the advancement of the cause which I have at heart. I will be content to utter the wish that, if such a transformation is possible, some professional politician of the day may undergo development into a statesman, and may thus become able to perceive the opportunity for the highest statesmanship, which would invite him to enter upon a comparatively untrodden career. I am certain that any man of adequate culture and adequate capacity, who would devote himself to this great subject with a determination to understand it, and with a determination to rouse his fellow-countrymen from their present indifference with regard to it, might, by the patient and well-directed Parliamentary labour even of only a few years, write his name upon the pages of history as that of the greatest benefactor of his kind. In the meanwhile, sir, we here are like passing travellers, who throw single pebbles upon the cairn, which at last, by innumerable contributions, will attain monumental magnitude. Our present business may seem trivial; it may produce no immediate or perceptible results. None the less, however, will it be seed which cannot fail hereafter to yield a harvest; and in proportion as our work is earnest and truthful, so far will it hasten the advent of the time to which we must look forward with hope and confidence, when Englishmen and Englishwomen will no longer every year be poisoned by thousands, by accumulations of filth against which individuals are powerless, and which we, as a nation, are too indolent or too ignorant to remove.

ABSTRACT OF AN INTRODUCTORY ADDRESS

DELIVERED AT THE ROYAL FREE HOSPITAL, TO THE STUDENTS OF THE CLINICAL DEPARTMENT OF THE LONDON SCHOOL OF MEDICINE FOR WOMEN,

By JOHN COCKLE, M.D., F.R.C.P.,
Physician to the Royal Free Hospital.

The Lecturer commenced by observing that no embarrassment need be felt in addressing them, inasmuch as they had an undoubted right to determine upon the profession they would adopt; and he could only wish them success in their choice. Fears had been entertained that, from the very nature of the pursuit, their physical powers would prove insufficient, and their natural refinement would be blunted; but such fears as respects the latter might be regarded as entirely groundless. The tendency of the study, if conscientiously carried out, was clearly to elevate, and not to degrade the mind. On the other hand, it was idle to dispute their intellectual capacity for the study. They could triumphantly answer the contrary allegation by pointing to the honours gained by their leaders in universities of repute. Let such examples be their stimulus to profit by such instruction as this Hospital was capable of affording.

In their own College they learnt from able teachers all that was sound in theory; here was the place of applied science. They would be no longer passive, but active agents, with, for the time, incessant demand upon eyes, ears, and hands. But clinical study required, in common with other arts, a method; and on the method adopted their success or failure would in great part depend. What, in the lecturer's opinion, formed valid method was next pointed out. This achieved, they would be in a position successfully to commence *observation* in disease—to become clinical observers. But to succeed required a straightforward mental vision for the facts revealed to observation, untainted by any preconceived theory. The facts observed were to be well assorted and classified, in order that they might be generalised, and the law that they obeyed finally determined.

This reasoned Observation was the only safe and sure way to clinical success, for, unlike the kindred sciences, they were debarred experiment in the rigid sense.

The great advances in physico-chemical procedure were pointed out, and the vast advances of recent experimental knowledge as regards the development of zymotic disease. The historic filiation of the science was briefly sketched, to prove how much of present knowledge was foreshadowed in the past. This was more especially true as regarded the

physiology and pathology of the nervous system, and one or two illustrative examples were given.

The Address closed with remarks on the ethical side of a medical mission.

ORIGINAL COMMUNICATIONS.

A CASE OF PULMONARY EMBOLISM,

WITH NOTES BEARING GENERALLY ON THE SUBJECT OF EMBOLI.(a)

By W. ROBERT SMITH, M.B.,

Honorary Medical Officer to the Hospital for Sick Children, Sheffield.

In connexion with the notes of the case which I am shortly to read, I have thought that perhaps a brief review of the subject of embolism might not be out of place; and although I have no original views to advance on this most important disease—important alike to the physician, surgeon, and accoucheur—and have consequently hesitated in bringing the subject before you, yet I do feel that if by discussion any new light can be thrown upon the pathology or treatment of a disease which is unfortunately so frequently attended with the worst results, our meeting this evening will not be devoid either of interest or profit.

The existence of the morbid condition which has been designated embolism was, to a certain extent, known at a very early period in the history of our art, and has over and over again been established by well-authenticated cases and carefully made post-mortem examinations. Thus, a connexion between gangrene of a limb and plugging of the main artery, between apoplexy or sudden asphyxia and hyperinosis of the blood or the so-called polypi of the heart, has long been recognised and looked upon as cause and effect. Yet it is to Virchow, as all know, that science is indebted for having first placed, by his many admirable researches, the theory of emboli upon a firm foundation. But before his time embolism did not pass unnoticed. Even Galen states ("De Loco Adfecto," iv., page 295) that he often met with cases of sudden death in persons labouring from cardiac affections; in such he suggested as the cause the sudden obliteration of the pulmonary arteries by bodies which were subsequently called cardiac polypi. But later on the importance of embolism was more fully recognised; for Vesalius, in the sixteenth century, relates ("De Gangrena et Sphacelo," c. 4, page 775) a case of an enormous polypus in the left cardiac ventricle, weighing two pounds, and which gave to the heart the size and form of the gravid uterus. At the same time, he states that with the growth of this mass gangrene of the extremities is often combined; and that slight irregularity of the pulse is the only sign by which this condition is revealed. In short, the whole doctrine of emboli, by which I mean the plugging of vessels by foreign bodies, was first based upon the theories suggested by the supposed spontaneous formation of the so-called polypi within the vascular system. From this time much was written and said about embolism, but still no great advance seems to have been made upon the teaching of the older writers; for we find Cruveilhier, notably with many others, advocating that if any plug was found in the vascular system it was to be considered as a local product, the result of inflammation or some other process—the some other process, however, never being very distinctly defined; and thus a new variety of arteritis was taught, consisting essentially in the formation of a coagulum, the co-existence of inflamed arterial walls being considered altogether beside the point. In 1828, Alibert reported a case ("Recherches sur une Occlusion peu comme des Vaisseaux Artériels considérée comme Cause de Gangrène") of gangrene of the extremities, and obstruction to the circulation in the left arm, and distinctly showed the resemblance of the coagula which existed here to that of certain fibrinous formations in the left cardiac auricle. Immediately after this, Victor François published a work, in which sudden arterial obstruction was taught to be caused by foreign plugs, the result of a more or less distant arteritis, and which had been carried along by the circulating fluid. These views, however, made but little headway, for Tiedemann, in his work on the "Constriction and Closing of Arteries in Disease," published in 1843, mentions that coagulations, which, like stoppers, block up the arterial canals, may be either processes of the fibrinous layers of aneurismal sacs extending more or less into the arteries; or simple depositions of fibrine upon the sharp points of earthy concretions projecting through the inner arterial coat into the canal. Here there is evidently no thought of embolism. Four years after the publication of this book, a case manifestly depending upon emboli was published in the *Gazette Médicale de Paris*, page 672, by Pioch. A patient, labouring under hypertrophy of the heart and valvular induration, had several sudden arterial obstructions occurring in the brachial, vertebral, and right and left femoral vessels. Gangrene followed in the extremities, but no post-mortem was allowed; about this time also (but I forget where) another case was published, where obstruction in several main trunks existed subsequent to rheumatism, and accompanying endocarditis, but there was no gangrene. In the same year, Professor Virchow, of Berlin, first published a paper on Arteritis, in the *Archiv für Physiologische Anatomie*, in which he questioned many of the generally received views, and clearly showed that those products which had been taught to be the result of inflammation were of embolic origin. Virchow also taught that when a clot existed in the pulmonary artery long before death, and when, subsequent to this obstruction, changes took place in the parenchyma, such obstructions have always arisen in a part of the circulation anterior to the pulmonary arteries, either in the right side of the heart or systemic veins; he supported this view by a series of experiments introducing animal substances, etc., and produced (if you will allow me to quote his own words from page 15 of his work) "violent pneumonias, commencing with inflammatory hyperæmia, and causing the rapid deposition in the pulmonary vesicles of fibrinous exudations, which either underwent purulent metamorphosis or became gangrenous. With the advance of these changes, pleurisy was soon developed at the periphery, at first producing fibrinous, coagulable, and viscid exudations over the affected portion of the lung, but rapidly and as it progressed toward the other side of the chest, accompanied with enormous increase of hyperæmia, extravasations in the parenchyma of the pleura, and large watery hæmorrhagic exudations, with preponderating tendency to ichorous metamorphosis in its cavity. At the affected part of the lung the pleura became gangrenous, and finally gave way, and pneumothorax set in. The whole series of phenomena was developed in not quite five days."

Shortly after this another work of great interest to the surgeon was published—viz., "Investigations on Inflammations of the Arteries in general." Physiologists had long taught that the inner coat of arteries had no bloodvessels: How then could an exudation be produced through it? Was this to be looked upon as the result of a local inflammation? or was it the local manifestation only of a generally morbid blood condition? or was it, in the third place, a solid body, which, by some means or other, had entered the circulation, and got carried on with the stream until it entered a vessel too small to allow of its passage? Arteritis certainly could not exist in the deposit of an exudation upon a free surface; abscesses had been found between the inner and middle coats of arteries, without any corresponding production in the arterial cavity; in many cases gangrene of the limbs was found co-existent with plugging of the main arterial branch. Now, in such cases was the obstruction primary, and the inflammation of the vessel a secondary matter caused by the irritating properties of the embolon? or was the relation reversed? or, in the third place, were the obstruction and inflammation the joint effects of a cause separate and distinct? According to Virchow, the inner coats of arteries are not permeable to inflammatory exudations from the vasa vasorum of such vessels, this exudation being capable of coagulation; but this is found either between the outer and middle coats, or between the middle and inner ones; and this latter must give way before pus can be deposited in the arterial cavity. Sometimes coagula are found in an inflamed vessel when they are caused by a deposition of fibrine upon a roughened arterial wall, or upon some projection through such wall, the result of imperfect nutrition. In some cases the coagulum adheres only to one wall of the vessel, with the effect of narrowing the tube. This is not true embolism, although such a condition may give rise to embolic obstruction. Embolism may be defined as the existence of a clot in an artery without simultaneous lesion of its walls, this clot having been carried with the circulating stream from some distant spot as far as it would go, the arrest always taking place in vessels of a suddenly constricted calibre, too small to allow the solid body to pass. Such are briefly the views set forth in Virchow's work on Arteritis.

Since his time many able observers have written upon the subject, but their works are for the most part all based upon Virchow's theses, and are confirmatory of his observations.

(a) Read before the Sheffield Medical Society.

Time will not allow of reference to these, but I would remind you of Dr. Kirkes' conclusions from a careful study of the whole subject—viz., (1) that fibrous concretions did separate from the heart during life; (2) that these were arrested in certain peripheric organs, where they caused obstruction and structural changes; and (3) that by simple admixture with the blood they might give rise to pyæmia or other blood-poisoning conditions. That part of his observations is most interesting where he explains the petechial spots with which we are all familiar as very frequently occurring in endocarditis and pyæmia, on the skin, mucous membranes, and even on the peritoneum, as being caused by capillary embolisms. Since this paper appeared in the *Lancet* of June, 1852, we have learnt to attribute many sudden attacks of hemiplegia to embolic causes; and those researches are very interesting upon brain-softening as the result of embolism, where the anæmia of the brain is clearly shown to be the cause of the softening. And yet this term "anæmia" is a bad one, for very soon the collateral vessels enlarge and give way; extravasation then takes place, giving rise to a uniform red appearance, and that condition which we know as "hæmorrhagic infarct," and red softening. It is only when the circulation is very slightly interfered with, or when it is materially affected (as, *e.g.*, by plugging of the middle cerebral), that we get white softening. Here we see that brain-softening as the result of embolism, unlike senile gangrene, is not caused by a mere deficiency of blood, but is owing to serous effusion, the consequence of hyperæmia and stasis, the remote cause being the embolus. These hæmorrhagic infarcts are now also well known to exist in the lungs, liver, kidneys, and spleen, and present subjects of the deepest interest to the pathologist.

The most frequent source of emboli is undoubtedly venous thrombi, this giving rise to it in many ways: the thrombns may become softened and disintegrated, the fragments being carried into the circulation; or the blood-clot may not for some reason or other, fill the vessel—the blood passing over it in this condition is very liable to carry away portions, or the whole, into the general circulation; or, thirdly (and this perhaps is the most frequent way), the conical clot, which extends in a ruptured vessel as far as the first branch, is very prone to have its apex broken off by the onward rush of blood, which is always stronger at this place, owing to the obstruction forming a point which the blood can wash round, and which momentarily impedes its progress. If the embolus is found in the veins, it may pass through the right side of the heart and become impacted in the lungs; but if small enough it may traverse the pulmonary capillaries, pulmonary veins, and left heart, and cause obstruction in the renal or splenic capillaries. The pathological results of such obstruction are most interesting. First there is complete perversion of function, followed sooner or later (according to the more or less rapid formation of the collateral circulation) by a zone of intense hyperæmia around the area of tissue from which the blood-supply has been removed. Very soon, if the circulation be not re-established, the embolic area becomes distended with blood, owing to extravasation from the over-distended capillaries, the blood regurgitating from the veins. The subsequent changes depend upon the character of the embolus: if this be small, and not infective, then the mass softens, the blood changes from red to brown or yellow, and the whole contracts and becomes shrivelled, but is always surrounded by a zone of hyperæmic tissue; but if the embolus is caused by a softening and disintegration of the thrombus (say, *e.g.*, after an amputation, and when the stump looks unhealthy), then the embolus is associated with the infective properties of putrefaction and suppuration, and a number of metastatic abscesses appear in various organs as the result of impaction, and that condition which the surgeon most dreads—viz., pyæmia—exists. The point is not yet settled, I believe, whether true pus can cause capillary embolism, but there can hardly be a doubt, one would think, that if pus cells existed in such quantities as to occlude any capillary vessel, the pathological results with which we are all familiar as supervening upon embolism would follow. There is a point of much value practically in connexion with this surgical view of the subject, worthy of note. I believe it was first suggested by Professor Burrow. He states that the frequent bandaging of limbs after amputation is the cause of many unfavourable results; the veins are compressed by this application, and after a few days, when the bandage is removed, the venous walls of course become relaxed, and the coagula no longer fill the vessels, and are liable to be washed away by the passage of the blood over them. Embolism, and not pyæmia, is really the cause of death in such cases. I well remember a case which occurred whilst I was house-surgeon, which no doubt was owing to this cause. A healthy man had his thigh amputated after a severe crush of the leg implicating the knee-joint, and a bandage was applied round the stump to control the excessive spasm of the muscles. All went on well for some time—the wound looked healthy, and the man's general condition was good; but he subsequently had one or two severe rigors and died, and after his death several abscesses were found in his lungs. This case was registered as death from pyæmia, but I believe it was entirely of an embolic origin, caused by the removal of the bandage, and consequent relaxed venous walls. This supposition, I know, some will take exception to. Still, considering the man was placed under the best hygienic conditions, that the most scrupulous care was taken as to cleanliness and the dressing of the wound—the antiseptic treatment being adopted,—and the absence of any unhealthy appearance of the stump, I think my impression not altogether an erroneous one.

To the accoucheur the frequent and sudden fatal results of embolism after parturition are too well known and cannot fail to make the subject interesting. His patient may be bright and cheerful, and he may be congratulating himself upon the very favourable progress of the case, when all at once he is summoned only to find her a corpse. The following case will illustrate this:—

On the morning of February 24, about 6 a.m., I was called to attend a woman, aged twenty-four years, in her second confinement; for some months she had suffered severe pain in the abdomen and back, accompanied during the preceding week with much nausea and vomiting. As far as I could learn, she had been very injudicious during her pregnancy, carrying heavy weights, and generally busying herself too much about household duties. Even the night her labour commenced she had carried a heavy child of two years up a flight of stairs. I found Mrs. W. suffering severely from sharp acute pains, not of a bearing-down character, which were very irregular in their recurrence, but for the most part frequent. She had also constant vomiting. Her countenance was anxious; pulse fair volume, 82 per minute; skin cool and moist. Before I could make an examination, unfortunately, the membranes broke, and the liquor amnii escaped in large quantities, soaking the mattress, and dripping on to the floor beneath. This fact first awoke my suspicions that all was not right. Upon making a vaginal examination these were confirmed, for I found the right hand presenting, the child lying in the right oblique diameter, with its back to the mother's abdomen. The mother, however, was very sensitive, and it was with great difficulty I could satisfactorily make a diagnosis as to the child's position. I saw that any attempt to turn without administering chloroform would be entirely futile, so, in spite of the serious sickness from which the patient was suffering, I used this anæsthetic; then, introducing the left hand, I grasped the left foot, and completed the operation of version, afterwards delivering the child in the way usually adopted in breech cases. The placenta followed in due course, and the uterus became firmly contracted. Matters, however, did not go on so smoothly with the child: for fifteen minutes artificial respiration had to be kept up before it evinced any signs of life, then by vigorously slapping the buttocks it began to cry lustily.

Twelve hours after I found Mrs. W. feeling very comfortable. She had not been sick, but had felt great nausea. Complained a little of after-pains; skin cool and moist; pulse 110. Had passed water, and the discharge was not excessive. Milk was ordered to be given in small quantities frequently, and ice was allowed.

February 25.—Has slept fairly well; expresses herself as feeling better, and complains less of after-pain; has had no recurrence of the vomiting, but still feels much nausea. Temperature 101·4°; pulse 120, good volume. Has no abdominal tenderness; lochial discharge plentiful. The patient was ordered still to persevere with the milk and ice, and a small quantity of sago or arrowroot was likewise allowed, perfect rest in the horizontal position was enjoined, and the temperature and ventilation of the room were carefully attended to.

26th.—Has slept well; countenance cheerful; feels much better; tongue clean and moist; complains less of the nausea; bowels moved gently this morning; appetite good, the patient asking for a more substantial diet; discharge plentiful and healthy; milk abundant. Temperature 100·6°; pulse 96. The same treatment was persevered with, beef-tea and sago-pudding being ordered in addition.

From this date the patient progressed very favourably until March 1, when I found her by no means so cheerful. She had had a slight rigor the night before, which came on after

her removal to another bed, which had been done without my knowledge; had slept badly, and complained of great pain in her breasts, which were found to be swollen and hard; tongue furred, with a dryish white fur on dorsum; bowels not moved the day before. Temperature 103·2°; pulse 126, irregular and jerky; lochial discharge abundant; no abdominal tenderness; patient's countenance was anxious, and she expressed herself as feeling very ill and depressed. Milk diet was ordered, a gentle aperient given, a simple effervescing draught ordered three times a day, and hot flannels were applied to the breasts.

March 2.—Has slept well, and feels better this morning; tongue less furred; bowels moved freely twice; has taken her nourishment better. Temperature 102·4°; pulse 120, irregular and rather jerky.

3rd.—Much better; slept well; tongue clean; is more cheerful; temperature 102°; pulse 120, still distinctly irregular. At 5 p.m. I was summoned to see the patient at once, as she was much worse; upon visiting her two hours afterwards, when the message reached me, I found her dead. As far as I could learn from the husband, who was present, it appears she had raised herself in bed to use the bed-pan, and felt suddenly so ill that she laid down again, and died within a quarter of an hour with all the signs of asphyxia. The face was pale, the eyes were open, pupils widely dilated, the muscular system rigid, and hands firmly clenched.

Autopsy, twenty-four hours after Death.—Rigid mortis present; body well nourished. Upon opening the chest, the left lung was found collapsed, although the right was by no means over-distended. Heart: Pericardium contained a small quantity of serum; right cavities and large veins distended with dark fluid blood; left chambers empty. Trachea congested, and the left bronchus contained a little frothy fluid. Lungs: Right normal; hypostatic congestion at base. Left—upon tracing the branches of the pulmonary artery into its substance, at the site of the bifurcation of one of the main branches, an embolism, composed of clot, was found firmly wedged; it was about three-quarters of an inch in length, and rather larger round than a piece of slate-pencil. The lung-tissue was congested about the site of the embolus, but there was no distinct infarct. Uterus firm, five inches in length, and seven-eighths of an inch in thickness; no signs of inflammation present.

The embolon in this case I believe to have been detached from the uterine sinuses at the time my patient walked from one bed to the other. If this hypothesis is correct, the embolus was probably detained in the heart by the relaxed tendinous cords which are so abundant in the right ventricle, and thus gave rise to the high temperature, and quick, jerky pulse. At any rate, I think it is clear that, if this were the case, treatment, to be of service, should then have been adopted, but unfortunately at this stage there is a marked absence of symptoms sufficiently reliable to insure a satisfactory diagnosis. I believe the rigors which my patient had were owing to the sudden appearance of a clot in her circulation, and not, as I then believed, to the swelling and tenderness of the breasts: yet why should this not have been the cause? or how is it possible to diagnose with certainty a condition of so much danger to the patient? The only symptoms I could not explain were the continued high temperature and quick pulse after the mammary trouble had subsided. I know some will urge that the embolus might have been separated directly at the time of death, but I think the absence of all inflammation of the veins and uterus goes far to negative this idea. It is with the view of learning something as to the treatment and diagnosis of such cases, from those who have had far more experience than myself, that I have ventured to trouble you, at, I fear, some length, with this subject to-night.

THE CORONER'S COURT IN ENGLAND.(a)

By FRED. W. LOWNDES, M.R.C.S. Eng.

I MAY safely assert that there are very few gentlemen present who have not at some time or other been brought in contact with the coroner's court, to act in their professional capacity, either in giving evidence as to the cause of death of some one whom they may have previously attended, or been called to see after death; to give the details of a post-mortem examination made by the coroner's order; or—and this is of no less importance—to give such written or verbal information as shall have precluded the necessity for holding any inquest at all. Many gentlemen, moreover, are present, who are, from the offices they hold, and other circumstances, very frequently required to perform some of these duties; and their appearance in the coroner's court occurs with sufficient frequency to enable them to form an opinion as to the merits and demerits of this ancient tribunal. In inviting, therefore, your attention to the subject, I am not bringing forward a matter of mere curiosity nor one of public rather than medical interest; but one of very practical importance, which concerns some of us very greatly, and may be said to penetrate every part of the vast field of medical practice. It is very evident that we shall soon see considerable changes made in this ancient (I think I may say), antiquated legal institution, and the materials at our disposal for considering what they should be are very abundant. Newspapers, both lay and medical, have devoted a considerable portion of their space to show what in the opinion of the writers, is required to make the coroner's court all that it should be; and at the recent meeting of the Association for the Promotion of Social Science, a gentleman learned in the law had his say. Let us now examine the subject from a medical point of view, with especial reference to the three points I have given in the notice of this paper.

And firstly, as regards the providing a more satisfactory inquiry into all doubtful and suspicious deaths. Let us first see what the present mode of inquiry is. We may conveniently separate all deaths, as they come before us as medical practitioners, into three divisions—viz., (1) those where no inquest is required, (2) those where an inquest is imperative, and (3) doubtful cases.

The *first* of these is soon disposed of. It comprises that very large class of cases where a patient is attended by a duly qualified medical practitioner, who visits up to the time of death, and gives a certificate of its cause. An immense amount of most valuable information is furnished to the authorities (by this means) gratuitously by the profession, while an enormous power is wielded by the medical profession—a power which we must all allow to be, on the whole, most fairly exercised.

The *second* division also requires only a very few words, comprising as it does those cases—unhappily very numerous in this and other large towns—where death results from violence, accidental, homicidal, or suicidal, from criminal neglect, poison, or in such other ways as to make it obviously a case where an inquest will be held as a matter of course. In most of these cases we are not even asked for a certificate of death, the police taking up the matter and giving the necessary information to the coroner.

The *third* division requires more consideration from us, including as it does all those numerous cases where the death is sudden or the cause of it doubtful, rendering an inquiry into all the surrounding circumstances necessary. These are among the most anxious and least satisfactory cases with which we can have to deal, and I ask your earnest attention to this, as much difference of opinion prevails among us as to the rule we should adopt. For instance, we are called (we will suppose) to a person whom we find on arrival to be dying or dead. There are no marks of violence, neither is there any evidence of unfair play, but every external appearance that the death is a natural one, though the exact cause cannot be ascertained without a post-mortem examination. Now, one gentleman called to such a case would give a certificate on his own responsibility; a second would refer the friends of the deceased to the registrar of the district; a third to the police; a fourth to the coroner; a fifth would communicate directly with the coroner; while a sixth would prefer to wash his hands of the whole affair, refusing to give a certificate or any information whatever. The desirability of some more uniform practice must be obvious, whatever changes may occur in the constitution of the coroner's court, or even should there be no change at all. Let us now take a glance at the law on the subject so far as it affects this question. The office of coroner is, as you all know, a very ancient one—so ancient that its origin is lost in obscurity. And eight years ago our worthy coroner (Mr. Aspinall), with that ready wit for which he is so well known, remarked somewhat prophetically, "that it was a very *ancient* office, and he trusted that it was *equally enduring*." One of the ancient duties of coroner (that of hearing and determining felonies) was abrogated by Magna Charta, and the statute on which coroners act to this day is the statute "*De officio coronatoris*," passed in the reign of Edward I., six

(a) A paper read before the Liverpool Medical Institution, November 16, 1876, entitled "The Coroner's Court in England, and the means by which it may be rendered more effectual in providing—(1) a more satisfactory inquiry into all doubtful and suspicious deaths; (2) the more efficient performance of all medico-legal autopsies; (3) a field for the practical study of forensic medicine in our medical schools."

centuries ago. It provides that "The coroner upon information shall go to the place where any be *slain, or suddenly dead*, or wounded"; the remainder, given in rather wearisome phraseology, I may briefly state, enacts that a searching inquiry shall be made by the coroner and jury into all the circumstances, and any found guilty of having caused the death may be committed for trial at the assizes. You will thus see that the coroner is invested with very great discretionary power, the word "slain" being taken to include death by acts of omission as well as commission, and the right to inquire into any sudden death being accorded to him. This would seem from very early times to have been a cause of much dispute, there being on the one hand a very natural dislike to the privacy of domestic life being thus rudely invaded; on the other hand, a dislike equally strong on the part of the coroner to have his rights and privileges set aside. And it may relieve what I fear is rather a dry paper if I quote a passage from "The Brothers of Birchington" in the "Ingoldsby Legends." The good Prior of the Monastery had been found in the paddock "stone dead," and we read that—

"They sent for the mayor
And the doctor—a pair
Of grave men, who began to discuss the affair;
When in bounced the coroner, foaming with fury,
Because, as he said, 'twas pooh-poohing his jury."

Now, of course, the six centuries which have passed since the reign of Edward I. have brought great changes into the manner of holding inquests. Thus, the coroner and jury were directed that "all wounds ought to be viewed, the length, breadth, and deepness; and with what weapons, and in what part of the body the wound or hurt is; and how many be culpable, and how many wounds there be, and who gave the wound." This was done by the coroner and jury seated round the body. Hence the term, "sitting upon the body." To quote again, but for the last time, our friend "Ingoldsby," in the "Lay of St. Gengulphus" we read:—

"The coroner sat on the body that night,
And the jury agreed—not a doubt could they harbour—
That the chin of the corpse, the sole thing brought to light,
Had been recently shaved by a very bad barber."

We are brought face to face with what I believe to be the great objection to an inquest—the jury, *alias* the twelve good men and true. The object of an inquest now is essentially to ascertain the cause of death; and this is, of necessity, furnished by the medical evidence, if there be any. In other words, the jury simply repeat by their verdict what one—or at most two—gentlemen have told them. But there are a large proportion of cases, especially in towns such as this, where the cause of death is obvious without medical evidence. Surely in the case of a body taken out of the river, in a very decomposed state, it does not require thirteen men to tell us that it was a case of "Found drowned"; or, in another case, to tell us that the deceased was accidentally burned, accidentally scalded, etc. Such conclusions might be arrived at in a much less cumbrous way. There is a remarkable family likeness (as it seems to me) between the coroner's jury and that provided by two other ancient statutes to determine a purely medical question, viz., that of pregnancy. The first was that when a woman, after the death of her husband, to whom she had been only recently married, declared herself pregnant, the statute "*De ventre inspiciendo*" enacted that she should be examined by the sheriff, assisted by twelve matrons and twelve respectable men. The second is: when a woman pleads pregnancy in bar of execution, and twelve matrons of those who may happen to be in court are sworn to try whether she be "quick with child, of a quick child, or not." Medical evidence has enabled the Court to dispense with the sheriff and his twenty-four assistants, and with the jury of matrons. Might it not also dispense with the coroner's jury? This has been frequently suggested by most people who have handled this subject; and I think, as medical practitioners, we must agree that the abolition of the coroner's jury would simplify inquiries into the cause of death, without in any way impairing their efficiency. Coroners complain—and, perhaps, with reason—of the various and uncertain ways in which information of deaths reaches them. Sometimes it is received from a constable or beadle, whose sharpness is stimulated by a fee per inquest; sometimes from a registrar, who has received no certificate of death, or one which he cannot register; sometimes from a medical practitioner, who declines to certify as to its cause. Members of our profession complain—and perhaps with equal reason—of the uncertainty and capriciousness with which the discretionary powers of the coroners are exercised. I would refer you here to a paper published by me in the *Medical Times and Gazette*, June 28, 1873, page 683, in which I have detailed eighteen cases of sudden death occurring in different parts of the country, involving the practice of several coroners and several practitioners, which illustrates very forcibly what I have said. But it is so obvious that these irregularities must occur till a more uniform system be adopted, that nothing more need be said.

The changes I would suggest are briefly these:—

1. That the jury should be dispensed with.
2. That the coroner should be a member of the legal profession assisted by a medical assessor.
3. That every uncertified death should be referred to the coroner.
4. That he should have power to examine witnesses on oath when conducting preliminary inquiries.
5. That the body of the deceased should be identified on oath in the presence of the coroner by two or more witnesses.
6. That medical practitioners should be furnished with printed forms, to be filled up in cases of sudden death, or when the cause cannot be certified, and forwarded to the coroner.

These changes would assimilate our law very closely to that of Scotland, where all uncertified and violent deaths are referred to the public prosecutor or procurator-fiscal, who holds preliminary and subsequent inquiries, directing the police, the medical examiners, and completing the case for the trial. Gentlemen are present who will be able to tell us how complete and satisfactory the system is.

(To be continued.)

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

CASES OF THROAT DISEASE.

MIDDLESEX HOSPITAL.

Case 1.—*Pharyngeal Diphtheria—Vomiting and Fatal Syncope on the Fifteenth Day.*

(Under the care of Dr. EVANS.)

[Reported by Dr. FINLAY, Medical Registrar.]

M. B., aged eight years and a half, admitted on August 22. Family history good. Child has had good health before present illness.

August 18.—Complained of headache; no shivering; bowels confined.

21st.—Complained of pain in neck behind angles of jaw, where there was some swelling. Said her throat did not feel sore.

22nd.—On admission, temperature 100°; pulse 116; urine 1027, acid, no albumen. Patient is a fair-complexioned, well-nourished child. Glands below mastoid on left side enlarged. Has frontal headache. Tongue coated in centre with yellowish fur, red at tips and edges. Temperature in the evening 100·4°; pulse 116. Headache has disappeared.

23rd.—Temperature normal; pulse 104. Complains of pain in swallowing. Pain referred to glands behind jaw on left side. Throat examined: found somewhat swollen and congested. Uvula and adjacent parts of fauces found covered by a grey, tough membrane, partly separated from uvula. Throat bleeds readily. Temperature at 9 p.m. 98·6°.

24th.—9 a.m.: Temperature 99°; pulse 100. No pain, except in neck and throat when she swallows. Throat less swollen. Left side of uvula cleaner; some grey membrane on the right side. Evening temperature 97·7°; pulse 96.

25th.—Temperature in morning 98·2°; pulse 92. The glands along the sterno-mastoids are less swollen; throat less sore; and the membrane is now distributed over both tonsils and uvula in patches only. Temperature in evening 97·6°.

26th.—Pulse 84; temperature 98°. Throat is cleaner; no longer any pain in swallowing. Evening temperature 98°.

27th.—Has vomited twice after taking the medicine (tinct. ferri perchlor. and glycerine, spirits of chloroform). Urine 1020, acid, albumen one-twentieth. (This continued till September 1, when the albumen disappeared.)

Improved in general condition until the morning of September 2. Then for the first time it was noted that the child's

pulse was very feeble, and that she had become rather suddenly pale and dusky, with cold extremities. Vomited twice; tongue rather brown; has no cough nor any embarrassment in breathing. At 2 p.m. vomited again without obvious cause, and died suddenly in ten minutes.

Post-mortem Examination, twenty-four hours after Death.—Weather dull, damp, and cold. Rigidity moderate; body fairly nourished, surface pale. Thorax, etc.: The right pleura contained a few ounces of clear straw-coloured fluid; excepting this, and that all the chambers of the heart were much distended by dark-coloured clot, there was no abnormal appearance. The substance of the organs appeared natural. There were no appearances anywhere of diphtheritic membrane, the tonsils, uvula, epiglottis, etc., seeming perfectly healthy, and the trachea containing only a little frothy mucus. Abdomen: The peritoneal cavity contained a few ounces of clear pale fluid similar to that present in the right pleural sac. The substance of all the organs appeared natural, being, however, considerably engorged with blood. No urine was found in the bladder, so that a test for albumen could not be made.

Note.—In the common form of diphtheritic paralysis, a month to six weeks after the clearing off of the pharyngeal false membrane (which may have been slight in amount), the patient begins to talk like a child with cleft palate, fluids return through his nose, he loses his accommodation, squints a little, and perhaps manifests some unsteadiness in his gait. The prognosis in such cases is almost always good. But the case here recorded comes under another group, in which the prognosis is almost as certainly bad. In Sir William Jenner's matchless little volume on Diphtheria this group of cases is described in the chapter on disordered innervation. The vomiting and the infrequency and feebleness of the pulse point, as Sir William Jenner notes, to some altered function of the vagus. The important features are that this condition may come on quite suddenly whilst the patient is convalescing, and when other symptoms seem favourable; that it supervenes earlier than the common form above described—generally, in fact, within three weeks—and that stimulants appear to be quite ineffectual. The pathology of diphtheritic paralysis has yet to be worked out. Is it, after the fashion of some cases of so-called reflex paraplegia, a neuritis creeping up from the soft palate to the medulla, thence setting up changes by continuity, which are specialised either in the nuclei of the vagus or other cranial nerves, or in some part of the spinal cord?

Addendum.—We have received from Dr. Gwynne, of the Sheffield Dispensary and Hospital, brief notes of a case resembling the above, which case was attended by Dr. Gwynne as an out-patient at her own home:—

E. F., a fairly healthy female child, was seen first on April 26. She had well-marked diphtheritic patches on both tonsils and on the soft palate. She had a fair pulse; was able to swallow well; was dressed, and could sit up on the sofa. After a few days the throat got quite well. Appetite was fitful, and pulse varied a great deal in frequency, and became on the 30th very feeble. Still she was dressed every day, and was able to walk about the room.

May 1.—There were some very slight patches of membrane again to be seen on the tonsils. Glycerine of carbolic acid was applied, as had been done before, with obvious advantage; and next day the patches had disappeared, and no fresh patches had formed elsewhere. The child continued pale and feeble, walked in a tottering way, and pulse was very weak. Otherwise nothing noticeable.

May 3.—Whilst being held over a chamber utensil, which she said she wished to use, the child suddenly became pale; and when Dr. Gwynne saw her the pulse was barely perceptible, and she died immediately, apparently from syncope.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

Case 2.—Tubercular Ulceration of Fauces.

(Under the care of Dr. GEE.)

[For the notes of this case we are indebted to Dr. Garlick, Registrar.]

Alice B., aged seven years, admitted February 20. Parents both strong; no history of phthisis on either side. Two other children alive and healthy; one died teething. The child had been deserted recently by her mother, and evidently much neglected; was in a state of dirt and destitution. The only account obtainable was that five weeks ago the child had lumps in the neck, but made no complaint of the throat; that she had been wasting much, coughing for the last week, and made a noise in her throat at night as if she would be choked. Appetite bad. Bowels natural.

February 21.—Child looks extremely pale and ill; very thin; body and limbs much emaciated. Is dull; answering questions slowly, and with a thick voice. She coughs frequently, bringing into her mouth a thick, very yellow, sickly-smelling muco-pus, which also hangs about the fauces, obscuring the parts. Lymphatic glands on both sides of jaw much swollen. Fauces and back of pharynx eroded. A muco-purulent discharge from the nostrils. Last night some fluid returned by the nose. She swallows solids better than liquids. Chest is small; normal resonance and inspiration all over, but there are diffused all over, but especially on the left side, subcrepitant râles. Abdomen is retracted. Spleen a finger's breadth below rib-margin. Liver not enlarged. Urine, no albumen.

22nd.—Has marked hectic.

March 5.—Fever continues. Child now very depressed. Ulceration of fauces has extended; uvula almost gone. Now the whole of right front is quite dull on percussion, and respiration is covered by abundant sharp râles. Similar râles over left front. Posteriorly, impairment of resonance, with bronchial breathing at both apices. Urine contains a trace of albumen.

10th.—Marked and rapid wasting; now almost a skeleton; very pale and weak; continually febrile. Takes little but liquids, and these return frequently by the nose. Lies on the right side, and is constantly bringing up, with the slightest cough, abundant sulphur-yellow expectoration. A good deal of dyspnœa; respirations 60 in the minute. Chest râles over right front now replaced by strong tracheal respiration; dulness absolute; sharp clicks at both apices; no diarrhœa.

11th.—Died rather suddenly at 3 p.m.

Post-mortem, twenty-four hours after Death.—Rigor mortis present. Body much emaciated. Marked thickening of soft palate—almost double the normal; edge of palate and almost whole of uvula completely and sharply eaten away; mucous membrane on under surface of soft palate, and for some distance, smoothly and superficially ulcerated; edges of ulcers sharply cut, and not thickened. Tonsils small; no evidence of ulceration. Back of tongue deeply ulcerated; edge of epiglottis eaten away; also the arytænoid cartilages partially. Whole interior of larynx presents a finely flocculent appearance, due to adherent small sloughs, the different parts being, however, distinguishable. Superficial small ulcers below to the cricoid cartilage, the size of a poppy-seed. Glands to the right of trachea enlarged, the size of a sparrow's egg; that in the bifurcation not enlarged. Right lung adherent firmly almost throughout; a small trabeculated cavity at the apex; the whole lung presents a densely packed mass of opaque yellowish tubercles from apex to base, the lung between being consolidated by a grey and granular infiltration in the front, and congested in the rest. Left lung also closely packed throughout with tubercles; no cavity. Pericardium and heart natural. Liver twenty-four ounces, much congested. No tubercles; and none found in the kidneys or spleen. The mesenteric glands are enlarged and caseous; and there are numerous tubercular intestinal ulcers with tubercle on the peritoneal surface leading up to the enlarged glands.

Note.—Three other cases of tubercular ulceration of the fauces have been recorded by Dr. Gee, two of them in vol. vii., and one in vol. xi. of the *St. Bartholomew's Hospital Reports*. Two of these are reported in detail, and give a tolerably complete picture, clinically and pathologically, of this disease. Amongst salient features are the slow eroding character of the ulceration (quite different from the "quick melting down of lupiform angina"); the copious formation of muco-pus; the extreme enlargement of the lymphatic glands of the neck (not found as an accompaniment of syphilitic disease of the fauces, and of itself strongly suggestive of tuberculosis); the marked dysphagia which in this, as in two of the other cases, led to frequent regurgitation of fluids through the nose; and finally, the accompanying general tuberculosis.

Mr. Wood, surgeon, of Kirkby Moorside, who has for ten years been Deputy Coroner for the North Riding of Yorkshire, was last week elected Coroner for the district, in the room of the late Mr. J. Ness, who died suddenly at Plymouth during the recent meeting there of the British Association.

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Medical Times and Gazette.

SATURDAY, OCTOBER 13, 1877.

THE SANITARY CONGRESS.

Congresses, conferences, and meetings of a scientific (or would-be scientific) character, multiply at such a rate nowadays, that it would be simply impossible to record, however briefly, the proceedings of all of them, even if we believed that it would be profitable to do so. We do not know whether any hypothesis or theory has been put forward to account for this rapid production and spread of these institutes and assemblings: but perhaps we may be permitted to suggest the question whether the glandular theory or the germ theory can afford any explanation of the matter; or are any of these congresses purely fortuitous? Be that as it may, however, we cannot allow the late Congress of the Sanitary Institute of Great Britain to pass without a few words on the chief addresses delivered during it. It will be remembered that the Institute held its first public meeting at the Royal Institution, London, in July last, under the presidency of the Duke of Northumberland, when Dr. Richardson, the chairman of its Council, delivered an address, which we noticed at the time. Last week it held a Congress, presided over by Dr. Richardson, at Leamington; and this meeting is the first of a number of similar ones meant to be held in other places in future years. Dr. Richardson again opened—we believe we ought to say "inaugurated"—the proceedings by an Address on the Glandular Origin of Communicable Diseases. He entirely disbelieves in the germ theory of disease; and made use of the present occasion to review the theory which he brought forward ten years ago, in Leamington, on the occasion of a congress being held there to discuss the subject of the disposal of sewage, and which his subsequent experience and reflection have, he says, only tended to confirm. He holds, we believe (for we have seen only an abstract of his address), that a patient suffering from communicable disease is for the time being a poison-producing animal; the substance or material by which each communicable disease is produced, and spread, being an organic poison, or septine, which is the result of disturbed glandular action, and the patient being temporarily in a condition analogous to that of a poisonous or venom-producing snake. He has noted that the number of the distinctly communicable diseases is closely related with the number of the secretions in the healthy body: "the poison of hydrophobia is from the salivary secretion; of diphtheria from the mucous glands of the throat; of scarlet fever, he believed, from the lymphatic glandular secretion; of glanders, from the mucous secretion of the nasal surface; of typhoid, from mucous glands of the intestinal surface; and so on. In some instances the blood itself is infected, and the corpuscular matter becomes the seat of the catalytic change." And the matter or particle which sets up the poisonous action, instead of being a living germ, is matter actually dead; its power for evil depending upon its being dead. By this, then, also is explained the fact that under certain influences affecting glandular action the poisons may arise directly through nervous impression without the necessary intervention of an infecting particle. In many epidemics it is common, Dr. Richardson says, to see a number of examples of the prevailing disease, the origin of which is traceable only to fear or anxiety. "My theory," he continues, "explains fully the reason of this. It indicates that an extreme nervous impression acts on the glandular nervous supply, paralyses the glandular function, and thereupon produces the same phenomena as are produced in other instances by the action of a specific poison. The theory in this manner accounts for the origin of an epidemic disease from an impression made on the nervous system without the direct contact of poisonous matter, as well as for the after-propagation of the disease by distribution of poisonous particles, when that is communicated from an infected to a healthy person. It accounts equally for the production of disease and of a poisonous glandular product under conditions of starvation and cold, by which the nervous tension is reduced. Again, it accounts for the production of disease and of a poisonous glandular secretion under special atmospherical conditions in which the activity of the atmospheric oxygen is reduced in sustaining power." By it we can also account for the distinct "heredity" of some of these diseases. The impression of disease made on a nervous centre is transmissible, and thus a tendency to typhoid fever, to diphtheria, to scarlet fever, is transmissible; and as this tendency or susceptibility is, for a time at any rate, worn out by one attack, the glandular function being modified, we have in this an explanation of the protection afforded, sometimes for a lifetime, against future attacks of the same disease. The germ hypothesis—Dr. Richardson will not allow that *it* deserves to be called a theory—of disease fails altogether of proof; and, if true, how can anyone escape fertilisation, and how can any infected person ever recover?—while everything is explained by the glandular theory, and recovery is only one of the natural terminations of the glandular derangement! We must not suggest, we suppose, that such a subject is best or only fitted, at present, to be treated scientifically, and before a scientific audience, for the germ theory is made by eminent professors a subject for popular discourses. Dr. Richardson's subject was skilfully and ingeniously placed before his hearers; and, as is always the case when he is the lecturer, the address was highly applauded.

The second address which we shall mention was one from Dr. George Wilson, Medical Officer of Health for Mid-Warwickshire, on "The Past History and Future Prospects of Sanitary Science." He described the "insanitary" mode of living of our forefathers, and spoke of the results in the terrible diseases which from time to time made such havoc in the land. He traced the rise of better conditions of life from the introduction of soap and soda, and the adoption of cleanliness of the person and in the houses, and pointed out how diseases that before were constantly raging, gradually disappeared; and he showed how the death-rate for England and Wales had

improved. The death-rate in Lincoln, for instance, had been lowered from 80 per 1000 in the seventeenth century to 50 per 1000 in the last century, and to 24 per 1000 in the present day—and might, and ought to, be made lower still. "If," he said, "the death-rate of the whole country were reduced to the low average death-rate of a town like Leamington, 17 per 1000—and such reduction was quite within the possibilities of sanitary science—then, the Registrar-General's returns proved, there would be an annual saving of 115,000 human lives in England and Wales." And the hope of saving any number of these lives, and of mitigating to some extent the enormous amount of needless suffering which they represented, was surely, he urged, enough, and more than enough, to fire the ambition of everyone who believed in human progress. The paper was a very able, instructive, and encouraging one.

The last of the Congress subjects to which we shall now, at any rate, allude is the speech delivered by Mr. Brudenell Carter. This was an eloquent address on the "Present Possibilities of Sanitary Legislation." Greatly as we admire it, however, we need not speak at length about it here, for, as we are happily enabled to publish it *in extenso*, it speaks for itself elsewhere in our columns. Mr. Carter's theme was, to quote his own development of the title of his address, the inquiry, "What amendments of the law, in the interests of public health, are practicable in the existing state of enlightenment and of opinion?" and he asserted that it is universally admitted that "no law can be useful which does not command the willing assent of the majority of those who live under its provisions." We have more than once had occasion to point this out, but we must say that, if universally admitted, it is not always remembered or acted on. Mr. Carter also said he thinks (and we agree with him) "that it is also admitted that legislation, especially when it has regard to questions upon which knowledge is increasing, and is becoming every year more widely diffused, might with propriety be a little in advance of prevailing practice, so that it might, to some extent, exert an educational influence." He then shortly considered why it is that laws in the interests of public health are required at all, and what purpose they are intended to fulfil. Having explained this with happy clearness and brevity, he illustrated his teaching by a description of the ravages committed by gaol-fever, the plague, and other preventable diseases which have destroyed or still do destroy, yearly, tens of thousands of lives in England and Wales. In speaking of these filth diseases, Mr. Carter justified the use, for the present at any rate, of the word "zymotic"; and, referring to "the talk about 'germs' and 'germicide remedies,' as if the existence of germs were a fact instead of only a convenient hypothesis," and noting that "an inconvenience incidental to the use of the word 'germ' is that it tends to impose a hypothesis upon us for a truth," he pointed out that the want of certainty here does not matter to men of science, because they "are not likely to be misled by what South felicitously called 'the terrible imposture and force of words';" but that it did matter greatly to some to whom the care of the public health in districts and localities is committed, "because they were led to fancy that they knew something when they did not, and to think themselves less ignorant than they really were; and thus to undertake responsibilities and to pursue conduct from which wiser or better instructed persons would shrink with something like dismay." He then dealt with the question whether these diseases, as they are now known, always arise only from infection, and are the results of distinct varieties of poison, or are different types of disease having a common cause, and originating sometimes *de novo* under certain combinations of circumstances; and pointed out that it is a question of the greatest importance to know whether, as a matter of practical fact, a case of typhoid, for instance, "necessarily presupposes a pre-existing case in a channel of contagion, or only a pre-existing combination of physical conditions." And this knowledge can only be obtained by the patient investigation of competent observers, for "disease may be conveyed in some such unsuspected manner as this—by a stray dog, by a beggar, by a tradesman's messenger, in a public conveyance, in a place of amusement, or by casual contact in the street. The postman may have put it in a letter-box, or it may have been delivered with clean linen by the laundress." Then he considered the various ways in which the Legislature or the local government may and ought now to protect and help and teach the public; and the way and the degree in which they fail. It may be said that in his indictment against them he certainly does not aught extenuate, but then as certainly he does not set down aught in malice. His admirable speech concludes with a few eloquent sentences on the fame and honour that would be won by any politician and statesman, of adequate culture and adequate capacity, who would, during a few years of patient and well-directed Parliamentary labour, ceasing to give to party what is meant for mankind, devote himself to the great subject of public health; and finally, alluding to the work of the Congress, the orator said—"Our present business may seem trivial; it may produce no immediate or perceptible results. None the less, however, will it be seed which cannot fail hereafter to yield a harvest; and in proportion as our work is earnest and truthful, so far will it hasten the advent of the time to which we must look forward with hope and confidence, when Englishmen and Englishwomen will no longer every year be poisoned by thousands, by accumulations of filth against which individuals are powerless, and which we, as a nation, are too indolent or too ignorant to remove."

VACCINATION STATISTICS.

To the vast majority of educated persons, and certainly to our readers, any serious discussion of the question, "Does vaccination afford any protection against small-pox?" would seem a most idle and futile misuse of time; and we have not any intention of wasting time and space in that way. But there appeared, not long ago, in the *Journal of the Institute of Actuaries, and Assurance Magazine*, and has since been republished in a separate form, a paper having for its title that question; and the paper merits notice in our pages for two or three reasons. It is written by Mr. T. B. Sprague, a well-known actuary, and a vice-president of the Institute of Actuaries; it points out what is, in the writer's opinion, a serious fault in many of our vaccination statistics; and it supplies a very forcible argument in favour of revaccination. It is curious to observe that Mr. Sprague, with the instinct of a keen man of business, has contrived to make the publication of his paper serve a double purpose. He is "a spelling reformer," and, holding that it is of primary importance that the public should gradually "becom familiarized with the idea that a spelling reform is possibl," he has had his paper printed in accordance with his views of what spelling ought to be. And as this is the only object mentioned in the brief preface to his paper it might almost be considered his chief one. We are, however, only concerned with the other purpose of it. He says (and we once more adopt in quoting from his paper the mode of spelling that he favours), "I had supposed until lately that the statistics compiled by different persons at varios times, and publisht in medical works, prove beyond all reasonabl dout that vaccination affords an almost certain and complete protection from smalpox. It appears, however, that in certain quarters the efficacy of vaccination is now altogether denied. Vaccination is denounst as in all cases useless, and in many positively injurios, becaus it introduces an animal poison into the system, which often produces very serios ilness. Such is the view taken by the National Anti-Compulsory Vaccination

Leag, som of(a) whoze publications hav recently been brot under my notis. . . . From the nature of the case, statistics on the subject must be furnisht by members of the medical profession, and the actuary can hav litl or nothing to do with the preparation of them. He may, however, usefully examin such statistics when givn to the world, and state, without being considerd presumptuos, what conclusion may in his opinion be fairly drawn from them." And that was the task which Mr. Sprague set himself: examining statistics both for and against vaccination. On the side of vaccination he took Dr. William Robertson's Seventh Annual Report on the Vaccination of Children born in Scotland during 1870; and the statistics contained in Dr. Thorburn's "very readabl litl work" on vaccination, and applied to the examination and criticism of them all the trained skill of an actuary expert. We have not space to enter into the statistics, and in addressing medical men it is not necessary to do so, Dr. Thorburn's pamphlet being well known; but Mr. Sprague arrives at the conclusion that they "can leave no reasonable doubt as to the reality of the protection afforded by vaccination," and he says also that Dr. Thorburn's pamphlet deals with a number of other questions bearing on the efficacy of vaccination, besides the statistical one, "in a most interesting and satisfactory manner." He objects, however, that in none of the statistics contained in the papers he had examined, with the exception of one short table which he took from Dr. Robertson's Report for 1874, was any information given as to the ages of the persons attacked with small-pox.

The statistics prepared by an opponent of vaccination were next examined. They are contained in a report by Dr. L. J. Keller, Chief Medical Officer of the Imperial Austrian State Railway Company, on the sickness from small-pox among the employees of the Company in the year 1873. It appears that the Company has always in its employ about 37,000 men, forming, with the addition of wives and children, pensioners, and others, a population of near 60,000 persons. Eighty medical men are engaged by the Compauy, the employees, and their wives and children, and are required to keep exact records of all the cases of sickness that occur, and to send monthly and yearly statistical reports to the directors; and all these medical men are under the supervision of the Chief Medical Officer. Dr. Keller, in the report mentioned, examines into all the cases of small-pox which had occurred during the year 1873 among the population under the care of the Medical Officers of the Company, and considers that he has proved that vaccination is utterly useless. His report was, very naturally, translated and published by the Anti-Vaccination League, and it came into Mr. Sprague's hands. Finding, however, that Dr. Keller's principal statistical tables had been omitted, he obtained, through Mrs. Mary C. Hume-Rothery, a copy of the report in the original German, and examined for himself the statistics, and the conclusions drawn from them. The results are sufficiently striking to command attention. There occurred altogether, in the year 1873, among the population concerned—viz., from 55,000 to 60,000 persons—2054 cases of small-pox. Of these the "vaccinated" numbered 1337, of whom 219, or 16·38 per cent., died; the "unvaccinated" were 596, of whom 148, or 24·83 per cent., died; the "revaccinated," were 46, of whom 7, or 15·22 per cent., died; 11 had small-pox previously, and of these 2, or 18·18 per cent., died; and 64 were classed "doubtful," of whom 9, or 14·06 per cent., died. The first thing to strike our readers will probably be that vaccination affords at any rate very nearly as much protection as a previous attack of small-pox does; and the next, that the statistics do not show in what degree, if any, vaccination gives protection against an attack of small-pox, but only the degree in which, supposing the tables to be trustworthy, it protects against, or lessens, the mortality of small-pox among those whom it does attack: a point of immense importance when such statistics are employed to answer the question, "Does vaccination afford any protection against small-pox?" Mr. Sprague, as we shall see further on, notices this. In all Dr. Keller's tables, the ages of the persons attacked are given, and he finds that "the mortality is heaviest in the first two years of life, then gradually diminishes, reaches its minimum between fifteen and twenty, and from that point increases gradually and with great rapidity at advanced ages. *This is just the law which human mortality in general follows.*" We cannot give all Dr. Keller's tables, nor all the conclusions he draws from them, but Mr. Sprague considers that, assuming his statistics to be entirely trustworthy (which he sees no reason to doubt), two points are clearly established by them. First, "that small-pox statistics in which no account is taken of the age are of little value, if any, and are often positively misleading." This he shows by the following figures, taken (or deduced) from a table of Dr. Keller's relating to the years 1872 and 1873 combined:—

	Vaccinated.			Unvaccinated.		
	Number of cases.	Deaths.	Mortality per cent.	Number of cases.	Deaths.	Mortality per cent.
Under 2 . . .	89	49	55·06	278	118	42·44
Over 2 . . .	1,570	210	13·37	515	66	12·82
Total . . .	1,659	259	15·61	793	184	23·30

"Here," says Mr. Sprague, "the rate of mortality among the vaccinated, taken as a whole, is very much less than that among the unvaccinated; but when we divide the cases into those under and above two years of age, we find that in each class the mortality of the vaccinated is greater than that of the unvaccinated. If, therefore, the age were not taken into account, the figures relating to the vaccinated and the unvaccinated of all ages would lead us to an erroneous conclusion." Secondly, Mr. Sprague concludes "that the mortality among persons attacked with small-pox depends almost entirely on the age, and is very little, if at all, affected by the fact of their having been vaccinated or having had a previous attack of small-pox. In other words, the rate of mortality among the vaccinated persons who were attacked was quite as heavy as that among the unvaccinated."

In considering the value of these conclusions it is to be observed that Dr. Keller does not appear to take any note of the number or the character of the vaccination marks on the persons classed as "vaccinated,"—and these points are, we know, of the highest importance as affects both the degree of protection afforded by vaccination against small-pox, and the degree in which it alters the fatality of the disease when this occurs; and further, that Mr. Sprague views the matter purely as a statistician. He apparently supposes that but few children escape vaccination, and that it is only or chiefly the "sickly children" that are left unvaccinated; and we know but too well that this is not the case. But he sees that Dr. Keller's statistics certainly do not justify the conclusion that vaccination is of no use. "In order to determine this," he says, "we require further information beyond that furnished by Dr. Keller's tables—namely, as to comparative numbers of the vaccinated and the unvaccinated among the population of from 55,000 to 60,000, upon whom his observations were made." He draws, moreover, one other conclusion from Dr. Keller's statistics, and it is a very noteworthy and important one. Looking at one of the tables, he finds a remarkably steady and rapid increase in the ratio of the number of vaccinated persons attacked by small-pox to that of unvaccinated; and this, he observes, is an indication of "a gradual wearing out with lapse of time of the protection

(a) It is remarkable that in the early pages of the pamphlet Mr. Sprague spells "of" in the usual way, while in his preface and about the latter half of the pamphlet it is spelt with a "v"—*ov*. His reforms are mild, but are they needed? Do we not recognise words by the ear rather than by the eye?

afforded by vaccination. The rapid increase of the ratio between the ages of fifteen and twenty appears to indicate that between those ages vaccinated persons become much more susceptible to the infection of small-pox, and that it is, therefore, highly desirable that they should be revaccinated." Mr. Sprague, in conclusion, expresses a hope that his description of the statistics put forward by the opponents of vaccination may be useful to its defenders, by drawing their attention to certain points on which further information is desirable; and he considers that as vaccination has now for many years been compulsory, and the registrars are able to calculate with very considerable accuracy the number of children which escape the provisions of the law, and grow up unvaccinated, persons having the necessary ability, spare time at command, and familiarity with the returns, might draw various important conclusions from them.

The outcome of the discussion is, not to throw the shadow of a doubt even on the entire reasonableness of our trust in vaccination as a protection against attacks of small-pox, but to warn us to make our vaccination statistics more minutely full and perfect, and to furnish an additional and powerful argument in support of regular and systematic revaccination. For this the profession owe thanks to Mr. Sprague, though we may have a "reasonable" fear that extracts from his paper may possibly be used for a purpose he probably never thought of, and certainly never intended.

CLINICAL TEACHING.

Our hospitals are once again thronged with students, come to listen to the clinical instructions of the surgeons and physicians in their several wards. On the thoroughness and soundness of the instruction here given will depend very materially the future success of the student, not only at his examinations, but also in his further career as a practitioner. Holding these views very strongly, we may be permitted to revert to an old subject—the clinical teaching in the various London hospitals,—and criticise or commend, as occasion and opportunity occur. Taken as a whole, our clinical teaching, as compared with that given in Germany or France, is decidedly poor. There is certainly no lack of material; and the men who have risen to be surgeons and physicians to the London hospitals are in no way inferior to the corresponding officers of the foreign schools. We must seek in another direction, then, for the difference in the teaching powers here and elsewhere exhibited. We believe it is mainly to be found in the mode of education. The art of public speaking, of expressing oneself tersely and to the point, is seldom, if ever, a natural gift, any more than is the power of condensing the salient points of a case into a running commentary, which shall not only be interesting, but precise and exhaustive. This power and art is cultivated from the very earliest date on the Continent, and especially in France. Again, the aspirants to what we call house-surgeoncies and house-physiciancies—all of which posts are decided by public *concours*—must show evidences of original work and original ideas in order to be successful; and any hope of further successful competitions for hospital and university appointments depends absolutely on aptitude for ward or laboratory work, backed up by patient and laborious original research. Even the ordinary degree in medicine is not conferred until after a thesis on some subject has been publicly sustained before the assembled magnates of the university. Of course some (perhaps many) of these theses, as such, are not worth the paper on which they are printed, but this does not in any serious degree detract from the general educational value which the practice of thinking and writing undoubtedly possesses.

It is, perhaps, not generally known that French house-surgeons are not allowed to take their degree until after their house-surgeoncy has expired. They must have passed all the necessary examinations, but they are ineligible for office if they have graduated. The utility of this rule is self-evident, for the long period during which these gentlemen hold office gives them ample opportunity for working out some subject, while the necessity of sustaining a thesis for their degree gives them a definite object for which to strive. As we have before said, all appointments in the French Faculties are open to, and only given away after, a public *concours;* and as the younger men all know this and constantly keep it in mind, they are ever on the look-out for some suitable subject to discuss, and for material and cases to support their views.

With such objects constantly in view (for men do not rise by mere seniority), the French *agrégés* and professors enter their wards and go their rounds. Thus, long before they have arrived at the teaching stage of their career, they have been engaged in original work, they have exercised themselves in the art of *observing*, of *recording*, and of *making the most of* their cases, so that by the time they attain to the rank of our assistant-surgeons and physicians, and have a *service* of their own, they are probably men who have been weeded and thinned out as much by the hardships of competition as by the principle that the fittest only survive. We must further remember that all this work has been done under the immediate eye and superintendence of men trained in a similar manner to themselves—trained in a school which can claim such men as Bretonneau, Dupuytren, Velpeau, Trousseau, and a host of others, as pupils first, and professors afterwards.

There is another factor too, of not less importance than the preliminary training—it is the *necessity* of giving some *definite clinical teaching*. This is a most important part of the curriculum, and each morning's visit is consecrated to the study of at least one subject in either medicine or surgery. It is far better for the student to have one hour of systematic teaching over one or two well-chosen cases, than to spend the greater part of an afternoon in listlessly following a physician or surgeon from bed to bed, and being compelled to listen to remarks which, as a second year's man, he would not understand, and which, as a third or fourth year's man, would be of little use to him from an examination point of view. The mode of imparting this instruction varies. In some of these hospitals the students collect round the bedside, and the physician asks one of them to examine the case; the student is then cross-questioned; finally, the physician sums up the case, perhaps gives an imaginary typical case, and contrasts with it the one under observation. In other hospitals, two or three of the senior men are set to examine each a case, the physician going from one to the other to see that each man makes his examination *systematically*. Then they all retire to a distant part of the ward, where physician and student may each speak plainly without offending the ear of a sensitive patient; the student is publicly cross-questioned on his case, and his faults, both of omission and commission, are then pointed out. In large schools, such as Berlin or Vienna, where the number of students is very great, this is done in a suitable theatre, and then all can both hear and see with ease and satisfaction to themselves, and with little or no annoyance and irritation to the patients in the ward.

Almost unconsciously we contrast this *systematic* and *regular daily* clinical instruction of Continental universities with the spasmodic, irregular, disjointed, and often unprofitable remarks which many of our English physicians and surgeons, as a mere matter of habit, call clinical teaching. Not a few go their bi-weekly rounds without even attempting this much; they fall into the too common error of imagining that these "everyday" cases are not really worth speaking of, and only when some rare case, as uncommon as it is incurable, comes before them, can they get up sufficient energy to give a

clinical lecture. This is much to be regretted, for it is exactly the common, everyday cases—acute dyspepsia, chronic bronchitis, phthisis, heart and kidney disease, or, again, fractures of all kinds, ulcers, hip disease, spine disease, common skin eruptions—that the large mass of students will be called upon to treat, and it is in this class of diseases where so much yet remains to be done.

There is another feature, too, of foreign clinical teaching of which we would speak. It is the obligation which is imposed on the younger members of the staff to do their share of regular work; and indeed not the least interesting part of clinical work and public clinical instruction is done by men who are, as yet, young and untrammelled by the cares of private practice, and whose time and thoughts are consequently the more at the disposal of the school to which they belong. A sufficient remuneration too is offered, so that the worry of "making both ends meet" is reduced to a minimum. We do not say that all the younger men give clinical instruction equal to that of the most distinguished clinical teachers; but we maintain that there is teaching and teaching; and he is not a less useful member of a school who tells students how to bandage a wound or set a fracture, than the fine physician who will diagnose a case to a hair's breadth, but forgets to say what is to be done for the patient. Neither would we advocate a wholesale importation of foreign customs into our own schools. Least of all would we advocate the system of writing theses for the ordinary qualification to practise medicine or surgery. We believe, however, that some such regulation might be usefully imposed on all candidates for the higher qualifications of the Colleges of Physicians and Surgeons; and certainly it ought to be obligatory on all candidates for the staff appointments of our hospitals and schools. As the regulations at present stand, no one is eligible for the higher examinations in either medicine or surgery who has not held the office of house-physician or house-surgeon; and this period, if properly utilised under the eye of a clever clinician, would allow ample scope for original observation and original work. To such as aspire still higher, these habits of thinking for oneself would be of great service in after-life, while the power of suitably expressing one's ideas developes as one's ideas become more definite and less diffuse. Let only those be appointed teachers who have themselves been well and *systematically* taught, for the power of imparting knowledge depends less on the amount which is stored up than on the manner in which it is arranged. It should never be forgotten that clinical instruction, to be of real service, must be something more than a mere recital of one's own ideas and practice; it must be a *résumé*, a contrasted parallel, of what is done in the same science in all countries.

THE WEEK.

TOPICS OF THE DAY.

The first permanent hospital for non-pauper cases of infectious and contagious diseases founded by any Metropolitan District Board of Works, with the exception of the Cottage Hospital buildings at Lewisham, was inaugurated last week at Plaistow by the Poplar District Board of Works. Since the passing of the Sanitary Act of 1866, this Board has provided two disinfecting houses with all the necessary apparatus; two ambulances for the conveyance of infected patients to hospitals; and a mortuary for the reception of infected corpses, when their remaining in a room would endanger the health of survivors. For some time the Metropolitan Asylums Board had assisted the several districts by receiving patients needing removal from their homes; but in January last the Local Government Board gave notice that this arrangement could not be continued, and the present building has been the result, and will afford a much-needed means of isolation in cases of outbreaks of cholera, fever, or small-pox in the neighbourhood. The site of the hospital is a freehold plot of ground near the Barking-road, 190 feet long, and 170 feet broad; the buildings consist of two pavilions, each of a couple of storeys, together with the necessary offices. Each of the pavilions is designed to accommodate thirty-six patients, and there is ample space between the two for a recreation-ground for the use of convalescents. The cost of the land and of the buildings is estimated at about £14,000. It is to be hoped that the example set by Poplar in this matter will speedily be followed by other metropolitan districts.

The services of Mr. Rawlinson, C.B., C.E., the Local Government Board Inspector, seem in great request in enforcing the provisions of the Rivers' Pollution Prevention Act of last year. An inquiry has just been instituted as to the condition of the Avon in Wilts, the flow of sewage into which from the city of Salisbury has led to a threat of legal proceedings by a neighbouring landowner. The river Frome, in Dorset, is the next which will occupy the attention of the inspector. From these early indications of commencing action, it is clear that the Act, even in the mutilated condition in which it was finally passed, may be of much service to the country.

It seems probable that an earnest effort will be made to meet and do away with the prejudices against water-cresses which exists in many quarters, on account of the contamination to which they are exposed through the pollutions common to the rivers, brooks, and water-cress beds in which they are generally grown. At a recent meeting of the Royal Horticultural Society, Mr. Shirley Hibberd, of Stoke Newington, presented a dozen pans of water-cresses, grown in the manner he has practised and recommended for some time. One of the advantages of his system is that the plants are under complete control to be placed in the sun or shade, or during winter in heated plant-houses, and can at all times be supplied with pure water. The pans in which they are grown measure from fifteen inches to twenty inches across, and from six inches to nine inches deep, the smaller size being described as most convenient. The pans are filled with rich loamy soil, intermixed with lumps of chalk or old mortar, and then very small cuttings are inserted. These soon become strong plants, and in from fifteen to twenty days they may be gathered from, the cresses being tender and delicate in flavour, and of the most beautiful appearance. The twelve pans shown had been regularly gathered from for the table for a period of six weeks, and the fresh appearance of the plants indicated that they might be cut from for another six weeks without being exhausted.

It is stated, in reference to the movement for establishing Home Hospitals for the well-to-do, that nearly £5000, or one-fourth of the guarantee fund which the Provisional Committee have fixed as a sufficient sum to warrant them in opening a Home Hospital as an experiment, has already been obtained, but that the Committee will delay for the present the issue of any general statement to the public. Thus far the money has been obtained with practically no outlay whatever; and there seems a good prospect that the whole sum requisite will, ere long, be available for practically testing the scheme.

The results of a first attempt to construct a Scottish life-table out of the materials afforded by the census enumeration of 1871, and by the registered deaths of that year, have just been made public by the Registrar-General for Scotland in his "detailed report" on the year 1873. The delay in preparing this information would certainly seem to have been excessive. Much difficulty is caused by the practice adopted by many persons at the census, of not disclosing their exact age; and it is only after grouping enumerated ages into quinquennial periods, and making various assumptions, that an approximation to the truth can be obtained. Dr. W. Robertson, who presents the tables, explains carefully the course which

had to be taken. The death-rate in Scotland in 1871 was higher than that of England in 1841; and hence it is not unnatural to find that this approximate Scottish life-table gives to the expectation of life, at most ages, values somewhat lower than Dr. Farr assigns in his first English life-table, based on the census of 1841. The expectation of life in Scotland is stated at its highest—namely, 49·10 years for persons aged four years; after nineteen it never again reaches forty years; after thirty-four it never reaches thirty years; after fifty it is less than twenty; after sixty-seven, less than ten; and after eighty, less than five years. In Scotland, in 1871, the lowest death-rate was of persons between ten and fifteen years old—viz., one in 172·71; but it was as high as one in 6·69 for infants in their first year of life—a rate which it never again attained in any quinquennial period until that which includes persons who are from eighty to eighty-five years old.

A severe outbreak of scarlet fever is reported to have taken place at Stafford, where it is raging in all parts of the town. The local authorities, assisted by the medical officers of the district, are taking active steps for arresting the progress of the epidemic.

In giving an account of the quality of the water-supply on the Yorkshire, Cumberland, and Lancashire coasts, the *Sanitary Record* finds that at Bridlington the supply would be a satisfactory one if it were properly filtered—a process which it evidently needs, in order to remove a large quantity of foreign matter and vegetable impurities held in suspension. The watering-place of Filey gets but a bad character for its water; it is found to be badly filtered, of third-rate quality, and generally unsatisfactory. Some water from a private well in an hotel at Filey, stated to be used for washing purposes only, is said to be of a dirty yellow colour, while the taste and smell resemble those of a sample of stagnant sewage. The sooner the use of this well is abandoned altogether, the better it will be for those who may visit the hotel. It is satisfactory to learn that Scarborough has a constant supply of good water, and that the same may also be said of Whitby.

A curious instance of the evils attributable to the overflow of rivers has been brought to notice by M. Duplessis at a meeting of the Academy of Sciences in Paris. It is well known that serious damage is frequently done to lands by the overflow of rivers containing polluted matter; and large tracts of land have been destroyed in this way by floods in the mining and manufacturing districts of South Wales, and the Northern and Midland counties. Instances have also occurred where diseases have been communicated both to human beings and to animals by water brought down from infected districts. A still more remarkable case of the transmission of disease has been observed in the South of France, and is commented on by M. Duplessis. A field of rye, which had previously produced a crop of vetches, was observed to be partially affected with "smut." As vetches are known not to suffer from the disease, and as only part of the field was attacked, its origin was doubtful. It was eventually discovered, however, that some fields at a distance further up the river—the Loire—had been affected, and that the river in overflowing had covered that portion of the crop which was now found to be diseased. There could be no doubt, therefore, that the floods had been the means of communicating the disease to the flooded portion of the lower ground.

An "Infirmary Manager" in Edinburgh has addressed the following letter to the *Times*:—"Will you permit me, through your columns, to draw attention to the unreasonable delay of the Home Secretary in filling up the chair of Clinical Surgery at Edinburgh, which was vacated by Professor Lister some months ago? Not to mention the cruelty of keeping at least five candidates in suspense during all this time, I may state that the clinical lectures should commence on November 1, and the new Professor will have certain arrangements to make before entering upon his duties. He is enabled to give his *clinique*, by the managers of the Royal Infirmary of Edinburgh allotting him wards in the surgical hospital. The adjustment of these wards—as there are other four surgeons whose interests require to be considered—will take some time, and yet the Home Secretary still defers his decision, though it is now only about three weeks to the commencement of the winter session, with even a larger number of medical students already entered than at the corresponding period of last year." We should imagine that Mr. Cross can hardly be aware of the necessity for prompt action in this matter, or the delay complained of would scarcely have been allowed to occur.

QUEEN'S UNIVERSITY IN IRELAND: ADMISSION OF WOMEN.

The annual meeting of Convocation was held on Friday, the 5th inst., in the Privy Council Chamber, Dublin Castle, Sir Dominic Corrigan, Bart., M.D., Vice-Chancellor of the University, presided. Mr. J. Wilson, Clerk of Convocation, read the report of the Annual Committee. The adoption of the report was moved by Sir Robert Kane, seconded by Mr. A. M. Porter, Q.C., and carried. The most important business of the meeting was the discussion of the following notice of motion, which had been put on the paper by Dr. H. MacNaughton Jones, of Cork, viz.:—"That inasmuch as the Senate of the Queen's University in Ireland have granted to women the privilege of being admitted to degrees in medicine, this Convocation is of opinion that no obstacle should be placed in the way of women availing themselves of that privilege, through the action of the Council of any of the Queen's Colleges in refusing to permit them to attend such lectures in the Colleges as are necessary to qualify them for admission to these degrees." In the absence of Dr. Jones, the resolution was moved by Dr. Thornley Stoker (who thought that a discussion on the subject was perhaps desirable), and seconded by Dr. McDonald, *pro formâ*. After considerable discussion, Dr. Stoker, in reply to the Chairman, stated his willingness to withdraw the motion unconditionally, and leave was given to do so. The Annual Committee for the ensuing year having been elected, Professor Yonge moved a vote of thanks to the Vice-Chancellor of the University for presiding. He only expressed the sincere hope of all present when he said that they trusted Sir Dominic would be spared to occupy the chair for many years to come. The vote was passed with acclamation, and Sir Dominic having replied, the proceedings terminated.

VICARIOUS CHARITY.

The front sheet of the *Times* newspaper of Wednesday last was almost half-filled with acknowledgments, from various London charities, of bequests which they had received from the trustees and executors of the late James Graham, Esq., of Regent's-park, who left the residue of his estate, about £170,000, to be distributed among public charities, at their absolute discretion. It is indeed a matter of almost national congratulation to think of the numberless charities which are voluntarily carried on and supported by private munificence. In no other country in the world do such institutions exist to the same extent as in England. Among the bequests we notice that the London Hospital receives the largest legacy (£2500); and seeing its large size, its position in one of the poorest districts of London, and that it depends for support almost entirely on public subscriptions, no one will grudge this Hospital its good fortune. There are twelve legacies of £2000 each, and thirty-four of £1000, besides a very long list of £500 and £250 legacies. The executors of this will—D. R. Porter, Esq., Captain A. F. Stewart, and J. T. A. Patrick, Esq.—are to be congratulated very sincerely on the manner in which they have discharged their onerous, and not altogether easy, task. In a very large majority of cases the awards are made with great judgment

We trust that the funds will be as carefully expended by those into whose hands they have fallen. We take this opportunity, on behalf of the London medical charities, of publicly thanking the executors of the late Mr. Graham for the great care and labour which they have devoted to the carrying out of the trust imposed on them.

THE FLESH OF CATTLE AFFECTED WITH EPIDEMIC PLEURO-PNEUMONIA.

The Dublin Sanitary Association has drawn up a report on this important subject, in which the following conclusions are put forward:—"1. That epidemic pleuro-pneumonia of oxen is a specific contagious fever, and therefore affects the whole system of the animal, including its flesh and milk. 2. That the flesh of animals affected with the disease, except in the earliest stages, is known to present unhealthy appearances. 3. That the flesh is especially prone to become putrid, and therefore dangerous as an article of food. 4. That it is not known with certainty at what stage of the disease the flesh first shows signs of infection. 5. That there is no evidence of a scientific character to prove that the flesh of oxen affected with the disease has not produced injurious effects. 6. That there is some evidence to show that the flesh when eaten has produced injurious results. 7. That the proposal to sell the flesh at a reduced price, and to make it less prone to putrefaction by careful bleeding, is, if carried out, calculated seriously to endanger the health of the consumers, especially the poor, and to leave a loophole for the sale of all kinds of diseased flesh." The Association is therefore of opinion that the flesh of animals which have suffered from pleuro-pneumonia in any stage should not, under any circumstances, be permitted to be sold for human food.

THE METROPOLITAN ASYLUMS BOARD.

At a numerously attended meeting of the managers of the Metropolitan Asylums Board, held last week, a report was presented from the General Purposes Committee, which stated, in reference to the decrease of small-pox in the metropolitan district, that, having regard to the existing pressure for accommodation for female imbeciles chargeable to the metropolitan parishes and unions, it would be desirable to utilise one of the Asylum hospitals for this class of patients, but only so long as such hospital may not be required for the reception of persons suffering from any contagious or infectious diseases for which the managers are called upon to provide accommodation. Mr. Galsworthy moved the adoption of the report. The returns as to small-pox, showing the number of cases remaining in most of the hospitals up to date, gave the following results:—At Homerton, 40; Stockwell, 86; Hampstead, 43; and Fulham, 21. For the fortnight ending Friday, October 5—admitted, 60; died, 15; discharged, 59; total, 146. Total for the preceding fortnight—admitted, 67; died, 12; discharged, 101; remaining under treatment, 160. The report was received, and after some routine business the Board adjourned.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

The annual meeting of this Society was held in the library of the Newcastle-on-Tyne Infirmary, on Thursday, September 27; Mr. G. B. Morgan, President, in the chair. The Committee presented a very satisfactory report, and stated that "during the session 1876-77 nineteen papers were read, fifty pathological specimens were exhibited, and fifteen patients were introduced at the meetings. The total number of members now is 161." The following is the list of officers for the ensuing session:—*President:* Mr. G. B. Morgan, Sunderland; *Vice-Presidents:* Dr. Luke Armstrong, Newcastle; Mr. S. W. Broadbent, South Hetton; Dr. Barnup, Newcastle; Mr. Hawthorn, Newcastle. *Secretary:* Mr. Byrom Bramwell, Newcastle. *Committee:* Mr. H. E. Armstrong, Newcastle; Dr. Arnison, Newcastle; Mr. Carr, Newcastle; Dr. Denham, South Shields; Dr. Eastwood, Dinsdale; Dr. Frain, South Shields; Dr. Hume, Newcastle; Dr. Page, Newcastle; Dr. Philipson, Newcastle.

THE CHAIR OF ANATOMY IN GALWAY.

Last week we were able to announce the transfer of Dr. Cleland from the Chair of Anatomy in the Queen's University, Galway, to that in the University of Glasgow. We have now to announce that already a candidate apparently made for the vacant chair appears, in the person of the present Demonstrator of Anatomy in the University of Edinburgh, Dr. J. Cunningham. This gentleman is the author of many scientific papers on anatomical subjects, and moreover—what is much more to the point—he has had five years' practical training in lecturing and teaching under the superintendence of Professor Turner.

THE MEDICAL SOCIETY OF LONDON.

The 105th session of the Medical Society of London will open on Monday next, the 15th inst., with a short address by the President, Dr. George Buchanan, after which Dr. P. M. Braidwood, of Birkenhead, will read an epitome of his Fothergillian Essay on Pyæmia, for which the gold medal of the Society was awarded. Numerous specimens prepared by the author during his recent researches will be shown under microscopes; and a case containing portions of viscera showing secondary abscesses will be exhibited.

THE SANITARY STATE OF THE BELFAST FACTORY DISTRICT.

A pamphlet published recently by Mr. C. D. Purdon, M.B., F.R.C.S.I., Certifying Surgeon for the Belfast District, on the sanitary state of the Belfast Factory District during ten years from 1864 to 1873 inclusive, is well worth attention. Mr. Purdon has dealt with the subject exhaustively under most of its various aspects, and he has, to corroborate his statements and conclusions, compiled a series of tables which cannot but prove valuable to all persons interested in the subject. It would be impossible in the limited space at our disposal to follow Mr. Purdon in the various inquiries he has instituted and the knowledge he has consequently acquired on this subject; but the suggestions which his experience dictates for decreasing the excessive mortality that occurs amongst the mill-workers, from various causes, are as follows:—1. That no half-timers be employed in unhealthy processes; and that those that are employed should be at least fifteen years of age, healthy, and well developed. 2. That no one under eighteen should get a card, or obtain two looms. 3. A thorough system of ventilation should be effected in the rooms in which the preparing is carried on. 4. Inspection of children and young persons employed should be instituted at stated intervals to see if health is injured by the employment, and those found to be suffering from incipient disease or severity of work should be compelled to cease work in that department, and that there should be a fresh medical examination at each engagement. 5. That they should be examined to see that they have been efficiently vaccinated. The wearing of the "Baker respirator" to be compulsory. Temperature to be kept at 70°, by ventilation. The schools of the half-timers to be well looked after. 6. Soup kitchens to be established, where the worker could obtain, at a small cost, good and wholesome food. These suggestions certainly deserve consideration, but taken as a whole, they involve a development of "parental government," and an amount of interference with the "liberty of the subject," that would make them, we suspect, simply impracticable, at least at present. We do not think that even "Home Rule" could make them law, or enforce them if they were made law.

FROM ABROAD.

Treatment of Scarlatina and its Complications.

From an account of a discussion at the New York Academy of Medicine, on the Treatment of Scarlatina and its Complications, which appears in the *New York Medical Record* (August 4), we make the following extracts:—

Dr. Lewis Smith first directed attention to the *nervous complications*, which are accompanied by a rapid pulse, marked elevation of temperature, and occasionally eclampsia. They may arise from either active congestion of the cerebro-spinal axis, or from the direct influence of the specific poison upon the nervous system. The earlier and milder eclampsia is not usually serious, but the later and protracted eclampsia is exceedingly grave. It has been said, indeed, that eclampsia in scarlatina always proves fatal, except when it occurs before or at the commencement of the eruption; but Dr. Smith believes that, by the combined use of the bromides and chloral, cases at the later stage have been saved. By far the larger portion, however, perish. In the *throat complications*, the inflammation which commences in the absorbents and lymphatics along the side of the neck, and extends to the connective tissue, is dangerous in proportion to the swelling and induration produced. It arises from the absorbents taking up the poisonous material on the mucous surface, and is less frequently met with since the practice has prevailed (during the last five or six years) of disinfecting the fauces as a part of the treatment of scarlatina. The diminished mortality which has been observed of late may, however, be due to a change of type, which so often occurs in scarlatina, rather than to improved treatment. This throat complication, cervical cellulitis, etc., may produce death in three ways—by exhaustion, consequent on ulceration, suppuration, or sloughing; by inducing œdema of the larynx; and more frequently, by retarding the flow of blood from the brain through pressure on the jugular veins, thus giving rise to congestion of the cranial sinuses, veins, and capillaries of the brain and membranes, and perhaps to a transudation of serum. Some of the cases formerly thought to have proved fatal from the scarlatina poison, have done so owing to this pressure on the jugulars. *Diphtheria* has been frequently seen as a complication of scarlatina in New York, as it may in any locality where the two diseases had prevailed. "Scarlet fever invited diphtheria, but diphtheria did not return the compliment." Diphtheritic poison may remain in a room for two months, and then give rise to the disease, and the scarlatina poison may retain its power for three months. *Nephritis* is usually regarded as a sequel to scarlatina, but Dr. Smith is disposed to consider it as a complication, and one of earlier occurrence than is usually supposed. If the urine were examined at each visit, it would be found that albumen was present before the eruption had faded away.

Dr. W. H. Thompson, adverting to the general treatment of scarlatina and its complications, stated that several years ago, when he had charge of a large number of these patients, he tried three different modes of treatment, milk diet being given in all the cases. These were—1. To do nothing beyond giving milk, with or without lime-water, and some placebo for its moral effect. 2. To use carbonate of ammonia freely. 3. To adopt the chlorine treatment, consisting in the use of chlorate of potash and dilute muriatic acid. The result was a general preference of the chlorine treatment, the carbonate of ammonia being used with noted benefit also in exceptional cases. Thus, in some cases, there is marked tension of the pulse, this being within the first two or three hours as high as in Bright's disease or in gout. Such tension is characteristic of scarlatina among the eruptive fevers, and is sufficient in itself to excite suspicion of the disease. When this tension is markedly developed, there is a greater liability to hæmorrhage in the skin and in the viscera, and perhaps in the serous membranes, and even in the substance of the heart. There is then a tendency to the production of minute emboli and thromboses, and it is possible that ammonia may prevent hyperinosis of the blood, with especial tendency to deposit of fibrin. But the chlorine treatment had much the advantage in the general statistics of the cases treated. Eighty grains of the chlorate of potash and two drachms of dilute muriatic acid were given, diluted with a quart of water, every twenty-four hours. Of late years, however, Dr. Thompson has preferred bromine as being a more powerful antiseptic; and since he has used these remedies internally as well as externally, he has, like Dr. Smith, met with far fewer throat complications. To two ounces of a saturated solution of bromide of potassium he adds very slowly, and frequently shaking it, one ounce of bromine. When this is dissolved, water is added so as to make a four-ounce mixture. Of this solution one drachm is added to one ounce of water, and a teaspoonful is given in a tablespoonful of sweetened water, as required, the solution being kept in a dark place. As a local application, equal parts of the solution and of glycerine are used, or in bad cases the solution alone. Occasional purges of calomel and jalap may be given, until the action of which the antiseptics may be suspended. When the disease sets in suddenly, rapidly affecting the cerebrum, and raising the temperature to perhaps 104°, 105°, or 106° Fahr., or even more, the douche of iced water to the head (the child being wrapped in blankets) is strongly recommended until the pulse loses its tension. The steady use of cold water in this manner whenever high tension is present will be followed by good results in any stage of the disease. When the temperature reaches 104°, the cold wet pack (not the cold bath) is recommended, and is never followed by any harm. Wring from a wet sheet the water at the ordinary temperature, wrap the child in it, and over that lay one wrung out of iced water. The prompt manner in which the symptoms improve shows the wet-pack to be one of the great therapeutic resources in this class of cases. There is a tendency to parenchymatous degeneration of internal organs in connexion with a high temperature in scarlet fever, more marked than in typhoid fever. There is a greater tendency to blueness of the surface in a case of scarlet fever with a temperature of 105°, than in a case of typhoid with a temperature of 108° or 110°. Grave symptoms, however, associated with a high temperature are to be regarded with more favour than the same symptoms without high temperature, for, as a rule, such cases take a more favourable turn.

Dr. Thompson recommends that from the very commencement of the disease the body should be oiled over three times a day. The reason for this is that it is the most effectual means of relieving the itching of the skin, and the excessive restlessness which is due to the irritation of the peripheral nerves caused by the heat of the skin. This is relieved more rapidly by oiling than by sponging with tepid water. Oiling, too, is truly antipyretic, reducing the temperature. Another reason for its use is found in the close sympathy found existing between the skin and the kidneys. In scarlatina there are two periods at which albumen is found in the urine. It is found in the febrile stage, when it is of no more significance than when found in pneumonia. But subsequently albuminuria is found invariably present at the end of the second week—perhaps not reaching its maximum until the fourth week—which indicates congestion of the kidney; and oiling of the surface is one of the best means of relieving that engorgement, the renal disturbance being mainly due to the condition of the skin. The oiling keeps the glands of the skin in an active condition, and promotes diaphoresis.

With reference to the nephritic complication, no case is to be despaired of in its acute stage, for recoveries from apparently the most desperate circumstances (as in cases in which urine has continued suppressed for seven and nine days) have taken place. The measures to be adopted are oiling the skin, the hot-water pack, dry cupping, counter-irritation by means of spoons heated in hot water and applied momentarily over the kidneys, the free use of the infusion of digitalis, etc., after diaphoresis, large injections of warm water. The injections are preferable to purgatives, because the action of the warm water favours the discharge of water from the bladder. A quart may be perhaps used as many as six times a day, and passing the urine may come only with the last injection. The infusion of digitalis should be given to children in very nearly as large doses as are required for adults.

Dr. Noyes, speaking of the ocular and aural complications in scarlet fever, observed that these may occur early or late, but usually do so late, especially with reference to the eye. The eye and ear by far most frequently become affected by extension of the inflammation of the skin to their mucous membranes; but they may become also affected by blood-poisoning. There is nothing peculiar in the pathological processes of the inflammation by extension, but the organs are of a very delicate character, and their power of resistance is greatly impaired in consequence of the general conditions of the system, the inflammation proving more destructive in consequence of the unfavourable condition of the health. There is no special treatment called for beyond sustaining

nutrition, and the doing all that is possible to "antidote" the poison and facilitate the action of local remedies. Severe local applications to the eye are out of place, and where nitrate of silver is used it must not exceed five grains to the ounce, and usually not two grains. As a rule, simple astringents, as alum, etc., should be employed, zinc and copper being rejected. The cornea must be especially watched, and a local anodyne, formed of two grains of sulphate of atropia to the ounce, may be used, from one to three drops being dropped into the eye three times a day. When there is photophobia there should be a moderate exclusion of light. Inflammation of the ear more commonly produces disastrous consequences, giving rise to external or internal otitis, according to where the inflammation spreads from. When the membrana tympani appears sodden and swollen, and acute inflammation is going on in the tympanum, it is preferable to make an artificial aperture rather than allow one to result from ulceration. If there is any tenderness in the mastoid region, leeches should be resorted to; and if the tenderness continues marked, an incision should be made. When suppurative action occurs in the middle ear, the pus should be thoroughly evacuated; and for this, inflation by Politzer's bag is sometimes necessary. In children this inflation is very easy, all that is necessary being to place the tube of the bag in the nostril, shut the nose over it, have the mouth closed, and then simply blow, no water or swallowing being necessary. The secretions can thus be driven out better than by a syringe. When the secretions are removed by the simple douche, very warm water (99° or a little higher) should be employed. For syringing, a syringe of not less than two ounces, having a long slender nozzle protected by a small bit of indiarubber, should be used, and copious streams of water employed. When the eye is affected from blood-poisoning there is neuro-retinitis, due to the Bright's disease incident to scarlatina. The prognosis is usually good, sight being partially recovered, and sometimes completely. It commonly occurs without any very marked symptoms; and there is no condition of the ear analogous to this affection of the eye. Dr. Noyes, while noting the value of anointing the skin, suggested the use of borax and glycerine; borax being a powerful solvent of the epidermis, might assist the skin in resuming its functions. The proportion might be one ounce of borax to from one to two ounces of glycerine. With respect to borax, Dr. Thompson remarked that there was a use for it which would be of value. Desquamation occurs last about the roots of the nails, and the scales that fall off have the power of communicating the disease. The strong antiseptic powers of borax might be here rendered available by having the lotion recommended applied to the hands and feet, in order to assist desquamation and destroy the poison existing in the epidermic scales.

Death of Professor Dr. Karl Ritter von Heine.—This distinguished surgeon has just died, in the thirty-ninth year of his age, of diphtheria, while on a visit to his father at Canstatt. Strange to say, it was from the same disease that his former teacher, Prof. C. O. Weber, was carried off at Heidelberg, and whose post he temporarily supplied. So also the most considerable publication which he has left is a treatise on Diphtheria contained in Billroth and Pitha's *Lehrbuch der Chirurgie*. After holding the post of Extraordinary Professor of Surgery at Heidelberg, Prof. Heine was appointed Ordinary Professor at Innsbrück, where he remained for four years, until "called" in 1873 to Prague. —*Wien. Med. Zeit.*, September 18.

West Kent Medico-Chirurgical Society.—The first meeting of the twenty-second session was held on Friday, October 5, at the Royal Kent Dispensary, Greenwich-road, Dr. Creed, President, in the chair. The following members were elected officers for the session 1877-78:—*President:* W. Johnson Smith, F.R.C.S.E. *Vice-Presidents:* John Prior Purvis, M.R.C.S.E.; Arthur Roper, M.R.C.S.E. *Council:* John Anderson, M.D.; Hughes G. Cable, M.R.C.S.E.; Thos. Creed, M.D.; Ralph Gooding, B.A., M.D.; H. W. Jackson, M.R.C.S.E.; William Lockhart, F.R.C.S.E.; Frederick Moon, M.B. *Treasurer:* Prior Purvis, M.D. *Secretary:* Harry K. Hitchcock, M.D. *Librarian:* J. B. Saundry, L.R.C.P., M.R.C.S.E. Mr. W. Johnson Smith, F.R.C.S.E., then took the presidential chair, vacated by Dr. Creed, and proceeded to deliver a very interesting and practical inaugural address, chiefly treating of pyæmia and typhoid fever.

REVIEWS.

Cyclopædia of the Practice of Medicine. Edited by Dr. H. von Ziemssen, Professor of Clinical Medicine in Munich, Bavaria. Vol. XII. Diseases of the Brain and its Membranes. Translated by Henry A. Swanzy, M.D., of Dublin; Charles Emerson, of Concord; E. H. Bradford, M.D., Eldridge G. Cutler, M.D., Robert I. Edes, M.D., James J. Putnam, M.D., F. C. Shattuck, M.D., and S. G. Webber, M.D., of Boston; and Louis Velder, M.D., of Elmira. London: Sampson, Low, and Co. 1877.

In none of the volumes of his Cyclopædia which have at present appeared has Professor Ziemssen shown better judgment in his selection of authors than in the one before us. He has chosen men distinguished in their special lines, but who are at the same time representatives of the younger schools of thought in relation to cerebral disease, and who are able to bring the most recent experimental knowledge to bear on the elucidation of the subjects allotted to them for description. The names of Nothnagel, Heubner, and Hitzig are well known to English readers as those of first-rate original observers; and though we are less familiar with those of Obernier and Huguenin, the articles which they have contributed to this volume stamp them at once as men of great promise.

To the pen of Professor Nothnagel, of Jena, we owe the articles on Anæmia, Hyperæmia, Hæmorrhage, Thrombosis and Embolism of the Brain, which occupy about one-fourth of the work. Of these, that on cerebral hæmorrhage is naturally the most interesting and important, and we shall confine our brief remarks on Professor Nothnagel's contributions to it. In speaking of etiology, he lays great stress on "diseases of the cerebral vessels, especially the arteries, as by far the most important predisposing cause of cerebral hæmorrhage." He agrees with those authors who have described "miliary" aneurisms as the seat of rupture, and concludes that "atheromatous degeneration does not of itself (*i.e.*, apart from such aneurisms) directly lead to rupture, and that consequently the existence of rigidity of the peripheral arteries is of no diagnostic significance." That simple increase of the blood pressure in the cerebral arteries or veins, *without* disease of their walls, rarely causes cerebral hæmorrhage, is, he believes, on the one hand, clearly proved by the statistics of apoplexy occurring in conjunction with Bright's disease, in nearly every instance of which atheroma was present; and on the other by the fact that in whooping-cough, parturition, and epilepsy, all of which are associated with increase in venous pressure, cerebral hæmorrhage is scarcely ever met with.

The following remarks deserve attention at the present time, coming as they do from one of the leaders of cerebral experimentation:—"In view of the structural differences between the brain of man and that of animals, which for certain regions is not inconsiderable, the conclusions drawn from physiological experiments are only to be applied within very narrow limits to pathological cases. *We regard it as very important in the present state of our knowledge to use great caution in adopting the results obtained from experiments on animals as a guide in the localisation of circumscribed diseases of the brain.* (The italics are our own.) At the same time, as may be said in passing, we regard it as still less admissible to draw conclusions from the effects of disease as to the normal physiological functions of the injured parts, or on the same grounds to attempt to throw discredit upon the significance of carefully conducted experiments."

Under the head of "Symptomatology," Professor Nothnagel expresses his concurrence in the opinion of those who maintain that lesions of the optic thalamus alone do not give rise to motor paralysis, and he regards it also as demonstrated that lesions in the interior of the thalamus cause no disturbance of the *sensibility*. As far as the possibility of localising hæmorrhagic lesions is concerned, he believes that this can only be done for (1) the pons; (2) the cerebral peduncle; (3) the nucleus lenticularis of the corpus striatum; (4) the crura cerebelli; and (5), if anæsthesia be the only or prominent symptom, certain parts in the immediate neighbourhood of the optic thalamus.

In discussing the treatment of cerebral hæmorrhage, Professor Nothnagel has some excellent remarks on venesection, which he regards as indicated "if cerebral pressure, already considerable, has begun to cause paralysis of the vagus centre (as

indicated by a rapid pulse), and the respiratory centre (as indicated by the presence of Cheyne-Stokes' respiration)." He thinks that, *faute de mieux*, we should not neglect to apply the old-established remedies in apoplexy, even though they lack a scientific basis; but, taken as a whole, his estimate of the value of *any* remedy for apoplexy or its sequelæ is not a high one, and though he gives electricity its full share of credit, it does not amount to very much after all.

Obernier's article on Cerebral Tumours is a very valuable one, especially from a diagnostic point of view; and his tables of special groups of symptoms, arranged (*a*) according to their course, (*b*) according to the nature of the neoplasm, and (*c*) according to its situation, will be of the greatest service to the careful practitioner. Under the third head, detailed typical illustrative cases of tumours situated close to the convexity, tumours of the cerebellum, etc., are given. In reviewing the general symptoms of tumour, Dr. Obernier expresses his opinion that the occurrence of psychical disturbances is the rule rather than the exception, and he describes the different kinds of mental alteration which are here met with. Under Disturbances of Motion reference is made to the discoveries of Hitzig, Fritsch, and Ferrier, and the following explanation is given of the recovery of the functions supposed to be innervated by the so-called "cortical centres" after their extirpation:—"It would seem that in these centres it is a question of certain associations of motor paths for impulses arising in the grey matter, whose function, in case of their destruction, may be undertaken in some degree by other conducting-paths which have remained intact."

As the subject of Cerebral and Spinal Syphilis has so recently undergone discussion in this country, and Heubner's researches have been so often referred to, we shall not do more than recommend to our readers a careful perusal of his article on this subject, not only because of its intrinsic excellence, but because while "the syphilitic affections of the nervous system are among the gravest of the maladies which *lues* is capable of producing," it is "only in the very earliest stages of the affection that a complete recovery can reasonably be expected." Hence the special need for accurate and intimate knowledge of the disease in question.

Acute and Chronic Inflammations of the Brain and its Membranes have been entrusted to Professor Huguenin, of Zürich, and he has admirably fulfilled his trust. The article on Meningitis Tuberculosa is very carefully written. Caseous infection (Buhl) is the theory of its origin adopted by the author, though he confesses that "it is still entirely unknown which ingredient of the softened mass works as the infectious agent." The statement that, while tubercles in the choroid are not uncommonly present in general miliary tuberculosis, they are, strangely enough, very seldom found in tuberculosis of the pia mater alone, is one not to be found in the ordinary text-books, and deserves to be noted. A still more interesting observation at the present time, as bearing on the late Penge Trial, is that of the case (Huguenin's own) reported at page 518, in which *miliary tubercles were developed in the pia mater of a girl of sixteen without a single symptom during life leading to a suspicion of their existence.* In the treatment of tubercular meningitis, Professor Huguenin justly lays the greatest stress on *prophylaxis*, but, even after the disease has developed, he urges that various measures should be tried, and does not limit himself, as (if we remember rightly) the writer on the same subject in "Reynolds's System of Medicine" does, to fixing the upper and lower eyelids together with plaster, to prevent ulceration of the cornea.

There is a good account of that curious disease, Simple Basilar Meningitis, and also, *inter alia*, of Chronic Abscess of the Brain. In the latter connexion the author remarks, as Obernier has also done with regard to cerebral growths, that the implication of the psychical processes by abscess has not been by any means sufficiently investigated. "A number of patients," he says, "show sufficient intelligence in the hospital to make them appear as if normal, but, on account of weakness of their intelligence, they have become incapable of pursuing their former occupation." He also observes that abscesses develope unnoticed in positions in which, according to accepted physiological laws, they ought to produce all kinds of sensory and motor lesions. After this it reads almost like satire to find that the only positive indication for trephining is, that the lesion shall undoubtedly be an abscess of the brain, whose "location is known beyond a doubt."

Professor Hitzig only has the comparatively small section on Hypertrophy and Atrophy of the Brain allotted to him. His article on Progressive General Paralysis of the Insane is, however, one of the best in the book, and though he expressly states that "it makes no pretensions to being considered a complete monograph," it is none the less useful and interesting. The pathological anatomy is clearly and concisely done, and under "Symptomatology" the "*development by stages*" which the disease undergoes, and "which inspires a certain anxiety in the family friends, but which they are disposed to explain in any other than the right way," is pointed to as the social danger to be feared from paralytics. "They often destroy . . . the very substance of their families, because . . . they have lost every idea of the worth of money, and the significance of their own personality." The practical hint under the head of "Diagnosis," that "a patient who clearly states events in the distant past, and leaves enormous gaps in those of the last few days, is not likely to be anything else than a paralytic," is worth remembering.

The matter of this volume is certainly equal to that in any other volume of the series which we have noticed; we only wish the translation did the author's language more justice. Some extraordinary phrases, which may be good American, but are not good English, are scattered throughout the work, and indicate a want of special aptitude for their task on the part of several of the translators. "The focus makes pressure" (*i.e.*, presses), page 168, and "mistaking for uræmia has taken place," page 570, are not elegant sentences; and the following, which, in the absence of the original German, we have not as yet comprehended, seems to reflect very little credit on whoever allowed it to appear in print:—"But if we enter upon a psychological analysis of that which from all time has made men celebrated, and which will none the less serve as the future measure for human greatness, it is evident that it implies nothing for which organs are needed which shall vary much from the average human organs."

The Cottage Hospital: its Origin, Progress, Management, and Work. By Henry C. Burdett, Secretary to the Seamen's Hospital Society (late *Dreadnought*), Greenwich, etc. London: J. and A. Churchill. 1877. Pp. 272.

There is not the slightest need nowadays to explain the *raison d'être* of, or to defend, cottage hospitals. Since the first was established by Mr. Albert Napper some twenty years ago, the institution of them has spread throughout the country, and the system has fully justified itself. Mr. Burdett has taken great trouble to find out how many of these hospitals now exist, and how many others have been established and since discontinued, and he gives a list of about 170. But about ten of these have been closed, for various reasons; and some are "not true cottage hospitals." So that the number about which he has been able to learn anything must be reduced to some 140; though he states that "it is probable that there at the present time something like 200 cottage hospitals in the United Kingdom." A good work on the organisation and management of institutions so popular and of such recognised utility cannot fail to be of value; and such a work Mr. Burdett's book, on the whole, is. The best mode of giving a general idea of its scope, and fulness of detail, will, probably, be to point out the subjects of the several chapters into which the book is divided. Chapter I. is introductory, and gives, among other things, "Examples of Growth from Cottage to General Hospitals"; examines into the causes of the failures that have occurred in some cottage hospitals; reviews the growth of the movement; and examines into the financial aspect of the question. Chapter II. treats of the Medical Department. Chapter III. is on "Cottage Hospital Construction and Sanitary Arrangements"; and Chapter IV. on "Nursing Arrangements, Domestic Supervision, and General Management." Chapter V. is devoted to "A more Detailed Account of certain Cottage Hospitals, with Plans of the Buildings, Elevations, etc." Chapter VI. treats of "Peculiarities and Special Features in the Working of Cottage Hospitals"; and Chapter VII. is on "Cottage Hospital Appliances and Fittings." The last chapter, Chapter VIII., is suggestive, treating of "Midwifery in Cottage Hospitals." We much question the advisability of this, and Mr. Burdett admits that "if these cases are admitted into cottage hospitals, it must be either into one built especially, and kept entirely for that purpose, or into a part of the building set apart for such cases, with a separate nurse or attendant." Added to the book is an appendix, on "Hospitalism in Cottage Hospital Practice, in relation to Sir James Simpson's Theory." We take leave to

think that this appendix is a mistake, and is out of place in this book. Mr. Burdett states that "the accuracy of Sir James Simpson's statistics of the results of amputations in country and private practice have been seriously impugned by Callender, Holmes, and other authorities, chiefly on the ground of the impossibility of proving the reliability of the sources from which they were derived." We should say that this was not by any means the chief ground of objection to them, and that much more fatal objections were raised on the ground that they gave no information as to differences in the vitality—state of health, powers of resistance, etc.—of the patients, or as to conditions of injury or disease, and so on; and we do not see that Mr. Burdett's statistics are fuller on these points, or more valuable, than Sir James Simpson's, though we do not in the least impugn their accuracy as mere figures. Mr. Burdett himself, indeed, gives us full reason for thinking that no statistics of the mortality or death-rates of cottage hospitals, that can be considered of any real value in attempting to judge of their healthiness, can yet be obtained, for he says, "over and over again a patient is put down as suffering from an 'accident,' or from 'rheumatism,' etc.; several instances of 'internal diseases' and 'spinal complaints' occur, whilst 'run over,' 'railway accidents,' 'injured,' 'bad cough,' and such like, are terms frequently used, without further explanation or details."

But the book contains a vast amount of practical information, and may on that ground be strongly recommended to all who may wish to found, or may have to manage, a cottage hospital. They will find, we think, advice, founded on experience, on pretty well every subject that they are likely to be called upon to deal with.

GENERAL CORRESPONDENCE.

HOSPITAL MORTALITY.

Letter from Mr. Lawson Tait.

[To the Editor of the Medical Times and Gazette.]

Sir,—I regret that I must object to the following sentence which occurs at the end of the notice of my book in the *Medical Times and Gazette* of September 29:—

"We do not think that Mr. Tait's communications always were quite as courteous as they might have been, and we have reason to know that this fact explains the difficulties he met with on more than one occasion."

It seems to me that this is a personal charge which no anonymous reviewer is entitled to make without a perfectly explicit statement of the grounds upon which he makes it. The same circular was sent to all the hospitals, and I have heard no complaints of any discourtesy in the wording of it. If I have been guilty of discourtesy, it must have been in correspondence arising out of the circular, and all that I have carefully kept. I must, therefore, ask your reviewer to specify the instances to which he alludes. If I have been guilty of a want of courtesy, I shall gladly make the fullest apology; but if the charge cannot be sustained, then I must ask you to withdraw the sentence I have quoted.

I am, &c., Lawson Tait.

[The observation was founded on an actual incident which may have escaped Mr. Tait's memory. Beyond this it is not necessary to go to justify the writer.—Ed. *Med. Times and Gaz.*]

"THE TREATMENT OF SPINA BIFIDA."—REPLY TO DR. ROSEBRUGH.

Letter from Dr. James Morton.

[To the Editor of the Medical Times and Gazette.]

Sir,—In your issue of to-day (October 6), a letter appears on the above subject, questioning my claim to the employment of a new method. The information possessed by the writer is such as might lead him to do so, but he might have inquired further. That the use of iodine is not new, surely no one needs to informed; but the novelty consists in the solvent used, and the precautions requisite to prevent injury to nerve-structure and the escape of the spinal fluid.

It may be right to inform Dr. Rosebrugh that the first of my cases was treated in 1871, and published in the April of the following year in the *British Medical Journal;* and others have followed in succession at various dates, one appearing in the *Lancet* in December last. Those treated by others have been published by them in different periodicals, but no one, either here or elsewhere, has claimed to be the originator of what I still venture to call "the new method," regarding which I have had congratulations from a number of the most eminent surgeons, who cannot be supposed to be ignorant of the modes of treatment previously followed. It is not known that anyone in Glasgow has treated a case by this method; and this is partly due to the fact that my professional brethren have most courteously sent me such cases to treat, thus enabling me to test the new mode of procedure. At the time of the Congress in Berlin, I observed the notice of Professor Langenbeck's case, and rejoiced to see it, as it strengthens the position of those who now try to cure such cases, in place of leaving them to die. Allow me, in conclusion, and for the sake of brevity, to refer Dr. Rosebrugh to the medical journals, or to my small volume, where he "may ascertain how far Dr. Morton is entitled to credit as the originator of this procedure." I trust that he may indeed prove to be "a Daniel come to judgment." I do not pretend to account for the mistakes of Canadian editors. I am, &c., James Morton.

199, Bath-street, Glasgow, October 6.

THE PENGE CASE.

Letter from Dr. James Turle.

[To the Editor of the Medical Times and Gazette.]

Sir,—The medical evidence was absolutely the *only* evidence given at the trial of the crime for which the four prisoners at Maidstone have been condemned to death—viz., *the intentional starving to death of Harriet Staunton.* It is, therefore, the imperative duty of the mass of the medical profession to point out to the Home Secretary the essential fact that the symptoms and post-mortem appearances proved by the medical witnesses for the prosecution are antagonistic to the theory of the prosecution, instead of supporting it. I write hurriedly, to urge that all our medical brethren should lose no time in writing either to Dr. Bristowe, of 11, Old Burlington-street, or to Dr. Greenfield, of 93, Wimpole-street, giving authority for their names to be appended to an address to the Home Secretary, embodying a declaration to the above effect.

Our philanthropic profession—I use the attribute in no sentimental sense, but as an essential one—should not sanction one day longer than can be helped the condemnation, much less the penal execution, of even *one* individual who has been found guilty on erroneous medical conclusions.

I am, &c.,

North Finchley, N., October 4. James Turle.

CORRIGENDUM.

Letter from Dr. Charles H. Blackley.

[To the Editor of the Medical Times and Gazette.]

Sir,—In your issue of to-day, in the article on "The Nerve Theory of Hay-Fever," there is a mistake in the spelling of my name. On page 386 you say, "If Helmholtz and Tyndall and Bulkeley," etc. This last name should be spelled "Blackley." Will you have the kindness to correct this mistake in your next issue, and oblige Yours, &c., Chas. H. Blackley.

Arnside House, Stretford-road, Manchester, Oct. 6.

Teaching-Power of the University of Vienna.—For this ensuing session there will be not less than 53 Professors, 46 Privat-docenten, and 12 Assistants. There are in the General Hospital 15 clinics, 4 dissecting-rooms, 6 institutes, two museums, and a library.—*Wien. Med. Zeit.*, September 18.

Electro-Puncture in Hydrocele.—Dr. Macario, of Nice, relates two cases in which he perfomed this, inserting one needle at the base and the other at the apex of the tumour. In the first case the needles were immediately withdrawn in consequence of the pain caused; but in a few hours all the liquid had been absorbed, and had not been reproduced at the end of several years. In the second case the same rapid absorption followed the application of the needles for about a minute; but in a few months the hydrocele reappeared, and this second time did not yield to electro-puncture.—*Gaz. Med. Ital.*, September 8

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, OCTOBER 9.

CHARLES WEST, M.D., President, in the Chair.

TWO PECULIAR VARIETIES OF HYDROCELE OF THE CORD.

MR. FURNEAUX JORDAN read a paper describing two peculiar varieties of hydrocele of the cord. After enumerating the different varieties of hydroceles in the scrotum, and their various combinations, the author referred to the origin of hydroceles of the cord, to which he limited his remarks. He considered them due to an imperfect obliteration of the peritoneal prolongation which took place along the cord from the internal inguinal ring to a point a little above the testis. This obliteration begins at two points—the ring, and near the testis—and, if incomplete, fluid may collect in the unobliterated space, forming a spherical enlargement, which is movable from the testis. Transparency is present, but is distinguished with difficulty unless in the lithotomy position. The disease is most frequent in early life, and is called "encysted hydrocele of the cord," probably to distinguish it from the so-called "diffused" variety. Of the two peculiar varieties now referred to, the first is a so-called encysted hydrocele of the cord, connected with the abdominal cavity by a long fine tube; the second, an encysted hydrocele of the cord, with a fine tubular prolongation upwards, which ceases near the external ring, not communicating with the abdomen. The point of interest in the first case is the communication of the hydrocele with the abdominal cavity by means of a fine tube of unobliterated serous membrane; in the second, the existence of a tubular prolongation running upwards, but ending in a blind extremity outside the inguinal ring. In the first case a truss was applied; in the latter case acupuncture was resorted to, and proved successful after two or three repetitions. The globular collection of fluid, with the upward neck-like prolongation, suggests for it the name of "water-bottle hydrocele of the cord."

Mr. RIVINGTON thought that the main question was that of name. Two distinct conditions were described—one where the canal communicated with the peritoneum, the other where it did not. The latter might be described as encysted; the former was usually congenital, and this distinguishing title might be applied to it.

Mr. HOLMES considered that the cases would have been more interesting had they been accompanied by actual anatomical proof. Nevertheless it was easy to admit the existence of such openings from the cord into the peritoneum. They actually existed in the case of Sir Astley Cooper. No doubt they also existed in many of Mr. Birkett's cases of hernia occurring suddenly in adults. The second case was a mere accidental modification of the former, where from some cause closure had resulted.

Mr. CROFT had now under his care a child about five years old, who was apparently the subject of the former variety described by Mr. Jordan. The fluid could be sent back, but only very slowly. He had tried a truss, but this had failed to obliterate the swelling.

Mr. OSBORNE suggested that the opening might result from external dilating force; but

Mr. WILLETT thought, rather, that the opening had never closed. This was easily conceivable. The shape would naturally be due to the surroundings of the sacs—they were hardly cysts.

Dr. JOHN HARLEY mentioned the case of a gentleman who had a soft tumour in this situation, which gave rise to some mental annoyance. Was there any connexion between such cases and those just described?

Mr. HULKE said he had made many post-mortem inquiries into the frequency of the occurrence of these congenital canals. They were very frequent. The wonder was that fluid did not occur oftener. The obliteration was usually greatest above and below.

In reply, Mr. JORDAN said all kinds might be congenital. Here there was no hernia, and no truss had been worn. The truss was applied to relieve pain. The fluid might have been mechanically removed, and iodine introduced by a thread. Dr. J. Harley's case was probably one of fatty tumour.

CASE OF NOMA IN WHICH MOVING BODIES WERE OBSERVED IN THE BLOOD DURING LIFE.

Dr. A. E. SANSOM read a paper on a case as above. The author said that the history of the case shows that noma must be added to the list of diseases in which bacterioid particles in active movement are present in the blood and in the fluids. These moving particles have many special characters, and have been probably hitherto undescribed. It is proved also that the fluids in the disease possess the faculty of virulent infectiveness. Dr. Sansom desired to express his obligation to Mr. G. Needham, late House-Surgeon of the North-Eastern Hospital for Children, for the painstaking manner in which he recorded the observations in the case. The patient, Alice C., aged four years and a quarter, was admitted into the North-Eastern Hospital for Children, under the care of Dr. Sansom and Mr. Tay, on February 12, 1876. Her disease commenced a fortnight before admission, with pain in the left cheek; she had had no other disorder. Very great prostration occurred and increased till admission, when she was found anæmic and drowsy, but not emaciated. The left cheek was indurated, and the surrounding tissues were œdematous. Sloughing rapidly took place, the check became perforated, and the inferior maxillary bone necrosed. Copious hæmorrhage ensued on the third day after admission; on the same day broncho-pneumonia set in, and the following day general œdema. The child died on the eighth day after admission. The post-mortem examination revealed very extensive necrosis of the tissues surrounding the left cheek and left side of the tongue, complete sloughing of the temporal muscle, and necrosis of both superior and inferior maxillæ. The bases of both lungs were in a condition of consolidation from broncho-pneumonia. The organs generally showed no morbid sign other than extreme anæmia. A microscopical examination of the blood was first made on the third day after the child's admission. The white elements were in excess; their protoplasm seemed unusually granular, and many of them existed in fragmentary condition. Examined by a high power (Nos. 7 and 8 Hartnack), a large number of small, highly refractile bodies were seen in active movement. These resembled minute colourless crystals; their motion was usually rectilineal, and sometimes in opposition to a current. Two or three attached to a red blood-corpuscle were distinctly observed to move the latter. The movements were quite dissimilar to others (evidently Brownian) observed in the same field. Reagents acted upon them variously: whilst weak solutions of carbolic acid and of quinine caused the particles to come to rest, weak solutions of potash and of sulphuric acid appeared to stimulate the movements. The number of these mobile bodies varied greatly at different times. After hæmorrhage and fall of temperature they were greatly reduced in number; again when temperature had risen to 103° Fahr. they were in great abundance. When they were numerous they tended to form groups resembling zooglœa. In size they were about one-twentieth part of an ordinary red blood-corpuscle. Shortly before the fatal issue, ordinary bacteria were observed in addition to the translucent bodies. The red blood-corpuscles presented great variations in size. Translucent bodies, exactly resembling those observed in the blood, were found in the urine examined immediately after it had been voided, and a large number were seen in the fæces. The discharges from the wound also manifested them in abundance, intermixed with the usual organisms accompanying putrefaction. Investigations concerning the infective characters of the blood and the secretions were commenced on the second day after the fatal issue, the fluids used for inoculation having been preserved in sealed capillary tubes. A healthy mouse inoculated with a minute quantity of blood from the right auricle died on the day following the inoculation, and on examination showed evidences of peritonitis, the exudation containing a large number of mobile translucent bodies, exactly resembling those present in the blood of the child. A like inoculation was also performed on a guinea-pig, which died five days after the operation. The signs observed were those of intense cellulitis of the abdominal wall about the site of inoculation, and peritonitis. The blood, especially that which was obtained from the vena cava and from the right cavities of the heart, was found to contain a vast number of the special translucent bodies. Inoculation of the fluids from the seat of the noma was practised upon a mouse. The animal died the following morning, but none of the characteristic bodies were found in the blood. In the case of a cat also inoculated with a minute portion of fluid obtained

from the diseased part of the cheek of the child, though intense peritonitis occurred, there was a complete absence of the mobile translucent bodies from the blood. It would appear, therefore, that whilst inoculation of the fluids derived from the diseased tissue (with the decomposing matters which they necessarily contained) induced peritonitis without discoverable alteration of the blood; inoculation of the diseased blood produced septicæmia, with the manifestation of the characteristic motile particles observed in the original disease.

Dr. John Harley thought there was no doubt but that noma was occasioned by the bloodvessels being filled with clot, probably originating in a pneumonic lung. The small bodies described might have originated in broken-down blood-clots. Such destruction of parts and breaking down of blood-clots was often seen in typhus and typhoid. The small bodies greatly resembled crystals of oxalate of lime. The distinct cross more especially indicated their inorganic character.

Mr. Hulke could not accept Dr. J. Harley's views as to noma—viz., that it was due to arterial thrombosis, and that again to embolism connected with pneumonia. True gangrene might result from such plugging, but noma was much more rapid in its course. No doubt there was plugging in noma, but was the pneumonia antecedent or subsequent to this?

Mr. Godlee inquired in what respect the moving bodies discovered were different from bacteria. Were they essential to the disease, or were they accidental? It was often possible to find organisms in the blood of infants suffering from acute disease; he had, however, examined the blood in a case of noma, and found nothing.

The President could not allow Dr. J. Harley's doctrines as to the relationship between pneumonia and noma to pass unnoticed. In all fatal cases of noma he thought there was pneumonia, but this was consequent upon, and not antecedent to, the disease. Pneumonia was very common in children; noma was rare. Besides, noma almost invariably affected the face, especially in the vicinity of the mouth; it was not casually diffused over the body, as would be the case were it dependent on embolism from pneumonia.

In reply, Dr. Sansom said he had studiously made his paper a statement of fact. Dr. J. Harley took it for granted that there was pneumonia before the noma: in this case there was no pneumonia when the child was first seen, nor for some time after. In another case of noma which he had examined there were no organisms visible. There was no evidence of their origin in broken-down clots. The bodies themselves were strikingly like crystals, and like no known forms of bacteria, yet they moved freely. Perhaps they were surrounded by a transparent protoplasm.

Salicylic Acid in Hay-Fever.—At the Lower Rhine Medical Society, Prof. Binz, after relating the success which has attended Helmholtz's recommendation of treating this apparently parasitic disease by quinine, stated that some recent trials had shown that probably salicylic acid will also prove an efficacious remedy, and relates a case in which a solution of one part to 1000 parts of water thrown up into the nares cut short the disease.—*Deutsche Med. Woch.*, September 22.

Sanitary Neglect.—A gross case of contemptuous disregard of all sanitary laws was heard last week before Mr. D'Eyncourt at the Westminster Police-court. The owner of the premises, 10, Symons-street, Chelsea, was summoned to show cause why an order should not be made on him requiring him to do away with certain existing nuisances at the house in question. The sanitary inspector of the parish said that the defendant had notice on the 6th of last month to abate the nuisance—viz., that the drains were untrapped, and water of a fetid character percolated the foundations. That notice had been totally disregarded, and the present summons had been taken out, to which the defendant did not now appear. The house consisted of six rooms, occupied by no less than six families, numbering twenty-three souls; the ground of the yard was rotten, and the soil from the neglected draius, which had been opened a week before, and had not been closed, was lying about the yard. The basement was in a filthy state, so much so that Dr. Barclay, the Medical Officer of Health, was of opinion that epidemic disorders would be spread. The parish had already taken proceedings for the overcrowding of the premises. Mr. D'Eyncourt made the nccessary order for the work to be done within seven days, and the cost of the proceedings to be paid by the defendant.

MEDICAL NEWS.

Royal College of Surgeons of England.—At t recent half-yearly examination in Arts, etc., for the diplom of Fellow and Member of this institution, 374 candidates pr sented themselves—viz., 107 for the first-named distincti and 267 for the Membership. The following gentlemen pass for the Fellowship, viz.:—

Edward Armitage, Charles Atkin, J. H. R. Bond, C. L. S. Branson, H. Birch, G. N. Caley, G. A. Carpenter, J. T. Chevers, William Coates, E. Colville, E. T. Collins, M. L. B. Coombs, John Coveney, A. B. Cottell, S. Crick, E. H. Crisp, C. F. Cuthbert, J. M. Davidson, E. S. S. Davis, Wal Dendy, H. W. Dodd, D. P. Edwards, H. J. Fletcher, George Fox, G. H. Fuller, F. H. Furnivall, H. E. Garrett, F. C. Gibbs, Arthur Goulston, C. Guy, Alexander Hamilton, D. P. Harris, Francis Heath, G. T. Hockin, Holcroft, J. G. Holmes, H. C. Howard, T. J. Hudson, J. S. Hunt, G. Hunter, William Huntington, S. F. C. Hart, Ho Kai, A. W. D. Leal E. W. Livesey, A. G. S. Mahomed, J. H. Mawson, J. F. Molineux, T. Morse, J. T. J. Morrison, C. A. Morton, H. R. Mosse, Thomas Mudge, C. Muriel, C. S. Murray, H. C. Nance, C. D. Nuttall, J. M. Owen, F. C. Payn C. L. Pinniger, W. R. Pollock, J. L. Poynder, H. Rayner, J. J. Reynol W. B. Roué, W. H. Sharpies, Frederick Stroyan, J. E. Square, H. B. Ta D. D. Thomas, A. H. Thompson, J. B. Tiernay, R. C. D. Traies, E. Trevor, F. S. Turner, T. H. Waller, F. P. Wightwick, C. Williams, a J. W. Winterburn.

The following gentlemen passed the preliminary examin tion for the Membership of the College, viz.:—

W. P. Allen, William Alpin, G. A. Ambler, E. Apthorp, J. J. Y. Babe H. A. W. Batten, Alfred Bastin, William Bird, A. F. Blagg, J. S. Bolto Philip Boobbyer, Josiah Blomfield, W. F. Boycott, W. A. R. Braybrook Alfred Brown, A. T. F. Brown, C. W. H. Brown, J. W. H. Brown, L. Browne, A. H. Burns, C. W. G. Burrows, E. G. Bulleid, C. P. Blak C. F. M'K. Behrend, James Callaway, W. J. Carne, George Carrell, A. Carver, A. H. Chalmers, W. A. A. Cheves, Robert Cheyne, Adam Clarkso W. H. Compton, H. C. Coopland, H. E. Cox, H. Cock, J. H. Cox, H. Cree, J. A. Cornett, Alfred Dacie, A. W. Dalby, J. H. Davies, Herbe Davison, J. H. Dean, S. L. Deeble, Lawrence D'Aguiar, L. E. G. Woolfson, James Donald, G. L. Downes, J. W. Draper, C. H. Duff, R. Duke, H. J. Dyson, D. T. Edmunds, Frank Elias, William Ellis, H. Ensor, D. G. Evans, W. E. Evans, James Elias, E. R. P. Faddy, H. Falconar, J. T. Finlay, E. L. Fitzgerald, E. H. Gavey, W. H. George, H. Gilbert, Robert Gordon, J. H. Greenway, H. H. Greenway, E. F. Grü W. H. Goddard, John Godson, J. W. Harrison, J. R. Haworth, S. J. Hayman, H. W. Hooper, J. W. Hopkins, Thomas Horsfall, F. E. Hubbar E. Hudson, W. C. Humphreys, E. G. Hunt, H. W. Hunt, F. S. Hutching Wilfred Howard, H. F. Iliewicz, F. J. Ingoldby, A. H. Jacob, H. D. Jame C. A. Jefferson, D. T. Jenkins, F. R. Johnston, D. L. Jones, E. L. Jone H. J. Jones, R. N. Jones, W. E. Jones, F. A. Jones. J. H. Keeling, F. Kenny, E. Knight, T. C. C. Knight, H. W. Knowles, H. W. Keudall, C. W. Kieser, Frank Laue, Herbert Larder, Alfred Linnell, D. W. H. Llewelly C. R. C. Lyster, J. J. Langston, A. E. Marsack, Thomas Marsden, C. Meller, B. S. Mends, S. G. Milner, William Mitchell, Edward Morris, L. W. Marshall, J. A. Newton, A. K. Norris, John Orford, W. C. Parson J. H. Patrick, W. B. Paterson, W. K. Pauli, Frank Pearse, R. H. Perk L. G. Peters, W. E. P. Phillips, C. H. Piesse, G. S. Pollard, T. D. Pryc G. G. O. Phillips, Frank Quick, St. J. O. Rands, H. A. Reed, F. T. Rhode C. A. Roberts, E. W. Roberts, J. N. Robson, J. L. Rodwell, Charles Rou E. L. Rowe, L. E. Row, W. E. Rudd, E. T. Sanders, J. F. Saunde Walter Scatchard, G. R. S. Scott, W. F. Scott, F. H. Shanks, J. Shemmonds, F. J. Short, J. J. Short, A. M. Sims, W. J. Smale, W. Smallpeice, W. H. Smith, A. G. Southcombe, J. A. Southern, T. Spencer, W. P. Squire. G. C. Stamper, C. O. Stanwell, Riccardo Stephen Samuel Stephens, G. H. S. Stokes, S. O. Stuart, M. C. Sykes, G. D. Syme A. R. Smith, C. S. Sparkes, W. H. Square, H. S. Shillitoe, A. H. Teste G. T. H. Thomas, A. S. Topham, J. W. Toplis, C. W. E. Toller, J. Tomlinson, H. A. Tuxford, J. A. Unitt, T. J. Walker, G. F. Welsfor J. A. Williams, J. H. H. Williams, A. G. Wildey, Neville Wood, H. Woolbert, W. H. Wright, A. D. Willcocks, and J. J. G. Whittindale.

For the Fellowship seventy-seven were successful; twenty having failed to reach the required standard for that distinc tion, obtained sufficient marks for the Membership; and te were rejected. For the Membership there were 267 candidate of which number 179 were successful; the remainder—viz eighty-eight—were rejected. These gentlemen can at onc commence their hospital studies, either in this metropolis, or a recognised schools in the provinces.

Apothecaries' Hall.—The following gentleme passed their examination in the Science and Practice Medicine, and received certificates to practise, on Thursday October 4:—

Chicken, Rupert Cecil, Nottingham.
Vickerstaff, William Harry, Macclesfield.
Walsh, William Arthur Stephenson, Worcester.

The following gentleman also on the same day passed hi Primary Professional Examination:—

Brown, Percy, London Hospital.

BIRTH.

Clouston.—On September 30, at Pemberton House, Hay, Breconshir the wife of C. S. Clouston, M.B., of a daughter.

MARRIAGES.

GES—SPURGEON.—On October 4, at the Congregational Chapel, Havant, oaquin Pages, Esq , of Sabadell, Spain, to Aline Louise, only daughter f the Rev. S. Spurgeon, M.R.C.P., Principal of the Manor House 'ollegiate School, Havant.

CHARDS—WILSON.—On October 4, at All Saints', Bromsgrove, J. Peeke Richards, Medical Superintendent of the Middlesex County Asylum, Hanwell, to Harriott, younger daughter of John Wilson, Esq., of Greenwich.

DEATHS.

AMMER, SAMUEL RICHARD, M.R.C.S., L.S.A., late of Canonbury, slington, at Calne, Wilts, on September 29, in his 53rd year.

IPE, JOHN COPELAND, M.R.C.S. Eng., late Surgeon-Major 36th Regt., t 37, Morehampton-road, Dublin, on October 3.

WSON, HENRY, M.D., Assistant-Physician to, and Lecturer on Physiology t, St. Mary's Hospital, on October 4, in his 37th year.

RVES, REBECOA, wife of William Laidlaw Purves, M.D., at 7, Hanover-treet, Hanover-square, W., on October 4, in her 33rd year.

BERTSON, ADAM, M.D., Staff Surgeon Royal Navy, third son of the late Robert Robertson, merchant and manufacturer, of Dunfermline, at Aden, f sunstroke, on August 1, aged 39.

M, CHARLES, M.D., late of Ripon, Yorkshire, at Torquay, on October 8, n his 79th year.

VACANCIES.

the following list the nature of the office vacant, the qualifications re-uired in the Candidate, the person to whom application should be made nd the day of election (as far as known) are stated in succession.

RKHEMPSTEAD UNION.—Herts and Bucks District of Berkhempstead. Medical Officer. Candidates must be duly registered practitioners, and old the certificate of proficiency in vaccination required by the Local Government Board. Applications, with recent testimonials, to Samuel Statton, Clerk, Hemel Hempstead, on or before October 15.

STLE WARD UNION, NORTHUMBERLAND.—Medical Officer. Applications, ccompanied by testimonials of recent date, and evidence of qualifica-ions and registration under the Medical Acts, to Thos. Arkle, Clerk to he Guardians, Highlaws, Morpeth, on or before October 13.

THERHAM HOSPITAL.—Resident House-Surgeon. Candidates must be M.R.C.S. Eng., and Licentiates of the Society of Apothecaries or of the Royal College of Physicians, London, registered, and unmarried. Appli-ations, with testimonials as to professional ability and moral character, o the Honorary Secretary, on or before October 15.

ESTMINSTER HOSPITAL, BROAD SANCTUARY.—House-Physician. Candi-lates must be registered under the Medical Registration Act, 1858, and roduce testimonials as to moral character, and a certificate that they ave served the office of Clinical Clerk for not less than six months in ome recognised hospital. Applications to the Secretary not later than October 16.

UNION AND PAROCHIAL MEDICAL SERVICE.

* The area of each district is stated in acres. The population is nputed according to the census of 1871.

RESIGNATIONS.

Keynshan Union.—Mr. John Lodge has resigned the Keynsham District; a 10,002; population 4716; salary £53 per annum.

Launceston Union.—Mr. William Brown has resigned the Fifth District: a 8880; population 2422; salary £12 per annum.

APPOINTMENTS.

Beverley Union.—Thomas John Thompson, L.R.C.P. Edin., L.R.C.S. Ire., the First District.

Southwell Union.—Henry P. Long, M.R.C.S. Eng., to the Farnsfield strict.

NAVAL MEDICAL SUPPLEMENTAL FUND.—At the uarterly meeting of the Directors of the Naval Medical Com-ssionate Fund, held on the 9th inst., Dr. J. W. Johnston, spector-General, in the chair, the sum of £85 was distributed ong the various claimants.

ST. MARY'S HOSPITAL MEDICAL SCHOOL.—The follow-g gentlemen have been elected:—Mr. R. H. S. Spicer, to e Scholarship in Natural Science; Mr. J. B. F. Eminson, to e Exhibition in Natural Science; and Mr. F. H. Butler, to e Extra Scholarship in Natural Science.

PRESERVATION OF LEECHES.—This, although of less nsequence than formerly, when they were so much employed, ay yet be sometimes desirable, and it is said in the *Union édicale* to be effectually accomplished by the addition of thirty ops per litre of a 3 per cent. solution of salicylic acid.

PRIZES.—The subject for the Jacksonian Prize of the llege of Surgeons for the present year is "The Disease of e Lymphatic System known as Hodgkin's Disease or ymphadenoma," the essays for which must be sent in on or fore Monday, December 31. The subject of this prize for 78 is, "Glaucoma, its Causes, Symptoms, Pathology, and eatment." The Collegial-Triennial Prize of fifty guineas, of the John Hunter Medal of that value, is, "The Anatomy d Physiology of Third, Fourth, and Sixth Nerves, as illus-ated by observation and experiment in health, and by refer-ce to the effects of injury and disease." The essays for is prize must be sent in on or before December 31, 1879.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—Bacon.

J.R.—Try Kimpton, High Holborn.

Dr. A. Leslie Mease.—We do not find that any distinct history of vivisection has ever been published; or any defence or condemnation of vivisection "on scientific and moral grounds," as a separate work. A very able and interesting pamphlet, entitled "The Vivisection Question properly Discussed," published by Dr. L. Hermann, Professor of Physiology in the University of Zürich, was translated and edited by Dr. Archibald Dickson, and published by Williams and Norgate, Henrietta-street, Covent-garden, London, 1877. But you will probably find the very thing you want, on both sides of the question, in the Report of the Royal Commission on Vivisection, published by Eyre and Spottiswoode, printers to her Majesty.

S. Doddington, Cambs.—You will do best to write to Mr. Alfred Haviland, Northampton.

A Teetotaler.—The justices at the late licensing session for Manchester expressed a hope that the Legislature would confer upon them the same discretion in granting or withholding retail licences for consumption off the premises as they now possess in all other cases.

A Nervous Traveller.—The apparent immunity from accidents on the Russian railways may be accounted for by the fact that the speed of locomotives is limited by law to twenty miles an hour.

M.D., Glasgow.—Dr. Pritchard of your city was executed for murder on July 28, 1865. See the *Medical Times* of that time.

A Demonstrator.—Try the effects of Rimmel's Vaporisers. They were used for some time at the summer examinations on anatomy at the College of Surgeons.

M.D., Royal Navy.—Mr. Robert McCormick, F.R.C.S. Eng., Surgeon and Naturalist to the Parry and Ross expeditions, is living. He was admitted a Member of the College of Surgeons so long ago as December, 1822, and therefore is about seventy-six or seventy-seven, presuming him to have been of the required age when admitted a Member.

An Old Subscriber.—The lectures of the distinguished surgeon were published at the time, with his permission and corrections, exclusively in this journal. See Pettigrew's "Medical Portrait Gallery."

Mr. Williams.—We will endeavour to obtain the information for you in a week or two, but we have ascertained that in the collegiate year 1846-47 only seven members were admitted to the Fellowship by *examination*; in 1856-57, sixteen; in 1866-67, twenty; and in 1876-77, twenty-four.

An Anxious Parent.—Dr. Carpenter, in his evidence before the "English Public Schools Commission," lays great stress upon the importance of enabling children to begin the study of physical and natural science at an early age. He maintains that "the training of the observing faculties by attention to the phenomena of nature, both in physical and in natural science, seems to him to be the natural application of time at the age of, say, from eight to twelve.

A Factory Hand.—It is surely impossible to deny that the Factory Acts have accomplished a large amount of good. They have fulfilled to a very considerable extent the objects of their original institution, shortened the habitual hours of labour, rescued children from oppressive toil, and conferred many comforts and benefits morally and physically which operatives did not formerly enjoy.

A Subscriber.—There have been three famines in India between 1866 and 1877. In the Orissa famine, in 1866, according to official returns, a million and a half of people died. In Bengal, in 1874, a yet greater loss was prevented only by the vigilance of the Government.

A REPRISAL.

At the Sheffield County Court, a milkman, who had been fined 2*l.* and costs for selling adulterated milk, recovered the amount from the dealer who had supplied him, the milk having been seized in the condition in which the plaintiff had bought it.

RIVER POLLUTION IN ITALY.

The Italian Minister of Public Works is occupied on a sanitary scheme of some importance. It is reported to have under examination various schemes for deflecting the course of the Brenta, and other streams, from the lagoons, where their deposits, owing to Austrian neglect, have been for years swamping the estuary, and tainting the air of Chioggia and of Venice itself.

STATISTICS.

A Frenchman calls statistics "the science of natural, social, and political facts, expressed in numerical terms." A German, that "history is statistics in movement; statistics are history at rest." A Scotchman describes them as "the means of determining and augmenting the sum of happiness which a nation enjoys." A fourth, of unknown origin, asserts that they are "the science which shows us how to deduce the succession of social facts from analogous numerical terms." Napoleon bestowed upon statistics the denomination of "the budget of things," and proclaimed that they are "the art of making the inventory of a country." Goethe said of them that "if figures do not govern the world, at all events they show us how it is governed." It is further said that "statistics ameliorate the condition of humanity by pointing out its sufferings in numbers."

INFECTION.

Under the Sanitary Acts, the Vestries and District Board of Works have ample power to provide small-pox hospitals, and to cause the removal thither of small-pox patients who cannot remain in their homes without danger to others. In establishing the Metropolitan Small-pox Hospitals, under Mr. Gathorne Hardy's Act of 1871, the object of the Legislature was to decrease the number of centres of infection.

COMMUNICATIONS have been received from—

Mr. GEO. NORRIS, London; Mr. JAS. TURLE, Finchley; THE REGISTRAR OF APOTHECARIES' HALL, London; Mr. RYMER JONES, London; Mr. A. L. MEADE, Cavan; Mr. LAWSON TAIT, Birmingham; Mr. KATER, Reading; Mr. BYROM BRAMWELL, Newcastle-on-Tyne; Prof. MORTON, Glasgow; Mr. J. DONOVAN, Cork; Dr. H. A. HITCHCOCK, Lewisham; Dr. J. W. MOORE, Dublin; THE EDITOR OF THE "FAMILY HERALD"; THE SECRETARY OF THE PATHOLOGICAL SOCIETY; Dr. BLACKLEY, Manchester; Mr. J. W. GROVES, London; Messrs. WRIGHT, LAYMAN, and UMNEY, London; Mr. J. GIBSON BOWLES, London; Dr. COCKLE, London; THE SECRETARY OF THE HARVEIAN SOCIETY; THE SECRETARY OF THE NAVAL MEDICAL SUPPLEMENTAL FUND; Dr. ELLERTON, Middlesborough; THE LIBRARIAN OF CHARING-CROSS HOSPITAL; Dr. T. BARLOW, London; Dr. WM. ROBERT SMITH, Sheffield; Mr. JOHN CHATTO, London; Mr. B. WHEATLEY, London; Mr. F. W. LOWNDES, Liverpool; Dr. EDWARD R. SPARKS, Camberwell; Mr. R. BRUDENELL CARTER, London; Mr. T. M. STONE, London.

BOOKS AND PAMPHLETS RECEIVED—

Robert Liveing, A. M. and M.D. Cantab., Notes on the Treatment of Skin Diseases—C. D. Purdon, M.B., F.R.C.S.I., The Sanitary State of the Belfast Factory District during Ten Years (1864 to 1873 inclusive) under various aspects—Lewis A. Sayre, M.D., Spinal Disease and Spinal Curvature—Robert Bentley, F.L.S., and Henry Trimen, M.B., F.L.S., Medicinal Plants, part 25—Francis Mason, F.R.C.S., On Hare-Lip and Cleft Palate—Dr. Terber's Model Diagram of the Organs in the Thorax and Upper Part of the Abdomen—Edward A. Aveling, D.Sc., F.L.S., Physiological Tables for the Use of Students—Society of Medical Officers of Health Annual Report.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Cincinnati Clinic—Night and Day—Morningside Mirror—Chicago Medical Journal and Examiner—Home Chronicler—La Province Médicale—Monthly Letter of the English Anti-Tobacco Society—American Practitioner—New York Druggists' Advertiser—Anti-Compulsory Vaccination Reporter—Practitioner.

APPOINTMENTS FOR THE WEEK.

October 13. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

15. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

MEDICAL SOCIETY OF LONDON, 8½ p.m. A Short Address by the President, Dr. George Buchanan. Dr. P. M. Braidwood (of Birkenhead), "On Pyæmia" (epitome of Fothergillian Essay).

16. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

PATHOLOGICAL SOCIETY, 8½ p.m. Dr. Wickham Legg—1. Aneurism of the Left Ventricle of the Heart; 2. Aneurism of the Anterior Communicating Artery of the Brain; 3. Free Balls of Fibrin in the Left Auricle, Mitral Stenosis; 4. Complete Obliteration of the Aorta. Dr. P. Irvine—1. Destructive Pneumonia from Pressure on Bronchus; 2. Two Cases of Abdominal Aneurism. Mr. Christopher Heath—Conclusion of Case of Cystine Calculi. Dr. Barlow—Aneurism of the Anterior Cerebral Artery. And other Specimens.

17. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex. 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

18. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

HARVEIAN SOCIETY, 8 p.m. Dr. William Squire, "On Cases of Acute Pneumonia in Children."

19. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.; Guy's, 1½ p.m.

MEDICAL MICROSCOPICAL SOCIETY, 8 p.m. Meeting.

VITAL STATISTICS OF LONDON.

Week ending Saturday, October 6, 1877.

BIRTHS.

Births of Boys, 1253; Girls, 1167; Total, 2420.
Average of 10 corresponding years 1867-76, 2201·3.

DEATHS.

	Males.	Females.	Total
Deaths during the week	667	641	1308
Average of the ten years 1867-76	665·2	618·9	1284
Average corrected to increased population ...	...	...	1374
Deaths of people aged 80 and upwards ...	...	...	58

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa
West	561359	4	2	3	...	3	...	1	...	
North... ...	751729	3	10	14	...	3	1	5	...	1
Central ...	334369	...	1	8	...	1	1	...	...	
East	639111	3	4	6	1	6	1	3	1	
South... ...	967692	4	6	7	1	8	...	6	...	
Total	3254260	14	23	38	2	21	3	15	1	3

METEOROLOGY.

From Observations at the Greenwich Observatory

Mean height of barometer	30·077 in.
Mean temperature	48·5°
Highest point of thermometer	64·8°
Lowest point of thermometer	31·0°
Mean dew-point temperature	42·1°
General direction of wind	N.E.
Whole amount of rain in the week...	0·00 in.

BIRTHS and DEATHS Registered and METEOROLOG during the Week ending Saturday, October 6, 1877, in t following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Oct. 6.	Deaths Registered during the week ending Oct. 6.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.
London	3533484	46·9	2420	1308	64·8	31·0	48·5	9·17	0·00
Brighton	102264	43·4	55	29	61·5	42·0	50·6	10·34	0·00
Portsmouth ...	127144	28·3	79	34	61·5	43·0	50·7	10·39	0·00
Norwich	84023	11·2	39	22	60·0	33·8	49·6	9·78	0·02
Plymouth	72911	52·3	37	34	62·5	41·5	52·6	11·45	0·11
Bristol	202950	45·6	131	67	63·2	33·3	48·4	9·11	0·02
Wolverhampton ...	73389	21·6	58	36	59·7	31·0	45·6	7·56	0·00
Birmingham ...	377436	44·9	304	164	...	...	...	...	...
Leicester	117461	36·7	61	30	63·5	34·0	48·3	9·06	0·00
Nottingham ...	95025	47·6	61	39	63·6	31·1	47·3	8·50	0·01
Liverpool	527083	101·2	417	247	62·2	42·0	50·6	10·34	0·00
Manchester ...	359213	83·7	274	170	...	...	...	...	...
Salford	141184	27·3	128	63	65·6	34·8	49·6	9·78	0·00
Oldham	89796	19·2	80	31	...	...	...	...	...
Bradford	179315	24·8	128	72	60·0	37·3	47·9	8·83	0·00
Leeds	298189	13·8	222	113	61·0	36·0	48·7	9·28	0·00
Sheffield	282130	14·4	213	98	61·0	34·5	47·5	8·61	0·00
Hull...	140002	38·5	129	50	58·0	34·0	47·3	8·50	0·00
Sunderland ...	110382	33·4	87	38	61·0	43·0	51·7	10·95	...
Newcastle-on-Tyne	142231	26·5	101	57	...	...	...	...	...
Edinburgh	218729	52·2	128	62	61·4	36·6	50·3	10·17	0·00
Glasgow	555933	92·1	397	232	61·0	39·2	52·0	11·11	0·00
Dublin	314666	31·3	162	153	68·5	36·8	53·2	11·78	0·00
Total of 23 Towns in United Kingdm	8144940	38·3	5711	3149	68·5	31·0	49·5	9·72	0·01

At the Royal Observatory, Greenwich, the mean reading of the barome last week was 30·08 in. The lowest reading was 29·83 in. on Tues evening, and the highest 30·45 in. at the end of the week.

* The figures for the English and Scottish towns are the numb enumerated in April, 1871, raised to the middle of 1877 by the addit of six years and a quarter's increase, calculated on the rate which p vailed between 1861 and 1871. The population of Dublin is taken stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

CLINICAL LECTURE ON A CASE OF PROGRESSIVE PERNICIOUS ANÆMIA CURED BY ARSENIC.

By BYROM BRAMWELL, M.D.,

hysician and Pathologist to the Newcastle-on-Tyne Infirmary, Lecturer on Clinical Medicine and Pathology in the University of Durham College of Medicine at Newcastle-on-Tyne.

Lecture II.

ENTLEMEN,—In my last lecture I described to you a typical ase of that interesting affection which has been called liopathic, or progressive pernicious anæmia.

The disease may be described as follows:—A profound næmia, which is associated with marked changes in the icroscopical characters of the blood, and (in most cases) with ne presence of retinal hæmorrhages. The patient is generally ell covered with fat, the skin is smooth and soft, the face oks slightly swollen, and is of a pale yellow or yellowish-reen colour. All the symptoms of profound anæmia are resent—viz., extreme pallor of the mucous membranes, great ebility, tendency to fainting, dyspnœa and palpitation on xertion, buzzing in the ears, headache, subcutaneous œdema, c.; loud blowing murmurs are heard over the heart and reat vessels; there is a venous hum in the neck; the pulse very soft and compressible. Attacks of vomiting and diar-nœa are frequent; irregular elevations in temperature, tran-ent paralyses, hæmorrhages from the mucous membranes, ccasionally occur. The causes of the disease are at present nknown. The disease is said to occur more frequently in omen than in men. In the majority of cases the termination in death, the end being ushered in by profuse diarrhœa, oma, or delirium.

And this brings us to the *post-mortem appearances*. In order o illustrate this part of the subject, I will read to you the post-ortem record of my first fatal case. The patient, a man aged hirty-four, was admitted on June 10, 1875, and died on June 25. The post-mortem was made four hours after death. The body as warm. The skin was of a pale yellow colour. The feet nd legs were slightly œdematous. The abdominal parietes nd the body generally contained a fair amount of fat. The ericardium contained a few ounces of clear yellow serum. n the anterior aspect of the left ventricle, just over the posi-on of the tricuspid orifice, there was a large milk-spot; another naller one was situated on the anterior surface of the apex. n the anterior aspect of the left ventricle, an inch above the pex, was an extravasation of blood the size of a threepenny-iece. The cavities of the organ were almost empty, the only ontents being a small quantity of thin fluid blood. (There was he same bloodless condition of all the organs.)

The cavities of the heart were dilated; the muscular sub-ance was very soft and friable; the interior of the left entricle was dotted over with small yellowish spots. On icroscopical examination, well-marked fatty degeneration of he muscular fibre was seen. The posterior segment of the itral valve contained a small calcareous deposit, and was mewhat shrunken; the heart weighed 13½ ozs.

The interior of the ascending portion of the aortic arch was otted here and there with spots of fatty degeneration.

The left lung was pale, and absolutely bloodless; it weighed ½ ozs. The right lung was adherent at the apex; it weighed lb. 4½ ozs. There was a commencing consolidation of the pper lobe. On section of this part of the organ, a considerable uantity of red frothy serum escaped.

The liver weighed 4 lbs. 0½ oz., and was pale and fatty.

The spleen weighed 9½ ozs.; it was of a uniform dark purple olour; its structure was normal.

The kidneys were surrounded with fat. The left weighed ozs.; the right 5½ ozs. The cortical substance was markedly ale. On microscopical examination, the renal epithelium as seen to be in places fatty.

The thyroid gland was the size of a hen's egg; it weighed ½ ozs.; both lobes were enlarged. On section, it was found be in places of a pale yellow colour and gelatinous; in other arts it was dark purple; in the lower part of the left lobe here was a calcareous mass.

The stomach, in the neighbourhood of the pylorus, was udded with small round projections. These projections ere arranged in rows. On microscopical examination, they ere found to consist of round lymphoid cells.

The mucous membrane of the intestines seemed softened. The various coats were separated very easily one from the other.

The other parts of the body were normal. These appearances may be summed up as—fatty degeneration of the heart, liver, and kidneys; a bloodless condition of the body; commencing pneumonia of the upper lobe of the left lung; enlargement of the thyroid and of the spleen; a mammillated appearance of the stomach; and an atrophied condition of the intestine.

The pneumonia only came on during the last few hours of life, and had nothing therefore to do with the essential pathology of the disease. The enlargement of the thyroid is interesting, but probably not of great importance. It did not occur in any other case which I have seen described.

The enlargement of the spleen has been previously noted, but is not essential. It was not present in any of Professor Quincke's fatal cases. The mammillated appearance of the stomach has not, so far as I know, been previously noted. It has, however, been found in cases of Addison's disease. Dr. Greenhow speaks of it as follows ("Croonian Lectures," page 28):—

"In many cases, also, including one of Dr. Addison's cases, reported on by Dr. Hodgkin, the mucous membrane of the stomach, especially towards the pylorus, has presented a mammillated appearance, and the mucous surface has not unfrequently been covered with thick tenacious mucus. Careful microscopical examination of the mucous membrane of stomach in two different cases, by Dr. Coupland and Mr. Schäfer, have shown that the mammillations are caused by numerous overgrowths of lymphoid tissue around and between the gastric tubules. Some of the mammillations presented small depressions in their centres, which were ascertained by Mr. Schäfer to be due to a breaking down and opening into the surface of the summit of the patches."

There remain the bloodless condition of the body, and the fatty degeneration of the heart, liver, and kidneys. These appearances have been repeatedly observed.

The marrow of the bones was not examined. This is unfortunate, for Professor Pepper, of the University of Pennsylvania, has described certain abnormal appearances in the marrow, and on these appearances has propounded a theory as to the cause of the disease. He thinks progressive pernicious anæmia "is merely the medullary form of pseudoleukæmia."

Dr. Bradbury and some other observers who have examined the marrow have not detected anything abnormal.

Professor Pepper's views are therefore still uncertain.

So much, then, for the pathological appearances, which, it must be confessed, are not satisfactory. We now pass on to the diagnosis.

Profound anæmia is a very common condition. It is met with—1st. *In all cases where there is great loss of blood, lymph, or any of the secretions or excretions.* This form of anæmia is called by Professor H. Lebert "spoliative" (*Medical Record*, July, 1876, page 289). It is readily distinguished from the idiopathic form by the fact that there is an obvious cause for the anæmia, and that recovery follows the removal of that cause. The diagnosis is aided, too, by the microscopical condition of the blood and the absence of retinal hæmorrhages. Professor Eichhorst believes that progressive pernicious anæmia can be surely distinguished by a microscopical examination of the blood. I agree with him in thinking the microscopical characters of the blood to be of great diagnostic value; but the following case seems to show that if the anæmia and its cause are of sufficiently long duration, the same alterations of the red corpuscles may be assumed:—

M. M., aged twenty-two, married, was admitted under my care on August 12, 1875, suffering from most profuse menorrhagia. She had been ill since the birth of her first child, which took place eight months previously. She was profoundly anæmic. On microscopical examination the blood appeared perfectly normal. She was discharged very much better in September.

On August 31, 1876, she was re-admitted, and stated that the loss of blood had commenced immediately after her discharge from hospital last year, and had continued almost uninterruptedly until the present time. On microscopical examination of the blood it was seen that the red corpuscles did not form rouleaux; many of them were misshapen, and some of them were apparently nucleated, and smaller than natural. These changes were much less marked than in any of my cases of progressive pernicious anæmia, but still they were the same in kind.

2nd. *In cases where there is insufficient nourishment* (the "inanitive" form of Lebert) the diagnosis is of course easy. These cases get well with proper feeding.

3rd. *In cases of chlorosis.* This condition is very common in females between the age of fourteen and twenty-four. Indeed, according to Niemeyer, "obstinate chlorosis attacks all young girls without exception in whom the menses have appeared in the twelfth and thirteenth year, and before the development of the breasts and pubes" ("Text-Book of Practical Medicine," vol. ii., page 743). The appearance of patients suffering from the two affections (chlorosis and progressive pernicious anæmia) is the same. The symptoms, too, are almost identical. Professor Eichhorst thinks we have a sure diagnostic in the microscopical characters of the blood. I am unable to speak personally on this point, nor can I tell you the diagnostic value of the retinal hæmorrhages. The two affections are, however, distinct, as shown by the facts (1) that chlorosis "never endangers life excepting through its complications, particularly the very common one of chronic ulcer of the stomach" (Niemeyer's "Text-Book of Medicine," page 747); (2) that iron is of the greatest benefit in chlorosis, but in progressive pernicious anæmia it is useless—indeed, so far as my observation goes, it seems to do harm.

4th. *In cases of malignant disease.* A typical example of this condition is seen in the patient P., who lies in the Bishop's ward, slowly dying from cancer of the stomach. In a recent lecture I fully went into his case. It is unnecessary, therefore, to recapitulate. The case is at once distinguished from progressive pernicious anæmia by the abdominal tumour, the characteristic vomit, the appearance of cachexia, and the great emaciation. There are no hæmorrhages on the retina, and the blood is fairly normal. The red corpuscles are more adhesive than in health, but normal in size and shape. The white corpuscles are natural, and there is a large amount of fine colourless granular matter. In this case the anæmia is partly caused by the imperfect assimilation of the food, partly by the profound alteration of nutrition which is seen in cases of malignant disease.

5th. *In cases of chronic Bright's disease.*—In my first lecture we considered this subject (chronic Bright's disease). I then described to you three chief varieties which are distinct clinically and pathologically. In the first form the kidney is large and white; in the second, small and granular; in the third, waxy.

You will remember that I told you that in some cases of the small granular kidney the patient is anæmic, the face bloated and somewhat sallow-coloured, the urine copious and containing little or no albumen, the tube-casts few and difficult to find, the dropsy slight or absent. The patient in such cases frequently suffers from vomiting and palpitation. Vision may be imperfect, the result of albuminous retinitis.

In this description you will see a considerable resemblance to progressive pernicious anæmia. You will perceive it all the more when I tell you—and I should have mentioned this point in describing the symptoms—that in some cases of progressive pernicious anæmia the urine may contain, for a time, a small quantity of albumen.

The two affections are, however, readily distinguished (1) by the microscopical characters of the blood; (2) by the state of arterial tension. In chronic Bright's disease, especially in the variety in which the kidney is small and granular, the arterial tension is high. (We considered this point fully in relation to the cardiac hypertrophy which is found in these cases.) In progressive pernicious anæmia the tension is low. In the tension of the pulse, then, you have, I believe, a sure diagnostic.

6th. *In cases of chronic poisoning by lead and copper.* The diagnosis in such cases is readily arrived at by the previous history and the symptoms.

7th. *In cases of Addison's disease.* In both the affections (Addison's disease and progressive pernicious anæmia) there is a profound and apparently causeless anæmia, unattended by loss of fat, and associated with great debility, fainting, vomiting, and diarrhœa.

The points of dissimilarity are—

1. *The colour of the skin.* In progressive pernicious anæmia the skin is of a pale yellow or yellowish-green colour; in Addison's disease it is brown, like walnut-juice. It must, however, here be noted that in some cases of Addison's disease—*i.e.*, those in which the affection runs a rapid course—the discoloration of the skin may be undeveloped. Again, in other cases the discoloration is only seen in certain parts—viz., the face, neck, hands, axillæ, genital organs, and about the umbilicus.

2. *The microscopical characters of the blood.* "In uncomplicated cases of Addison's disease," says Dr. Grecnhow, "so far as I have been able to ascertain, the composition of the blood does not undergo any important alteration. In all my later cases the blood has been examined microscopically with virtually negative results."

3. *The retinal hæmorrhages.* These are very characteristic of progressive anæmia, but are not, so far as I know, seen in Addison's disease.

4. The dyspnœa, palpitation, and hæmic murmurs are much more marked in progressive anæmia than in Addison's disease.

Then there is of course, too, the pathological distinction—Addison's disease depending upon one and only one morbid condition of the supra-renal capsules, a lesion which is closely allied to tubercle, and has therefore been called the quasi-tubercular change.

Some of you will, no doubt, remember a case of Addison's disease which was in my wards for a long time. In order that you may be able to compare the two affections, I will read the notes:—

Case of Addison's Disease.—J. B., aged forty-one, married, a puddler, was admitted under my care on March 30, 1876, complaining of general weakness and of pain in the abdomen. He had been ill and off work for six months. Previous to that date he had enjoyed exceptionally good health. He had not had syphilis, and had been steady. His illness commenced with weakness, and a pain in the left hypochondriac region. He knows no cause for the attack. One of his sisters died of consumption. His condition on admission was as follows:—He was a tall dark-haired man; the conjunctivæ were very white and pearly, the mucous membranes anæmic; he was somewhat thin and emaciated (he had been very badly off for some weeks); the skin of the face, neck, hands, axillæ, nipples, and genital organs was of a dirty-brown colour; on the neck, face, and hands small white patches were interspersed here and there on the brown discoloured parts. The discolorations on the face, neck, hands, and axillæ were strikingly symmetrical, as you will see by the photograph which I now hand round to you. There were no stains on the buccal mucous membrane. The patient was exceedingly feeble; he several times fainted on getting out of bed or after having been at stool. He felt sick, but did not vomit. He complained of pain and tenderness on pressure in the left hypochondriac and right lumbar regions. The tongue was tremulous; it could not be kept protruded unless grasped between the teeth. The papillæ were prominent and red. The gait was peculiar: he took very short steps; the head was turned to the right side; the right shoulder slightly raised; the hands kept close in to the groins. The fundus oculi was normal. The blood was fairly normal; the white corpuscles were few; some of the red corpuscles slightly misshapen. The heart was exceedingly weak, but normal. The other organs were normal. The patient had several sharp attacks of diarrhœa while in hospital, but eventually improved considerably, and gained flesh. He discharged himself on July 13, and, unfortunately, has not been heard of since.

8th. *In leucocythæmia.* I show you here the spleen of a patient who suffered from this affection, and who died on Tuesday last. You remember how profoundly anæmic he was. It was impossible, however, to confound his condition with progressive pernicious anæmia. The great size of the spleen (it measured twelve inches in length, and weighed five pounds thirteen ounces and a half), and the enormous increase of the white corpuscles of the blood, at once showed the nature of the case.

9th. *Hodgkin's disease.* Another affection closely allied to leucocythæmia, and attended by marked anæmia, is Hodgkin's disease. It consists in profound anæmia, associated with painless enlargement of the lymphatic glands. Nearly all the lymphatics in the body may be enlarged. The enlarged glands have no tendency to soften or to suppurate. I will shortly detail to you the history of a case:—

Case of Hodgkin's Disease.—W. W., aged twenty-nine, a moulder, married, was admitted under my care on September 7, 1876, complaining of swelling of the glands of the neck, emaciation, and debility. His illness commenced three months previously with pain in the abdomen. Before that time he was a fairly healthy man. He had twice before suffered from glandular swellings in the neck. He had not had syphilis. The family history was good. On admission his condition was as follows:—He was thin and emaciated. The expression of countenance was remarkable. The glands at each side of the angle of the jaw were much enlarged; the face thin; the skin dry and of an earthy-brown colour. The cervical, axillary, inguinal, and abdominal glands were all enlarged, hard, and painless. There was no appearance of softening nor inflammation. The gums and mouth were red and dry. He complained of great thirst. The liver dulness measured five inches. The splenic dulness was slightly increased. The heart's action was very

eble. The blood contained a considerable quantity of fine anular matter; the white corpuscles were, if anything, ightly in excess; the red globules were normal. The fundus uli was normal. The urine contained a trace of albumen, but casts (the albumen disappeared the day after his admission). n September 15 the face and eyelids were swollen. On the th he was much worse, complaining of severe pain and nderness on the slightest pressure over the upper part of e abdomen. On the 21st, at 1.15 a.m., he died. The st-mortem examination was made thirteen hours after ath. There was recent inflammation of the peritoneum, left eura, and pericardium. The lungs and heart were healthy. he heart weighed seven ounces. The liver weighed five unds three ounces, and was waxy. The spleen weighed six nces, and was a good example of the "sago" spleen. There ere two or three small ulcers at the lower end of the ileum. he mesenteric and retro-peritoneal glands were much enlarged. he inguinal, axillary, cervical, and maxillary lymphatics were l greatly enlarged, and tough on section; none of them were ftened nor caseous.

The anæmia of Hodgkin's disease, then, is distinguished om progressive pernicious anæmia by the peculiar enlargeent of the lymphatic glands, by the marked emaciation, by e absence of characteristic changes in the blood, and by the sence of retinal hæmorrhages.

10th. *Typhoid fever.* If a case of progressive pernicious æmia is seen during one of the attacks of irregular fever, may perhaps be mistaken for typhoid. The distinction is be made by the previous history of the case, the condition of e blood and retinæ, and, above all, by the irregular course of e fever.

11th. *Organic cardiac affections* may also be simulated, espeally when a well-marked mitral murmur is present. Dr. eorge W. Balfour thinks the regurgitation in such cases is e to a relaxed and dilated condition of the left ventricle. have no doubt that this explanation is correct; and in proof it I may remind you of the fact that the cardiac muscle is und soft and flaccid after death, the cavities often dilated. e systolic murmurs at the base are due to the spanæmic conion of the blood.

The diagnosis in these cases must be based on the presence hæmic murmurs at the aorta and pulmonary artery, the nous hum in the neck, the marked anæmia, the absence of ng symptoms (cough, bronchitis), and the fact that the patient s not suffered from acute rheumatism.

It is interesting, in connexion with this subject, to note the t that in the patient I have brought before you there is w no cardiac lesion. The case is, in fact, a good example curable mitral regurgitation. In Dr. Balfour's "Clinical ctures on Diseases of the Heart and Aorta" you will find a st interesting chapter on this subject.

Treatment.—I have little to tell you with regard to the atment of progressive pernicious anæmia. Many cases, in te of everything which can be done, end fatally. Iron, ich is so beneficial in other forms of anæmia, especially in orosis, not only does no good, but, so far as my observation es, is harmful. Alcohol, too, seemed in my cases injurious. inine is useless. Phosphorus cured a case reported by Dr. oadbent (*Practitioner*), but has since been tried in vain. senic was of signal benefit in the case I have related; leed, I firmly believe that D. owes his life to the drug. fore its administration he steadily got worse; after he gan to take it he as steadily got well. In my two other es which recovered, arsenic was also administered.

I was induced to prescribe the drug from its known efficacy a blood tonic, and from the remarkably good effect which lows its administration in some forms of cardiac disease, re especially in dilatation and fatty degeneration—conditions which were probably present in this case.

I would not, however, have you suppose that we have in enic a specific for the disease. It is always dangerous and scientific to draw conclusions from individual cases. Until, n, the drug has been extensively tried by other observers, utility must remain *sub judice*.

If progressive pernicious anæmia be a condition which is the ult of various morbid processes, the same drug may not always efficacious. This may explain the failure of arsenic t has been noted in some cases in which it has already been ministered.

I must not conclude without telling you that in some cases nsfusion of blood has been performed. In no case, however, has a fatal result been prevented. This may, perhaps, be to the fact that the operation was not performed until a y late stage of the disease.

ORIGINAL COMMUNICATIONS.

THE CORONER'S COURT IN ENGLAND.(a)

By FRED. W. LOWNDES, M.R.C.S. Eng.

(*Concluded from page* 412.)

2. We now come to a very interesting part of this subject—how the more efficient performance of all medico-legal autopsies may be provided. Mr. Herschell, Q.C., in his recent paper already alluded to has given us an excellent opportunity of "seeing ourselves as others see us." Let us give due attention to what he says, in the hope that it will "from many a hindrance free us and foolish notion." He says, "Almost invariably the medical practitioner who happens to be nearest is sent for. He examines the body, gives evidence of its condition, the position and character of the wounds if there be any, and to him is very frequently entrusted the duty of making the post-mortem examination. How long it is since death took place; whether the wounds could or could not be self-inflicted; what was the probable weapon or other cause of death;—for all these and many other most material facts you have to place reliance almost exclusively upon the evidence of this expert. What guarantee have you that he will be the person best fitted to lead you to a right conclusion in these matters? It is as likely as not that such investigations have never occupied his attention since he was a student, and that even then he was but ill qualified to conduct them. Even supposing there was a time when he was capable of forming an opinion on such matters, it is only too likely that during years exclusively occupied with the treatment of ordinary human diseases, his knowledge and skill in this special department have become rusty and unavailable. I believe I shall have the concurrence of the highest medical authorities when I say that the investigations to which I have referred require special training, skill, and experience, and that it would be quite false to suppose that you are likely to find them in every practitioner to whom chance may direct your steps."

There is a *tu quoque* argument which suggests itself in a very tempting manner, but as it is an objectionable mode of answering anyone who has a strong case, I pass it by. But I must remark that Mr. Herschell has ignored the Medical Witnesses Act, which binds the coroner to summon the medical attendant of the deceased at his death or during his last illness; or, failing such, any legally qualified practitioner in actual practice in or near the place where the death happened. The circumstances under which these cases generally occur seem also to have been overlooked altogether by the learned gentleman, for in cases of wounding, poisoning, strangulation, etc., the nearest doctor must, for obvious reasons, be sent for, and who is so competent as he to answer many of the above questions put by Mr. Herschell? I may go further, and say that he is the only competent person to answer some of them. But I think we are all agreed that the whole and sole responsibility of making a post-mortem examination, and giving evidence before the coroner, the magistrate, and the judge, ought not to devolve upon him; and, to a certain extent, this contingency is provided for. The majority of jurors at an inquest may, if they are not satisfied with the medical evidence, call for the evidence of such other medical witnesses as they may desire. Again, any gentleman who, being the nearest practitioner, has been called in to a case involving an inquest and a post-mortem examination, may, if he wish, request the coroner to give the order for this latter to another gentleman, he himself assisting or not as he prefers. But there can be no doubt that these duties do require "special training, skill, and experience," and that their performance by gentlemen experienced in pathological anatomy is greatly to be desired. And, as not only is experience in pathology required, but also some knowledge of medical jurisprudence, the concentrated attention of some gentleman selected for his knowledge of these subjects on all the numerous cases of this nature occurring in this large town would add greatly to our knowledge of the different departments of forensic medicine. In Scotland the medical attendant of the deceased

(a) A paper read before the Liverpool Medical Institution, November 16, 1876, entitled "The Coroner's Court in England, and the means by which it may be rendered more effectual in providing—(1) a more satisfactory inquiry into all doubtful and suspicious deaths; (2) the more efficient performance of all medico-legal autopsies; (3) a field for the practical study of forensic medicine in our medical schools."

or the practitioner summoned to see the body, is always one of the medical inspectors who examine the body. But in all cases involving a criminal charge, the police surgeon, who, from the office he holds, has had considerable experience in such cases, is appointed by the procurator-fiscal to be present and assist in the examination. His duties are (1) to see that the examination be as complete and searching as possible; (2) that everything tending to exculpate the prisoner should be fully and frankly stated; and (3) that the report should be drawn up in due form. Dr. Littlejohn, of Edinburgh, from whose admirable papers in the *Edinburgh Medical and Surgical Journal* I have derived much of the information I have given, is entrusted with most of the medico-legal cases in and around Edinburgh, and is also Lecturer on Medical Jurisprudence, in which he is able to instruct students very practically. Gentlemen are present who will be able to confirm this.

It has fallen to me to make many autopsies for five different coroners in town and country. I have always endeavoured to obtain the assistance of some gentleman older and more experienced than myself, and I have to express my thanks to many gentlemen present for their kind assistance. But such assistance should be not voluntary, but properly remunerated; and should Mr. Cross bring in a Bill for reforming the coroner's court, I trust that his attention will be called to the subject of fees, which are at present wholly inadequate to secure the services of experienced and skilled pathologists.

There are three matters of detail on which I should like to say a few words; and the first is as to note-taking, which is believed by many to be prohibited in courts of law. This is not so; notes are allowed to be taken for the purpose of refreshing the memory, provided they be made at the time of the examination, and that the original memoranda are preserved. Secondly, as to the preservation of viscera for analysis. It is not always easy to procure suitable vessels for this purpose. The smaller of the two jars you see on the table is easily procured, and Dr. Campbell Brown has informed me that it is perfectly suitable for the purpose. The larger one is from Mr. Syme's establishment, and he can furnish them for 2s. each. Attention to such details as these, simple though they are, is so important that no apology is necessary for mentioning them. Thirdly, most of the cases containing instruments made for post-mortem examinations are far from complete, containing things that are not wanted, while what is most required is often absent. The one I show you was made for me some years ago, and I have submitted it to a gentleman present who is frequently making autopsies. He will, I think, tell you that it at least contains all that is required, and you will see that it is fairly portable.

3. We now come to the last, though not least important, part of our subject—the means by which the Coroners' Court may be made available for the practical study of forensic medicine in our medical schools. It has long been admitted that anatomy can only be learned in the dissecting-room; chemistry in the laboratory; medicine, surgery, and obstetrics by clinical study; pathology in the post-mortem room. Now, it is also insisted that physiology must be learned in a practical manner in the physiological laboratory; and that one in our medical school is the object of great admiration to every medical visitor whom I have taken into it. In a word, every department of medicine should be taught and learned "practically." Why should forensic medicine be any exception to the rule? It is true that the cases admitted into hospital do not furnish a large quota of medico-legal cases, though some very interesting ones are seen. But within a distance of very little over a mile from the Royal Infirmary is a place which affords a field for the practical study of forensic medicine, little inferior to the Morgue of Paris, where world-renowned medical jurists, Orfila, Devergie, and others, acquired their reputation. I refer to the Dead-house, Prince's Dock, where cases of death from drowning, burning, suffocation, exposure to cold, infanticide, may be seen in almost every variety. Of the architectural appearances of the present and former dead-houses, both external and internal, the less I say the better, but I am glad to be able to say on good authority that it is intended by the authorities to erect a suitable building where post-mortem examinations may be made with facilities and comforts which do not now exist. Now, without encroaching upon other gentlemen's province, the students of the Royal Infirmary School of Medicine might have many opportunities afforded which they do not now possess. During the summer session the Lecturer on Forensic Medicine might, I am sure, easily obtain permission of the authorities to visit this pla and show the external appearances of death from the vari causes I have indicated as to be met with there. Aga many gentlemen present would be very glad of the assista of one or even two students in making a post-mortem exa nation, and especially those whose obstetric and other du render it desirable to avoid such work. And many a m interesting case, which, for want of time and assistance, is n lost to the profession, might then be fully and accurat detailed.

In conclusion, gentlemen, I fear that in some of the fo going remarks I have been less serious than so grave a subj and so serious an audience required. My apology must that, by a strange contradiction, it is one of the peculiarit of the coroner's court in this country, that it never can discussed without exciting ridicule. The memorable sc from *Hamlet* is familiar to us all, when the first grave-digg puts forth as an argal, "He that is not guilty of his o death shortens not his own life"; and when this very s evident proposition is challenged by his comrade's questi "But is this law?" the answer is emphatic, "Ay, marry is' crowner's quest law!" Ever since then, crowner's quest l has been a standing jest, till recent cases, especially the l inquest at Balham, have awakened the English public to fact that there is a tragical as well as a comical side to picture. A young man is cut off in the heyday of his life poison, and an inquiry is requisite to see if it be a case suicide, or as insidious and foul a murder as was ever per trated. Two inquiries are held—the first a solemn farce; second a public scandal and national disgrace. Much was doubt due to the circumstances of the case, but much a arose from the system. We are promised a change, and m hope that it will be better, since it cannot very w be worse. Many of you will remember how the late James Simpson used to try and picture the future; a in his last Graduation Address he looked forward to the d "when physicians shall melt down all calculi, necrosed bo etc., chemically, and not remove them by surgical operatio when the bleeding in amputations and other wounds shall stemmed, not by septic ligatures, nor stupid needles, but the simple application of hæmostatic gases or washes; . . when man shall have invented means of calling down rain will; when he shall travel from continent to continent by su marine railways, or by flying and ballooning through the a and when, to venture on only one illustration more, tireso Graduation Addresses shall no longer require to be written old professors, nor listened to by young physicians." Lo before that day I trust that the patient, much-enduring me bers of this Institution shall no longer be bored by tireso papers from another member of a fault-finding, over-refor ing disposition, and that we shall soon cease to hear of t strange contradictions, the inconclusive verdicts, the deplora waste of scientific material, involved in that ancient institut "the coroner's court."

ABSCESS IN THE LEFT FRONTAL LOBE O THE BRAIN.

DISTENSION OF THE LATERAL VENTRICLE—A PERSISTENT STAT OF IMPERCEPTION.

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Dr. Hughlings-Jackson has remarked that the term imbecili as ordinarily used, may cover defects as special as those co tained in the term "loss of speech"; so it is with the wo "unconsciousness." To say that the subject of the followi case was semi-conscious would constitute an insufficient accou of his condition. He retained automatic consciousness, co nected with the activity of a lower centre, but had lost the time that form of consciousness which is developed in t highest centre, and consists in an intelligent perception impressions made upon his senses. It was interesting to wat the steps by which the patient emerged from this state of i perception, and renewed intelligent relations with the ou world. His speechlessness, absolute as it was, most probab depended upon absence of ideas, not upon inability to call words, as in ordinary forms of loss of speech connected wi right hemiplegia. Speech returned as evidence of intellige consciousness when sudden death terminated the process.

The mental condition of the patient gained increased inter

from its being associated with distension of the left lateral ventricle, and especially with such marked distension of the posterior horn of that cavity, and with pressure consequently exerted upon the surrounding cerebral tissue, especially of the occipital lobe; the relation of the condition to certain speculations of Hughlings-Jackson, Charcot, and Bastian requiring no comment. The position of the abscess, as regards the corpus striatum, probably explains the hemiplegia through the operation of pressure upon the motor centre. It would be refining too much to connect the deviation of the eyes, noticed before death, with the situation of the abscess close to the ocular motor centre in the posterior part of the first and second frontal convolutions. The cause of the ventricular effusion did not appear; the effusion itself had been removed before death, the removal doubtless coinciding with the restoration of consciousness.

G. D., aged 42. His wife was not aware of the presence of any symptom of cerebral disease, except a single fit two years ago. He was suddenly seized with an epileptic fit whilst at work, and was sent home. He returned to his occupation next day, but about noon again fell into a fit, and again on reaching home. From that time, through the next thirty-six hours, he suffered from a constant succession of fits, in which his wife positively affirms that the right side only was engaged. One side of the face was drawn, but it was not clear which. The right hand was clenched. He remained unconscious after the cessation of the fits until the period of his admission, six days afterwards.

He then presented the ordinary form of right hemiplegia, so far as the motor functions were concerned. His mental condition was one of mere automatic consciousness, sufficiently manifest, but at first of a very low grade; and he gradually emerged from this state to one of intelligent perception, by slow but well-marked gradations. His urine was first retained, then was passed unconsciously, as were his stools. He lay without uttering a sound as if asleep, his left arm under his head, occasionally opening his eyes in a drowsy manner, his gaze, if directed to the bystander, perfectly expressionless. He was gentle, unreceptive of any command, and without the least indication that he was conscious of our presence. Roused by sharp pinching of his leg, he tardily twisted his face into an expression of discomfort, and after some time used his left foot to push away my hand, but never moved his left hand for that purpose, reminding one of the condition of the decapitated frog when acid was placed on the skin.

In a week's time he could be induced to make an attempt, with very partial success, to protrude his tongue. At that time he is described as lying on his side, with bedclothes drawn tightly over his head, rubbing his eyes when they were removed, and yawning as if awakened. When pinched sharply there was the same painful expression, but now he used his hand to remove the offending object, though he did not utter a sound. Nor did he direct his eyes towards me when I spoke; but on the nurse addressing him, with whose voice he was more familiar, he looked sleepily at her. She succeeded in inducing him to raise his hand, at her direction, and she has got him to make an affirmation in this way when asked if he wanted more to eat; moreover, his signs of discomfort are sufficiently indicative to enable her to prevent his wetting the bed. On my leaving him he drew the clothes again over his head.

At the end of the second week his eyes were directed towards me, and had a more intelligent expression, though his countenance showed no change when I spoke to him. He followed moving objects with his eyes. It was still very difficult to make him put out his tongue. Two days afterwards he turned his head to me as I came up, and not only raised his hand when directed, but one or the other finger according to command. For eighteen days he was perfectly speechless, but then he said "Yes" and "No," though not correctly. On this day, too, he burst into tears on seeing his wife. Two days afterwards he asked for the *pôt*, and in reply to an inquiry where he was, said, "In the hospital"; but a week later he was quite intelligent, though he still sometimes blundered in using "Yes" and "No."

The temperature taken for the first eight days was perfectly normal. His urine was free from albumen. His bowels were costive. The sphincter ani was relaxed. Pupils were natural. The sounds of the heart were healthy. The optic discs were healthy, Mr. Priestley Smith confirming my own observation ten days before the patient's death.

On the thirtieth day of his residence in hospital he was seized quite suddenly with shivering and vomiting. He was found by Dr. Bindley breathing heavily, with contracted pupils, the eyes oscillating; the axillary temperature 104·8°; pulse 106; respirations 24. In an hour and a half the temperature had reached 106·2° in the right, and 105° in the left axilla. He died two hours after the seizure, the eyes being turned upwards and to the right. The temperature in the rectum three hours after death was 107·2°.

On post-mortem examination, the vessels and membranes of the brain were found perfectly healthy. The surface of the brain was very dry, and the convolutions, especially of the left hemisphere, were much flattened. The convolutions, especially the occipital and frontal, were carefully examined in the fresh state; they were universally anæmic to a great degree, but, with the exception of the left superior frontal, were healthy in structure. The greater part of the left upper frontal convolution was destroyed by an abscess, which lay within the frontal lobe. When the brain had been hardened in spirit, the difference in bulk—apparent enough in the fresh state—between the frontal lobes of the two sides was very striking; the one on the left side was much bulged out, and advanced in front of its fellow. The abscess commenced in the first frontal convolution, close to the surface, and in the adjacent white matter, three-eighths of an inch behind the anterior extremity of the hemisphere; it extended backwards for two inches, tending inwards, and partially engaging the second frontal convolution. It just overlapped the corpus striatum to the extent of a third of an inch, lying upon the nucleus caudatus, but not extending into its tissue. It came into such immediate contiguity with the anterior horn of the ventricle as to create a suspicion of its having opened into that cavity; but the ventricles had been examined before removal of the brain from the skull, and no fluid was found within them, nor did any communication disclose itself. The abscess was lined by a firm membrane. No evidence of surrounding softening existed in the hardened brain in the anterior part, but behind the abscess and around its posterior extremity evidence of softening was very apparent. The tissue of the corpus striatum merely differed from that of the opposite side in the fact that the separation of the two nuclei by the commencement of the internal capsule was more confused. The left lateral ventricle had been subjected to considerable distension. It was much dilated, but the evidence of the distending process was most striking in the case of the posterior horn of the cavity, which, in the vertical section by which the examination was conducted, presented a wide gaping mouth admitting a large finger, and presenting a striking contrast with the horn of the opposite side. Unfortunately, we omitted to note the condition of the lining membrane of the ventricle, and I have further to admit that the source of the abscess was insufficiently searched for. All the other organs were healthy.

Royal College of Surgeons.—The number of gentlemen admitted Fellows of the College by examination in the corresponding years of the following decades is interesting—viz., from July, 1846, to 1847 there were fourteen; July, 1856, to 1857, seventeen; July, 1866, to 1867, twenty-three; July, 1876, to 1877, twenty-seven. The largest number ever examined occurred in the collegiate years 1844-45 and 1849-50, when it amounted to thirty-nine in each year. The smallest number was in 1855-56—viz., six.

Effects of Alcoholism on Mental Diseases.—M. Magnan, of the St. Anne Asylum, Paris, terminates a paper read at the Geneva Congress with these conclusions:—1. Alcoholism present different characters, according to the nature of the drinks which have been abused. 2. Alcohol of itself does not give rise to epilepsy; and when this occurs, it depends upon a predisposition in the subject, or upon some other substance than alcohol. The epileptiform attacks in chronic alcoholism do not depend upon the drink taken, but upon the organic lesions which have been already produced in the nervous centres. 3. Special characteristics enable us to distinguish three forms of delirium tremens—the one symptomatic of an injury or of an intercurrent affection; the second, spontaneous, apyretic, and benign; and the third, spontaneous, febrile, and grave. 4. Alcoholism may lead directly to general paralysis, certain terminal lesions of chronic alcoholism not differing from the lesions of general paralysis. 5. Alcoholic insanity is distinct from all other forms of insanity; but it may complicate and mask them, hasten their appearance, and accelerate their progress, and may become the point of departure of a partial delirium, with a tendency to systematisation and chronicity.—*Gaz. Méd.*, October 13.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

SOUTH LONDON OPHTHALMIC HOSPITAL.

CASES OF TOBACCO AMBLYOPIA (AMAUROSIS).

(Under the care of Mr. NETTLESHIP.)

THE following short series of cases is offered with but little comment in illustration of the well-defined group of symptoms which occur when the optic nerves suffer in chronic tobacco-poisoning. Oculists are far from agreed either upon the share attributable to tobacco in causing damage to sight, or on the visible changes in the eyes which it produces. Mr. Nettleship thinks that this want of unanimity may be traced partly to the undue frequency with which complete blindness and advanced atrophy of the optic discs have been spoken of, especially in some of the earlier publications, as due to tobacco-smoking. Another cause, undoubtedly, is the difficulty of assigning to each of several possible agencies their proper share in this malady—a difficulty which serves not only to strengthen a commendable caution, but to shelter a certain amount of slovenly observation. Even in some of our latest English text-books, we find only a most inadequate notice of the influence of tobacco upon sight; and this chiefly, as Mr. Nettleship believes, because the writers have had in their thoughts only advanced cases of atrophy. It is to be kept constantly in mind (as has been pointed out by Mr. Hutchinson) that the disease is, at any rate nowadays, but seldom allowed to run on to its natural ending, and that, even when unchecked, its tendency is, in a large number of cases, to come to a standstill considerably short of such extreme results. The present is not the place in which to discuss the reasons for asserting that tobacco is the *essential* cause of the symptoms in most of the well-known cases of symmetrical progressive amblyopia occurring solely in men, and in which more or less complete recovery takes place. That the symptoms are arrested, and sight restored, in degree varying with the previous severity and duration of the case, when tobacco is wholly and in great degree given up, and that cases agreeing in all respects with these are scarcely ever met with in persons who do not smoke, are the two most important positive pieces of evidence. The objection that this form of disease is not met with in countries such as Egypt and Turkey, where tobacco is more largely used than in the North and West of Europe, will have weight only when several obvious sources of fallacy have been carefully set aside, particularly as to the kind of tobacco used, and the manner of using it. The influence of sex is one of those which it is most difficult to estimate, and the effect of alcohol is another. The much greater liability of men to locomotor ataxy and to general paralysis of the insane (two diseases in which amaurosis is apt to occur), as also to the rare disease in which amaurosis with atrophy of discs is hereditary, may show some special aptitude for slow disease of the optic nerves in males; but this, if true, does not make it less likely that tobacco is the sole exciting cause of the disease illustrated in the following cases. Mr. Nettleship concurs in the general opinion that alcohol, and especially spirits, when taken largely enough to cause either chronic dyspepsia or the nervous symptoms of chronic alcoholism, is an important predisposing cause of tobacco amblyopia, as are prolonged anxiety, and perhaps sexual excess; but he has seen no evidences that these same influences can produce any such result either in men who do not smoke or in women.

Case 1.—*Severe Amblyopia, with Slight but Definite Changes in Discs, Six Months—Central Scotoma (?)—Patient a Heavy Smoker and Liberal Drinker—Perfect Recovery—Tobacco absolutely relinquished.*

Benjamin I., a big, robust signalman, of fifty-one, came under care at the South London Ophthalmic Hospital on April 2, 1873, complaining that his sight had been failing for six months. The failure had been gradual, and had been first apparent by artificial light. There had been no failure of appetite nor any disturbance of sleep, but he considered that he had lately been getting nervous. His vision was with the right barely 18 Jäger, and no letters of 200 Snellen at twenty feet; left, barely 16 Jäger and $\frac{20}{200}$. This slight difference was not of any material importance in aiding the diagnosis. Sight was not improved by any glasses. There was no colour-blindness, and he was still able, he said, to distinguish the colours of his signal-lights. He could see best in a dul light (central scotoma), but there were no marked variation in sight. The ophthalmoscopic appearances were identical i each eye; the yellow-spot third of each optic disc slightly but decidedly, paler than the remaining two-thirds, whic seemed (the patient's pupils not being dilated) redder than i health, being, indeed, not much less red than the surroundin choroid. The other parts of the fundus were healthy. H had been a smoker thirty-five years, and for the last seve years had smoked an ounce of shag tobacco daily. Formerl he had been a heavy drinker, and was still in the habit o taking from three to five glasses of brandy-and-water daily There was no history of bad sight in his family, except tha his mother's vision failed her in old age. He was ordered te minims of tincture of nux vomica thrice daily, to abstai entirely from the use of tobacco, and to drink somewhat less He remained under care for ten months, taking the medicin regularly.

In January, 1874 (nine months after admission), he had no improved to any very striking extent, vision being then 16 Jäge and $\frac{20}{50}$ imperfectly.

He ceased attendance and medicine in February, 1874, bu came to see Mr. Nettleship at request in April, 1875, when i was found that he could see $\frac{20}{30}$ and 10 Jäger without his glasses while with them he could read 1 Jäger ("brilliant") easily. H considered his sight as good as it had been before the failur began. He said that at the time when he ceased taking th medicine his sight had not fully recovered; that at first i went back a little, so that he thought he should have to atten again, but that it soon improved once more, and progressed t complete recovery. He said that he had never either smoke or chewed once since tobacco was forbidden at his first attend ance. He still takes "a little brandy." He is no longe "nervous."

This case is particularly interesting as showing the probabl negative effect of the treatment used, since nearly half of th patient's improvement occurred after he had left off all treat ment. The perfect recovery of sight with total abstinenc from tobacco is a result which Mr. Nettleship believes is th rule in cases which come under care in an early stage. Many o the patients who do not improve will be found, on investigatio to be still smoking more or less.

Case 2.—*Amblyopia in a Heavy Smoker, Temperate in Alcohol—Onset Slow and Degree Slight—Anxiety as a possible Exciting Cause—Recovery of nearly Perfect Sight in Four Month after ceasing to Smoke.*

Wm. W., aged fifty-three, mason, admitted November, 187 Had been anxious and troubled for the last fifteen month owing to his wife's death, but did not consider that his healt had failed. Habitually smoking half an ounce of shag a day drinks beer very moderately, and seldom touches spirits. Sigh failing slightly for twelve months, the defect being most ap parent in a bright light (? central scotoma). With his glasse he could, however, still read the newspaper; but his distan vision (unaided by glasses) was only 40 Snellen at fifteen fee There was no hypermetropia. Optic discs definitely pale a their temporal portion; no other changes.

He left off smoking entirely. No improvement took plac for several months; but in March, 1876 (four months afte admission), he considered his sight better, reading (withou glasses) 8 Jäger, and nearly 20 Snellen at twenty feet, whil with + 11 glasses he almost read 1 Jäger ("brilliant"). H had quite left off smoking. He took only a little compoun tincture of lavender. Not seen him since April, 1876.

Case 3.—*Amblyopia, with Slight and not quite Symmetric Changes in the Discs, in a Man Smoking and Drinking Excess—Perfect Recovery under great Diminution of Tobac and more Moderate Use of Alcohol—Premature Senility.*

Geo. L., aged thirty-six, formerly a sailor, now a sorter i the Post-office, admitted in March, 1874, for recent failure o sight. Vision = 8 Jäger badly for a short time, and 20 Snellen at fifteen feet; not improved by any glasses. Opti discs—right slightly paler than left, and free from haze left somewhat dim at the margin, and redder than the right no other changes. Smoking half an ounce a day, and drink ing spirits freely. He attended only twice, and then becam a patient for twelve months under the care of Mr. Cowell a the Westminster Ophthalmic Hospital. He much diminishe his tobacco and drank less, and in about a year could se almost as well as ever.

April, 1877.—Patient comes at request. Is now smokin

om half an ounce to an ounce a week. He drinks, according his admission, Irish whisky to the extent of four to six unces a day, besides a pint of beer, but this is much less than e formerly took. Tongue furred, but not tremulous; appetite abitually bad; manner very excitable and irritable; is thin nd sallow, and looks ten years older than his years. Has lmost completely recovered his sight. Vision: Words of Jäger ("brilliant") and 30 Snellen at fifteen feet. Optic iscs show slight but definite pallor on their temporal sides, eing elsewhere healthy.

ase 4.—Amblyopia (Two Months) with Signs of Congestion or Slight Neuritis in an Intemperate Man who Smokes heavily—Perfect Recovery, Tobacco being almost given up, but Alcohol still taken in excess.

John G., aged forty-four, labourer, admitted September 25, 876. Sight failing steadily for two months. Lately had been eeping badly, but had had no other symptoms. Intemperate, nd smoking half an ounce a day. Married, and has four ildren. Vision: Makes out words of 14 or 12 Jäger and 200 nellen at twenty feet. Pupils active and of ordinary size. ptic discs rather too red; the left perhaps redder than the ght, and very slightly hazy, the haze extending into the tina. Retinal veins decidedly engorged, quite beaded in me cases. No other disease. Took nux vomica for five onths (till February, 1877), when he ceased attending.

May 7.—Attended at request. Vision = 1 Jäger slowly; etter with a low + glass; sees 20 Snellen at twenty feet. vidently still drinks heavily. Has very much diminished, ut not quite left off, smoking.

ase 5.—Amblyopia without Definite Changes in a Man Smoking largely and Drinking Spirits—Duration Three Months—Rapid Improvement after leaving off Tobacco.

Mr. H., aged fifty, an agent in the leather trade, smoking at ast half an ounce of birdseye daily, and drinking about ten r twelve ounces of gin daily, was sent to Mr. Nettleship by Ir. Starling, of Higham Ferrers, in April, 1876. His manner as nervous and rather fidgetty, but the tongue not tremulous. Ie had lately been under treatment for dyspeptic symptoms nd "biliousness," and had, on medical advice, left off beer, hich he had formerly taken, as well as gin. Appetite and eep good. Quantity of tobacco not increased of late. Sight ad been failing symmetrically for three months. Had had no ause for anxiety, and was quickly getting worse. Probable yphilis thirteen years ago. Vision alike in the two eyes; 14 äger barely, and 30 Snellen at ten feet. With his spectacles + 24) managed to read 10 Jäger for a short time. Optic iscs showed no definite changes—there was perhaps a slight ist over them and the surrounding retina. At extreme peri-hery of the fundus of each eye some patches of old choroidal isease.

Six weeks later, he having left off smoking, he had improved o much that with his glasses he read 6 Jäger easily, and ould make out No. 4. He was drinking less, but still took a ood deal.

ase 6.—Rapid Onset of Amblyopia, with Central Scotoma, in a Myopic Smoker and Spirit Drinker—Nervous Temperament—Intolerance of Tobacco—Recovery of nearly Perfect Vision.

C. W., aged forty-seven, a law-writer, came in November, 876, when his sight had been failing for four or five weeks. Ie was very nervous, and habitually drank spirits "to steady is hand." He would not admit that he consumed a large uantity of spirits, and said that he smoked only one ounce of obacco a week; he could not smoke more because it made im so nervous. Vision = 16 Jäger with each eye. Pupils mewhat sluggish. "The middle of each word is wanting." o other defect of field. Ophthalmoscopic examination showed high degree of myopia, with a crescent in each; media clear. o other changes.

He was told to leave off tobacco entirely, and some nux omica was prescribed. Two months later he had improved o much that he could make out 4 Jäger at 6 inches.

ase 7.—Gradually increasing Amblyopia (Six Months)—Slight but Definite Disc Changes—Patient a Smoker and Heavy Drinker, but not easily Intoxicated—Improvement.

H. A., aged forty-eight, a tanner, was admitted on April 19, 873, complaining that his sight had been failing gradually or about six months. The failure had been equal in the two yes. He had dark brown hair and grey irides. He considered imself in his usual good health, and had had no failure of ppetite. The pupils of ordinary size. Sight was equal in the two eyes. He could barely make out letters of 19 Jäger, and could not see 200 Snellen at twenty feet. The ophthalmoscopic inspection (after use of atropine) showed slight pallor of the yellow-spot third of each optic disc, the remaining portion being either healthy or perhaps slightly too red. There was no swelling of the discs, but there was slight notching of choroid on the yellow-spot side of the right disc, as if caused by some degree of former swelling of the nerve at this part. The retinal vessels and remainder of fundus healthy. No colour-blindness. He said that previous to the failure his sight had been excellent. He had been in the habit of smoking a quarter of a pound of shag weekly almost since boyhood, and he said that smoking more than usual never disagreed with him. He had been at sea, and was sometimes sea-sick. He was a heavy drinker, consuming from four to eight quarts of ale daily, and spirits also not unfrequently. He was a "strong-headed" man, and could take much liquor without being drunk.

He was ordered to leave off smoking entirely, and to diminish his drink; tincture of nux vomica in ten-minim doses thrice daily prescribed. He attended regularly till the middle of January, 1874 (*i.e.*, for nine months), at which time his sight had improved enough to enable him to see the time on the church clocks, which he could not do on admission (his own statements), and to read 16 Jäger with difficulty. He appears to have been satisfied with this amount of improvement, for he did not come again, and subsequent efforts to follow him up have not succeeded.

Case 8.—Slowly Progressive Amblyopia (Three Years) in a Smoker, arrested while still Smoking—Prolonged Anxiety as a Determining Cause—Great Defect of Sight, with Pallor of Optic Discs.

W. K., aged fifty, bootmaker, admitted in January, 1876, complaining that for three years past he had been unable to find suitable spectacles. The sight had failed gradually, but he believed that it had remained stationary for about the six months prior to admission. For thirty years had smoked about four ounces weekly ("shag" and "returns"), and has never found it disagree. Drinks three pints of beer a day; scarcely ever touches spirits. Not liable to sea-sickness; no indigestion. For some time before the sight began to fail had had much anxiety from the prolonged illness of his wife, which ended in her death nine months before his admission; did not admit, however, that his sleep was much interfered with. No failure of sexual desire. Vision, without glasses, each eye = 18 Jäger, and not 200 Snellen at twenty feet. Pupils active; the left rather larger than the right. Is using strong glasses (+ 5), but they are of little service. Optic discs definitely pale all over, but much more so on the yellow-spot side; retinal vessels natural. No other changes, unless a slight mistiness of the retina around the disc. He came only twice, and I have not been able to find him.

In this case it is to be noted as of much interest that, according to the patient's belief, the decrease of sight had stopped while he was still smoking his accustomed quantity; and that this occurred soon after his wife's death put an end to the anxiety which had troubled him during her three or four years' illness. He was a well-made, healthy-looking, robust man.

Case 9.—Progressive Failure of Sight (Ten Months) in a Heavy Smoker who also Drinks to excess—Other Symptoms referable to the Nervous System—Tobacco not given up—Sight deteriorating slightly while under care—Former Sexual Excesses—Discs Congested (?).

H. V., aged fifty, a baker, admitted in May, 1876. Sight failing steadily for ten or twelve months. Smokes half an ounce a day, and drinks a moderate quantity of stout, but denies taking spirits. Is nervous; for eighteen months has been liable to "curious feelings in the head," "pricking all over the top of the head," and to startings of his limbs during sleep, so that his arm sometimes hits him on the nose; he is also troubled by dreams, and he calls out in his sleep. Vision: Right, 16 Jäger barely, + 16 = 50 Snellen at twenty feet; left, 18 Jäger barely, and scarcely 200 Snellen at twenty feet, + 24 = 70 Snellen at 20 feet.

Ophthalmoscopic examination almost negative. The discs, perhaps, slightly too red, and surrounding retina showing a faint degree of haze; no other changes. To leave off tobacco, and take a bitter mixture. Married at seventeen, and in early life had indulged his sexual appetite very freely, but without causing any diminution of power. He left off smoking, but instead took to chewing about a quarter of an ounce a week, still taking his full quantity (about four pints) of beer. Five months after admission, sight decidedly worse; = only 20

Jäger, and not 200 Snellen at twenty feet. Nervous; appetite bad, and tongue furred and tremulous. Is probably drinking more than he admits; chews a little, as stated. Discs now decidedly pale and quite clear; the pallor greatest on the temporal side of each. To leave off tobacco entirely, and to drink less, especially at night.

A month later (November 7) sight was, if anything, rather better (19 Jäger, raised by + 9 to 14 Jäger). Has not been seen since.

Case 10.—*Amblyopia of Six Weeks' Duration in a Heavy Smoker—Note of Condition six months after Admission.*

John H., aged sixty-six, an ostler, admitted in November, 1876, complaining that for the last six weeks he had been unable to see so well as he used, the failure being alike in the two eyes, and unaccompanied by any pain or other symptoms. Vision equal to 16 Jäger; not improved by glasses. Smokes half an ounce a day. Notes of ophthalmoscopic examination are wanting.

April, 1877.—Writes that his sight is "no worse," but "about the same." As, however, he had never learned to read, and had no need for very good sight, he may have improved more than the above statement would indicate.

Case 11.—*Slowly Progressive Amblyopia (Eight Months) in a Man Smoking heavily and drinking Spirits freely—Tremor from Alcohol, but Health in all other respects considered Excellent—Appetite Unaltered—Slight Pallor of Discs, not quite Symmetrical.*

George P., aged fifty-two, a hatter, admitted in July, 1876. A robust, florid, sandy-haired man of large build; intelligent, but very excitable. Gradual failure of sight eight months, and still progressing. Has had no headache, and will not admit any symptom excepting the failure of sight. Smokes half an ounce of "black Cavendish" daily. For the last two years has lived in Glasgow and drunk whisky freely, and, in particular, has got into the habit of taking his dram before breakfast. His tongue is tremulous; he knows he is nervous, and attributes it to the whisky, not to the tobacco. Appetite has, however, never failed, and he has throughout been able to eat a hearty Scotch breakfast. Since returning to London (a few days before admission) he has taken less spirits, and is already less nervous than he has been. Married; sleeps well; is in excellent spirits. Vision (with his glasses) in each eye equals 16 Jäger and 200 Snellen at twenty feet without glasses. Pupils of normal size, and fairly active. Optic discs slightly pale all over, but more so on the yellow-spot side. After careful and repeated examination by two observers, it was thought certain that the right was paler than the left. No other changes. Remained under care only six weeks, and did not alter as to vision in that time.

Case 12.—*Amblyopia of Three Months' Duration in a Smoker—Central Scotoma—Discs Pale on Temporal Side.*

Wm. E., aged fifty-two, smith, a smoker, admitted July, 1875, complaining of failure of sight for three months, and in particular that "things looked black" (probably central scotoma). Sight did not vary on different days. Vision—right, letters of 18 Jäger and 50 Snellen barely at twenty feet; left, letters of 16 Jäger and 50 Snellen well at twenty feet. Pupils active. Tension normal. Slight hypermetropia, but sight not improved by glasses. Optic discs pale at the temporal portion; no other changes. The physiological cup very large in each, and in one eye spontaneous pulsation of the vein. Attended only once, and could not be traced.

Case 13.—*Amaurosis with very Pale Discs in a very Excessive Smoker who drinks but little.*

John W., aged fifty-two, varnish maker; nervous, and tongue tremulous; appetite bad. Both eyes failing alike for three to four months (? longer). Admitted in July, 1875. Vision of each eye = 20 Jäger; cannot see 200 Snellen at twenty feet. Glasses do not improve. Optic discs pale all over, the pallor being nearly uniform. Slight doubtful mistiness of surrounding retina. Retinal vessels normal, or perhaps slightly diminished. The appearances are those of an advanced tobacco amblyopia. Has smoked very heavily for thirty or forty years. Until six months ago he smoked three-quarters of a pound of shag a week, but (though he denies that it disagreed with him) about six months ago he reduced the quantity to three ounces. Has always been very moderate in his use of alcohol. Was once at sea, and not sea-sick. Attended only once, and could not be traced.

Case 14.—*Progressive Amaurosis, at first with very Slight Changes, afterwards with well-marked Atrophy of Discs, but with some Improvement of Sight—Patient an Intemperate, Unhealthy Man, Smoking largely, and not ceasing to Smoke for several months after Failure of Sight began—Final Ophthalmoscopic Changes not quite Symmetrical.*

James O., aged fifty-six, a bottle-nosed man of heavy aspect, looking half-asleep, and drinking heavily, admitted February 3, 1875, sight having failed for three months past. For the last thirty years he had smoked from a quarter to half an ounce a day. Vision: Cannot read 20 Jäger, nor see 200 Snellen at twenty feet. Slight doubtful pallor of optic discs at the temporal portion, and appearance of slight haze of surrounding retina, but this is perhaps due to some loss of transparency of the lenses.

Patient diminished smoking, and after a time quite left it off, and lessened his drink. For nearly four months he also took tincture of nux vomica. His sight was tested at intervals, and remained almost exactly the same. Thus, in August (about nine months after failure began) he could still not see 200 Snellen at twenty feet, but could make out 20 Jäger. In January, 1876 (fourteen months), he could make out letters of 19 Jäger, and was still, according to his statement, not smoking at all. At this date the discs were very pale, uniformly so all over, their edges clean and regular, and the retinal vessels not materially changed. Manner still nervous and hesitating, but health in other respects considered to be good.

April, 1877 (two years and a half after failure began).—Patient considers his sight a good deal better, but on trial it does not show much improvement. Reads 20 Jäger, but not 19; with his glasses can read 16. Discs about as at last note. The pallor is, however, rather more marked on the temporal side. In the right it has a greyish colour, and the arteries in this eye are notably diminished, being less than half the diameter of the veins, and bordered by white lines. In the left they are not diminished at all, and no white lines are visible, though the disc is not different in colour or appearance from the right. The haze of the lenses has increased, and accurate inspection of the region of the yellow spot is impossible, but so far as can be seen there is no disease there nor in any other part of the fundus excepting at the discs. The vitreous showed no disease. Pupils active, but rather large. Patient looks more healthy and less bloated, and is not nervous, though his drooping lids give him still a sleepy look. Smokes a pipe occasionally. Takes a little beer, but seldom any spirits. Subject to chronic articular rheumatism. No evidence of any disease of nervous system (particular inquiry having been made in this direction). He has never, to his knowledge, had any venereal disease. Still virile; has brought up a large family.

In this case the progressive opacity of the lenses has to some extent counteracted the improvement of vision.

The Medical Entrance Exhibitions at University College, of £30, £20, and £10 per annum, tenable for two years, have been respectively awarded to Mr. W. H. Evans, Mr. P. F. Moline, and Mr. F. de C. Skeete.

The Paris Faculty of Medicine.—The following is the programme of the courses of lectures to be delivered, each three times a week, during the session 1877-78, commencing November 5:—*Medical Physics.*—Prof. Gavarret: General physics, electricity, acoustics, meteorology, biological physics, and the phenomena of vision. *Medical Pathology.*—Prof. Jaccoud: On infectious diseases and on constitutional diseases. *Anatomy.*—Prof. Sappey: The apparatus of digestion, respiration, and generation. *General Pathology and Therapeutics.*—Prof. Chauffard: General pathology, continuation of the study of the common morbid elements, general therapeutics. *Medical Chemistry.*—Prof. Wurtz: Medical chemistry and biological chemistry, the chemical phenomena of digestion. *Surgical Pathology.*—Prof. Trélat: Hernia and diseases of the genito-urinary organs. *Operations and Apparatus.*—Prof. Léon le Fort: General operations; the therapeutics of diseases of the vessels, and of the bones and joints. *Histology.*—Assistant Prof. Cadiat, as substitute for Prof. Robin: The tissues and organic systems. *History of Medicine and Surgery.*—Prof. Parrot: History of some of the epidemic diseases, variola and vaccination, and rubeola. *Clinical Medicine* daily, by Profs. Sée, Laségue, Hardy, and Potain. *Clinic of Mental Diseases* daily, by Prof. Ball. *Clinical Surgery* daily, by Profs. Gosselin, Richet, Broca, and Verneuil. *Obstetrical Clinic* daily, by Prof. Depaul.

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The Medical Times and Gazette *is published on Friday morning, Advertisements must therefore be sent to the Publishing Office not later than One o'clock on Thursday.*

Medical Times and Gazette.

SATURDAY, OCTOBER 20, 1877.

THE PENGE INQUIRY.

We are not yet at the end of this painful, and from some points of view revolting case, but at all events it has passed beyond the region which specially concerns us. The calm voice of reason has been heard, and has silenced the voice of insensate prejudice and an overbearing moralism. The four convicts have been respited, and what should have been done by judge and jury has been done by the best Home Minister we have had for many a day.

In briefly recapitulating the ugly story which has given rise to such commotion, let us deal with bare and simple facts, and equally simple inferences. In the first place, we have a woman, no longer in the springtime of life, singularly unenticing in mind and body, but with some actual property and more in expectation, made love to, and ultimately married, by an auctioneer's clerk much younger than herself. The brother of this young man, also poor—for the two allowed their father to die in the hospital,—is an artist, and goes to reside in an out-of-the-way spot in Kent. Visits follow, and ultimately the auctioneer's clerk takes a farm not far from the painter's house, but instead of taking his wife there, he takes his sister-in-law, who passes as his wife. An agreement had been come to that the real wife was to live with the brother; and it is quite clear that, of necessity, this woman, never very strong in intellect, but disagreeable in many ways, had to be kept out of sight. By degrees, let us say, matters took another shape. The mental characteristics of this woman would not improve by the confinement and, possibly, ill-treatment; probably they would become more marked than before. Carelessness as to her bodily condition soon became callousness and indifference, and the minds of all the four convicts must have become still more disturbed when the condition of Alice Rhodes became manifest. That there might be a desire on the part of these four to get rid of Harriet Staunton, would have been perfectly natural; that this desire ever went further than carelessness and negligence there is no proof, for the evidence of the girl Clara Brown is not worth the paper it was written on; if it was true, she was one of the most guilty of them all. But let that pass. On a certain day the four got alarmed, scandal had to be avoided if possible, and the condition of Harriet Staunton had become alarming. What was to be done? The calling in of a medical practitioner in the country would have been sure to have given rise to talk and observation; this all of them desired to avoid. They were frightened at the extent and result of their own negligence; they determined to remove the dying woman. This was done, and they immediately sought medical aid; but it was too late—Harriet Staunton died. A certificate as to the cause of death had been granted—as valuable as the majority of such certificates so given are,—and the funeral would have taken place. Here intervenes a curious chapter of coincidences, which it is not our place to narrate; but in the end the fact that a certificate of the death of Harriet Staunton had been lodged with the Registrar reached the ears of her relations. This we understand was purely accidental; had the death been registered in any other name than that of Staunton, nothing could have been found out. This shows to our mind that, whilst wishing much, and doing little, no actual design or conspiracy had entered the minds of the culprits. If it had they would not have given real names.

Now comes the part of the story in which our professional brethren play a sorry part. We have a medical gentleman called in, doing what he could, leaving his patient in a dying condition, and going off to a concert. Calls for aid at his home are unattended to. A certificate of the cause of death is, however, given just as wanted, but is withdrawn, not because the pathological conditions required it, but because the writer had heard something from the relatives of the deceased. Blunder number one.

The coroner is written to, and orders an inquest to be conducted—by whom? The man who, on his showing, had made a gross mistake. Blunder number two.

The practitioner so appointed summons to his aid, not a man well skilled in post-mortem examinations—one who knows what is disease and what is not—but a band of brother practitioners who, without the slightest disparagement, may be said to be utterly unskilled in such matters. Blunder number three.

The post-mortem examination is made; the notes are taken anyhow, apparently registered in a book that is subsequently lost. The notes should have been duly taken step by step, and signed as matters of fact by each man present. Blunder number four.

The glorious privilege of blundering according to law here ceases to be the special prerogative of our professional brethren, if we except that extraordinary sitting when a certain number of those present at the post-mortem examination decided among themselves that Harriet Staunton had died of starvation, entirely overlooking the clinical facts and post-mortem conditions. We do not count this a blunder; it was an outcome of one of the others.

Next come the lawyers. Here in counting blunders we are fain to stop. On either side they seem to have been committed right and left. We shall pass at once to the trial. It is not often that a man, especially after a certain period of life, has the courage to say, "I was wrong." Yet such has been the case with Mr. Justice Hawkins. Neither is it always given to us to see in actual print the utter imbecility of a jury such as that which tried these four wretched people. With a fullness of faith, which is both wide and deep, in the stupidity of a select British jury (we expressly exclude Welsh and Sussex juries), it was a matter of surprise to us to find one of this famous jury writing to the newspapers and telling the public that, had the jury had time to sleep on it, they would have

returned a different verdict. This is shameful! Men met to judge of the guilt or innocence of four people, men and women where life and death are in the balance, to decide without that deliberation which is decent in the case of one accused of stealing sixpence! Had, as we hold, judge and jury done their duty, this most mischievous agitation would never have taken place; for it is most mischievous, and the effects of it are not likely soon to pass away. Putting morality or immorality out of sight altogether, it is quite plain that Harriet Staunton was ill-treated or improperly treated. It is not well that people guilty of criminal neglect—to call it by its slightest name—should become objects of popular sympathy. Yet such has been the result here. The verdict "Guilty of murder," and the inevitable sentence—death—sent a thrill of horror through the country. Had the verdict been "manslaughter," and the sentence as severe as the judge liked, provided it was duly graduated to each case, not a voice would have been raised, no sound would have been heard of the maladministration of justice. What has taken place we all know—the lives of the convicts are spared. The rest we may now safely leave in Mr. Cross's hands.

SCOTCH GROCERS' LICENCES.

As the attention of the medical profession has been drawn to the evils of the system of granting licences to grocers for the sale of intoxicating liquors, it is only fair to listen to what the parties concerned are able to advance in their own defence. The evidence submitted to the Commission on grocers' licences, which is now sitting, affords us the opportunity of showing that grocers not only have theories upon the subject, but that they can express them in striking language, and with perfect confidence. In the examination of the representative of an association of licensed grocers in Galashiels, the views of that association were tersely and humorously propounded by one who had been nearly thirty years "in the trade." This gentleman stated, to begin with, that the agitation against the licences under consideration had been initiated by licensed publicans, who hoped to benefit by the suppression of the system, and went on to say that the persecution of the grocers had not made much progress till the Edinburgh agent of the licensed victuallers made the wonderful discovery that it was only the liquor sold at the grocers' that made people drunk. When proceeding to say that the paid agent of the Permissive Bill Society had seriously adopted and promulgated this notion, the witness was told that there was no evidence to that effect; but the ready Scotchman at once replied that that was very likely, as all the evidence had been given on the other side! When questioned about the danger of selling small quantities of stimulants, and the advisability of grocers confining their sales to spirits in sealed bottles, he remarked, with some show of reason, that if it was an evil for a man to buy one glass of whisky, it must be a greater evil to make him buy a bottle, and expressed his fear that it would lead to great abuses were men compelled to buy more liquor than they wanted. The experience of the witness seems to have brought him into contact with people who, like the drouthy Highlander, think it unreasonable in anyone to expect that they could sleep "and whisky in the house." The Galashiels representative is anxious to protect the female customers of his clients from the charge of solitary drinking, and says that whisky is mostly sent for in the evening, which he thinks shows that the husbands of female purchasers are at home when it is consumed. Although this cannot be regarded as absolute proof, yet a knowledge of the Scotch character would lead one to think that if a woman's husband were not at home when she sent for whisky, he would certainly be at home as soon as he found out that she had done so. This representative grocer holds another opinion which is not altogether without foundation in fact. He believes that the more intelligent men become, the greater will be the consumption of liquor; and he propounds the wonderful theory that old whisky is a cure for drunkenness! How this pleasant method of cure is carried out, the newspaper report does not fully explain. Probably it consists in the consumer waiting patiently and abstemiously till the spirits and he have both reached a ripe old age. It cannot be that one glass of old whisky is supposed to counteract the effects of three or four glasses of the less mellow material, which "grips" the mouth, and which the witness describes by the expressive name of "Speil the wa'," or "Kill the carter" whisky. The American, who discovered that the best thing to remove the smell of whisky from the breath was a glass of rum, will be glad to hear of the great therapeutic value of old spirits in the treatment of drunkenness.

Notwithstanding this humorous merchant's defence of grocers' licences, there can be no doubt, on perusing the evidence laid before the Commission, that the system is liable to dangerous abuses. The Clerk of the Peace for the County of Edinburgh stated that cases had come under his official notice in which liquor obtained from grocers was entered as other articles to deceive those whose money was being spent. Only the previous Monday a case had occurred in which a woman stated that part of what was entered in her book as bread, butter, ham, etc., should have been whisky, which she and the merchant drank together.

A Scotch farmer when he first tasted spring rhubarb thought it would be a long time before it would be a substitute for potatoes; and the Scotch working-classes seem to have made up their minds that neither coffee nor Gladstone claret will take the place of whisky. The chairman said that the former was unpopular because the lower classes could not prepare it properly; and a witness affirmed that if Gladstone claret was not intoxicating it caused a craving for stronger drinks. To this remark the chairman gave a certain amount of countenance by stating that he knew a place in Glasgow where one could get a pie and a glass of claret for 8d., but a glass of brandy was an absolute and urgent necessity as a corrective. If the evidence placed before the Commission on Grocers' Licences is continued as it has been begun, it will develope into a blue-book replete not only with instruction, but with humour.

PHILANTHROPY IN WAR.

Our daily papers are once more brimming over with appeals to the benevolent in aid of the sick and wounded in war, and letters from private individuals, who, either as the result of accident or curiosity, are near and about the theatre of war, contain accounts of death and starvation which explain, even if they fail to justify, these appeals, and recommend them to the material sympathy of those who can afford to listen to them. After a most careful consideration of this subject, we cannot fail to see, however, that there are at least two sides to the unbounded "philanthropy in war" which this country has inaugurated within the last few years. However willingly we admit that suffering and sickness ought to be adequately relieved whenever and wherever we meet with it, we must, nevertheless, insist on the necessity of guarding most carefully against that arbitrary charity which would send help to one side alone. The moment it is conceded that a nation is to be helped to look after its wounded in war, we shall directly put a premium on the maladministration of the medical department of that nation's army. Of course the proper and adequate administration of what we may now call the "Red Cross Service" of a nation is no small matter in countries like Germany, France, Russia, or Turkey; and when nations deliberately set themselves to war they must adequately equip this medical department. We ask the question, Have the actual combatants done so? and we are obliged to answer it with an emphatic No. Under such cir-

cumstances, in sending medical help and stores, we are directly aiding and abetting the combatants, perhaps one more than another, while, as a nation, we are observing a so-called strict neutrality.

It is much to be regretted that there should be so many different funds in aid of either of the combatant armies. On looking over the daily papers, we find at least four separate subscription lists, and we should gather that three out of the four are intended for the Turkish side alone. We trust that those who go out to administer this kind of charity fully understand that they cannot claim the protection of the Geneva Convention. The National Aid Society, which did good work in the Franco-German war, and is, so far as we know, the only society acknowledged by the Convention, is now appealing for funds: and with what wretchedly poor results compared with its success formerly! Is this altered response from the British public an expression of want of confidence in those who administered the Society in 1870? We should fear it is. It is well known that a surplus of £70,000 remained over after the Franco-German war came to a close; this was invested in the names of trustees, and the interest which accrued from capital would no doubt go to greatly increase it. We ask—What has become of all this, and how is it that Colonel Loyd-Lindsay had again to appeal for help to send out a steamer to the Black Sea? Surely with such funds, and with a vessel placed at his disposal, we believe, by the Government, he need scarcely have applied for more money! We do not wonder that the response to his appeal was coldly received—for never did management of a charitable fund seem so utterly weak as in this case.

This money was subscribed for a definite purpose; why was it not utilised? The Franco-Prussian war came to an end truly, but its horrors continued to be felt for long after, and many of the wounded were utterly unable to do anything for months, and had therefore, we venture to believe, a claim on the funds which were subscribed for their benefit. Then, again, the Servian war broke out, and the Society, after a period of painful indecision, sent out a few surgeons just before the war came to a close. Judging from the telegraphic despatches of the war correspondents of the various daily papers, the whole expedition was characterised by the same want of method and of organisation as obtained during the Franco-German War. Those who are especially interested in this need only consult a telegraphic dispatch which appeared in the *Daily News* of September 13 of last year. We believe that the English hospital in Belgrade, which was started under the auspices of the National Society, was given up long before the wounded were all in a fit state to be discharged, and had it not been for the personal generosity of Dr. Attwood, its chief surgeon, many wounded would have had to die for want of the help which our National Aid Society would no longer bestow, although they were in possession of large sums of money, which had been subscribed for the "sick and wounded in war." All honour to Dr. Attwood! The Servian war came to a close, and we ask, What has the Society done since? Nothing, to the best of our knowledge. And that, too, although war had confidently been looked forward to all through the past winter. The want of organisation was so startling, even to this torpid Society, that at the close of the Franco-German War a list of questions was sent round to the members of the Society asking for information and opinions as to what ought to be done, so as to be ready for any future campaign. Now, although in many points there was great unanimity, not a single step was taken, and the outbreak of the Servian war found the National Aid Society as little organised and as unprepared as when it came into existence five years ago; and it is no better at this present moment. This want of activity and want of organisation have, indeed, at last aroused public attention, and a letter, powerfully signed, and headed by such men as the Duke of Westminster and Sir Henry Havelock, was, early in August, addressed to the Society, praying (1) That, with a view to prevent any misapprehension as to the impartiality of the operations of the Society, it is desirable that an equal number of ambulances should be sent direct on the one side to the Russian and Montenegrin armies, and on the other to the Turkish Army. (2.) That certain matters connected with the constitution of the Society and Council should be considered.

If we were ourselves to become involved in war, what would be the result of this inactivity? what account would the trustees be able to give of their stewardship? Would they be able to satisfy the nation if our own soldiers were dying on the battle-field for the want of help—which, to be of service, must be timely? Would they again be able to appeal to the country for funds and volunteer help; and, if they did appeal, would the country respond as it did in 1870, even though their help then was for the foreigner? We sincerely hope there will not be need for such appeal. But, at the same time, we do counsel the National Aid Society to be up and doing. We ask them, for the honour of our country, to throw off the mantle of idleness, and to set about a regular organisation of the volunteers, medical and otherwise, who would flock to their standard were an appeal but made. Let them take an example from Russia or Germany; organise and prepare fully equipped and drilled ambulance-trains, with wounded-bearers, nurses, etc.; and place themselves, as was intended, we believe, by the rules of the Geneva Convention, in alliance with the Army Medical Service. We know not how soon, or how suddenly, we may ourselves need their help; but when, if ever, that need does arise, it will be too late to begin to get ready to meet it.

THE WEEK.

TOPICS OF THE DAY.

It is very well known that not a few of our public buildings are, from a sanitary point of view, marked examples of what should not, rather than of what should be. Still, it is startling to read the following account of a metropolitan police-court:—Last week, Dr. Bateson, the Medical Officer of St. George's Vestry, Southwark, attended at the Southwark Police-court to support a summons obtained by the sanitary inspector, and before entering upon the case he complained of the filthy and unhealthy condition of the public entrance to the police-court. He stated that on passing the outer door he found a large room crowded by a number of rough-looking people, who pressed against a closed door leading to the ante-room of the court. He found the place in a terribly filthy condition. The effluvium was dreadful, and quite sufficient to breed typhus fever of the blackest kind. The people in the room were very dirty, and there was no officer to keep them in order. In fact, he and the sanitary inspector had the greatest difficulty in obtaining an entrance into the court. What he particularly wished to call attention to was the entrance-hall. There was no ventilator, nor anything to let off the filthy smells; there were two small windows, but they were kept closed on account of their overlooking the yard where the prisoners were brought in. He wondered that a malignant fever had not already broken out, and he was positive that unless the place was cleaned and properly ventilated, fever would be generated in the neighbourhood. Mr. Benson, in reply, said that the attention of himself and colleague had been called to the state of the entrance, and they had reported the circumstance to the Board of Works. He was obliged to Dr. Bateson for his remarks, and he trusted they would have the effect of removing the evil complained of.

A case of some interest to the profession was heard before Mr Justice Lopes, the Vacation Judge, last week, in which

Dr. March, practising at Wandsworth, sought for an injunction to restrain his assistant from attending patients in the neighbourhood. The agreement between the parties was determinable by a month's notice, and contained a provision that on the termination thereof the defendant "should not at any time practise the business or profession of a surgeon, or doctor of medicine, or apothecary, within three miles of the plaintiff's residence." On July 17 last the agreement was terminated by the plaintiff giving the defendant a month's pay in lieu of notice. Since that date it was alleged that the defendant had been going round to the plaintiff's patients stating that he was going to set up in business for himself within half a mile of the plaintiff, and further that he had actually attended some of these patients and given them medicines. The defendant, a Mr. Farraut, who is not a qualified medical practitioner, denied that he had acted as a surgeon or apothecary, and stated that he only intended to attend midwifery cases, which were outside the agreement. Mr. Justice Lopes was clearly of opinion that the plaintiff had proved sufficient to entitle him to an injunction.

It is stated that the Southern Committee of the Church of England Temperance Society have turned their attention to the production of a substitute for alcoholic liquors in the shape of a superior class of temperance drinks, and although they are unable officially to undertake the work, the result has been the creation of a "National Temperance Beverage Company (Limited),"—a small private company that has purchased "Larmuth's patents," and will shortly introduce these new beverages. This is following out some of the suggestions offered by Mr. Walter in his speech at Reading; but, although a step in the right direction, we fear that the beverages will have a hard time in opposition to the attractions of gin and beer.

A statement has been issued by the Metropolitan Asylums Board, illustrating the amount of work and responsibility thrown upon them by the recent epidemic of small-pox. The total number of small-pox patients received into the Asylum hospitals during the year ending the first week of October was 7333. Lambeth contributed the highest number—808; Hackney, 733; City of London, 90; Fulham, 73; Greenwich, 125; Holborn, 249; Lewisham, 31; Mile-end, 206; Poplar, 403; St. George's-in-the-East, 137; St. George's, Hanover-square, 157; Bloomsbury, 66; Camberwell, 386; Hampstead, 73; Shoreditch, 151; Chelsea, 148; Islington, 396; Kensington, 287; Bethnal-green, 260; Whitechapel, 169; Woolwich, 35; Strand, 38; Westminster, 56; Wandsworth and Clapham, 384; St. Saviour's, 556; St. Olave's, Bermondsey, 298; Marylebone, 270; Stepney, 219; St. Pancras, 381; and Paddington, 148. The return does not give the number of fatal cases.

A correspondent writing to the *Times* from Spain reports that for some months past small-pox has been ravaging several districts in the South-east of the Peninsula. Before and when it reached Calasparra—a small town of less than 1300 inhabitants,—the resident doctor did his best to convince the alcalde that vaccination ought to be encouraged. The alcalde, however, unfortunately "kept his mind open on the subject," and the doctor's advice was disregarded. From June to October, therefore, in a population of less than 1300, there had been between 400 and 500 cases, with 100 deaths, and of the few who could be persuaded to be vaccinated not one had died—one more argument, were any needed, of the protective influence of vaccination.

The further report of the water analyst of the *Sanitary Record* shows that the water-supply of Blackpool is not satisfactory; it was found to contain an excessive proportion of bacteria, and to be very imperfectly, if at all, filtered. Lytham, another favourite watering-place, is only supplied with a low second-rate sample of water. The large and rising town of Southport has a supply of good second-class water. New Brighton, on the other hand, is fortunate in possessing good and wholesome water. Coming to Wales, we find that Rhyl is supplied with bad second-class water, containing mud, decomposing vegetable matter, and having a decidedly unpleasant taste and smell. The public water-supply of Abergele is fairly satisfactory, but the water of a well used by some of the inhabitants is characterised as sewage only. It is the old story that the people drink this well-water because they think it nicer than the public supply. The water-supply of Llandudno, the most fashionable seaside resort in Wales, is not good at the present time, but arrangements are in progress which, it is to be hoped, will render it worthy of higher commendation.

The *Whitehall Review* states that it is the intention of the Home Office to make some reforms in the Metropolitan Police Force. This step is considered to be absolutely necessary in consequence of several cases that have lately happened of individuals being taken into custody upon charges of drunkenness, when they have been suffering from some illness which had the appearance of intoxication, but which, in reality, was nothing of the kind. It seems that the sergeants of the police force are at present too few in number; and that constables, who have no experience in the matter, and many of whom are new to London life, often exercise more zeal than discretion in locking up persons who ought to be submitted to the care of a doctor rather than to the custody of a police inspector. A thorough reform in the structure and size of the police-courts and the prisoners' cells, has also been determined upon. Improvements of this nature have long been called for, and the sooner they are begun and completed the better.

We are glad to hear that the War Office has at length decided to sanction the formation of a Volunteer Sick-Bearers' Association. The members of the Order of St. John of Jerusalem are according the new Association their valable aid. The members of the Association are providing themselves with the Kips cartouch (the invention of a Belgian), which contains, in a very handy form, lint, thread, pins, needles, and other requisites for attendance on the wounded. Application has also been made for the use, for purposes of ambulance practice, of the riding-schools at the Knightsbridge and the Albany Barracks.

A large and influential meeting was held at Bury last week for the purpose of bringing under the immediate attention of the principal inhabitants of that town, and of West Suffolk, the Suffolk County Medical Club. Sir E. Kerrison presided, and explained the aims that the promoters of the Club have in view, which, he said, were to make the labouring population of the county as independent as possible in case of sickness. The Duke of Grafton moved, with much willingness—"That the Suffolk County Medical Club, as proposed by the chairman, is deserving of the support of all classes throughout this county." Dr. W. A. Elliston, as a member of the medical staff of the East Suffolk Hospital, said the proposed Club would remove the stigma attaching to hospitals of giving gratuitous advice to those who could well afford to pay for it. This was a general grievance. Arrangements for the formation of the Club were submitted and agreed to, and the meeting ended with the usual formalities.

Another case under the recent Rivers' Pollution Act will be heard in the St. Albans County Court on the 26th inst. At a special meeting of the Town Council held last week, the clerk announced that the Corporation had been served with a summons, taken out by Mr. C. Woollam, of the Abbey Silk Mills, for allowing three sewers to drain into the river Ver. The Council immediately resolved itself into committee, and, after a long discussion, the Town Clerk was instructed to defend the action.

It is at length announced that Mr. Thomas Annandale, who was assistant to the late Professor Syme, has been appointed to the Chair of Clinical Surgery in Edinburgh University, vacant by the removal of Mr. Lister to King's College, London. From a paragraph which appears in the *Scotsman* it would also appear that Professor John H. Balfour, M.D., has resigned the Deanship of the Medical Faculty in the Edinburgh University.

At a recent meeting of the managers of the Edinburgh Royal Infirmary, Dr. Brakenridge was appointed an ordinary Physician to that Infirmary; and at the same time Dr. Angus Macdonald received the appointment of Extra Physician for Diseases of Women, rendered vacant by the resignation of Dr. Matthews Duncan. By the nomination of Dr. Brakenridge, the appointment of an Assistant-Physician to the Infirmary becomes vacant, the election for which has been fixed for Monday next.

THE COMPULSORY REGISTRATION OF INFECTIOUS DISEASES.

THE "Bolton Improvement Act," which was considered by a Committee of the House of Commons during the month of April this year, and received the Royal Assent on August 2, contains the following provisions for the compulsory registration of infectious diseases:—"Section 87. In order to secure that due notice be given to the Corporation of any inmate of any building used for human habitation who is suffering from small-pox, cholera, or any contagious or infectious fever, the following provisions shall have effect—that is to say: (1.) If any such inmate be suffering from any such disease, as aforesaid the occupier or person having the management or control of such building shall, as soon as he shall become aware of the existence in any such inmate of any such disease, forthwith give notice to the Corporation at the Town Hall of the existence in such inmate of such disease. (2.) If such inmate be not a member of the family of such occupier or person, the head of the family (resident in such building) to which such inmate belongs, or if there be no such head, then such inmate (unless prevented by reason of such disease or of youth) shall, on becoming aware of the existence in such inmate, or in his own person, as the case may be, of such disease, forthwith give notice thereof to such occupier or person. (3.) The Corporation shall provide, and supply gratuitously to every registered medical practitioner resident or practising in the borough, forms for the certificate or declaration by such medical practitioner of the particulars hereinafter mentioned in relation to such case, according to the form set forth in the Fifth Schedule to this Act. (4.) Every medical practitioner attending on or called in to visit such inmate shall, on becoming aware that such inmate is suffering from any such disease as aforesaid, forthwith fill up, sign, and send to the Corporation at the Town Hall a certificate or declaration stating, according to the forms prescribed and supplied to him by the Corporation, the name of such inmate, the situation of such building, and the name of such occupier or person, and the nature of the disease from which such inmate is suffering. (5.) The Corporation shall pay to every medical practitioner who shall, in pursuance of this section, duly make and give any such certificate or declaration, a fee of 2s. 6d. for each such certificate or declaration. And any person who shall offend against this enactment (unless ignorant thereof, the burden of the proof of which shall be on him) shall for every such offence be liable to a penalty not exceeding £10." It may be still a question whether or not the attending medical practitioner ought to be compelled to himself give information of the occurrence of every case of infectious disease among his private patients; but it is highly satisfactory that the importance of early information of the existence of every case of such disease is recognised by the Legislature; and that the principle that medical men shall be paid for giving such information has also been recognised. We learn on excellent authority that this section of the Bolton Improvement Act was put in force a month ago, and appears to be well received by the profession; and that the Medical Officer of Health for the Borough believes that the advantages to be gained from it will be even greater than had been anticipated.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

THE first monthly meeting of the Northumberland and Durham Medical Society was held in the library of the Newcastle-on-Tyne Infirmary, on Thursday, October 11; Mr. Morgan, President, in the chair. Mr. Embleton, in the name of the Society, congratulated Mr. Morgan on his re-election as President. Mr. H. E. Armstrong, Medical Officer of Health for Newcastle-on-Tyne, presented a report of the cases admitted to the Newcastle-on-Tyne Fever Hospital from March to September, and stated that the town had been unusually healthy during the past summer. Dr. Luke Armstrong showed a specimen of varicose veins excised from the leg of a female under antiseptic precautions; the patient had done well. Mr. J. D. Dixon showed a remarkable specimen of hypertrophied clitoris which he had excised from a woman aged twenty-two years. Dr. Byrom Bramwell showed a specimen of occluded abdominal aorta. The aorta was completely obstructed below the origin of the inferior mesenteric. An aneurism the size of a hen's egg was situated above the point of obstruction, and was almost completely filled with clot, the outermost layers of which were continuous with the clot in the obstructed part of the vessel. The patient from whom the specimen was removed was shown to the Society on December 14, 1876, as a case of abdominal aneurism, with occlusion of the aorta and establishment of the collateral circulation. The case is one of great interest, and will shortly be published in full. Mr. Byrom Bramwell also exhibited a very large infarctus of kidney; it was from the same patient as the occluded aorta previously shown. Dr. Embleton showed a photograph of varicose veins. Dr. Gibson detailed the history of a case of empyema cured by free incision and drainage, and also of a fatal case treated in the same manner. He strongly advocated a free incision wherever pus was present within the pleural cavity. Mr. Morgan showed a patient, a large portion of whose anterior chest-wall was removed by injury. The injury was a very severe one: the skin, muscle, etc., from the clavicle to the ninth rib were torn away, and the pleural cavity extensively opened. The case did well. Mr. Morgan read a paper entitled "External Urethrotomy." He advocated Mr. Coulson's operation as improved by Dr. Farley, of New York, and detailed the histories of two cases in which that operation had been followed by remarkable success. Dr. Newcombe read a paper entitled "Antiseptic Precautions in Midwifery Practice." The author pointed out the frequent occurrence of death from puerperal fever, and advocated greater cleanliness and stricter antiseptic precautions in the treatment of midwifery cases. He believed that many cases of milk fever are due to septic causes. Dr. Page read the history of a case of large lympho-sarcoma successfully removed from the neck of a child. The tumour was of large size and very rapid growth. The incision extended from the scalp to two inches beyond the clavicle in one direction, and across the neck for three inches in the other. Large drainage-tubes were inserted, the operation being performed strictly on Lister's method. In ten days the drainage-tubes were removed, and in fourteen days the child was out of bed. Dr. G. H. Philipson reported a case of ovarian cancer, and alluded to the conflicting statements which are found in books as to the frequency of primary cancer of the ovaries.

THE UNIVERSITY OF LONDON AND MEDICAL WOMEN.

AT a meeting of the Annual Committee of Convocation of the University of London, held on the 12th inst., it was resolved

to request the Senate to grant an audience to a deputation from the Committee on the subject of the proposed admission of women to degrees in medicine, and a sub-committee was appointed for the purpose of conferring with the Senate. The Senate met on Wednesday, the 17th inst., for the first time since the extraordinary meeting of Convocation in July, and we understand that they have consented to receive the deputation from Convocation at their next meeting. We confidently anticipate the happiest results from the action of the Senate in thus readily acceding to the request of the Lower House. Our readers must be familiar with the various stages and phases of the unfortunate difficulty in the University arising out of the women's question. They will remember that the point reached before the autumn recess was a purely constitutional one. This is the first fact that must be laid courteously but firmly before the Senate by the deputation from Convocation. We trust that the Senate may acknowledge that the admission of women to degrees in medicine would affect the very constitution of the University, and on that account could not in justice be accomplished without the consent of Convocation. Secondly, the Senate must be persuaded to forego availing themselves further of an Act which has been confessed by Russell Gurney himself to be misleading, and which, by carelessness in its language, would admit women graduating under it to a seat in Convocation. The Senate cannot well refuse to listen to these two arguments, urged by a powerful body like Convocation. Whatever some of the members of the Senate may think and say of Convocation, its influence both within and without the University is now very great. Convocation of the University of London includes such men as the Master of the Rolls, Mr. Stansfeld, Mr. Farrer Herschell, Sir William Jenner, Sir William Gull, Dr. Quain, Dr. Storrar, Mr. Hutton, Mr. Osler, and a host of names foremost in the Church, in Law, and in Medicine. The result will be watched with extraordinary interest by all members of the University of London, and by all who have University freedom sincerely at heart.

THE FAMINE IN INDIA.

The famine telegrams from India continue to be of a very cheering and reassuring character. A week's general rainfall throughout the drought-stricken provinces has changed the whole aspect of affairs; and it is considered that cultivation is now secured throughout the Punjaub, the North-West, Oude, the Central Provinces, Central India, and Behar. Some idea of the immense significance of this change of weather may be gained from the statement that it has been roughly estimated that the week's rain will save the Government four millions sterling. Favourable rains have fallen also in all the districts of Madras; agricultural operations are in full progress, and grain prices are falling. The distress is daily lessening, though, it must be remembered, it is still great. The total number on the relief works is reported as 587,228, showing a decrease since the last previous report of 41,031. The total number gratuitously relieved is 153,125, a decrease on the previous week of 72,466. In Mysore, also, the crops are flourishing, and prices falling; and the number of the gratuitously relieved is lessening. And it is anticipated that if the north-east monsoon is favourable, the famine pressure will be over in February. The importation of grain so far as Madras has been enormous, and the latest famine telegram in the *Times* speaks of the wonderful sight, in the Madras roads, of fifteen large steamers and more than twenty large ships, all discharging rice, while the beach for at least two miles was one gigantic warehouse of that grain, with stacks of bags fifteen feet high ranging all along the shore. The price of rice had naturally fallen in Madras 20 per cent.; but the difficulty, or rather the impossibility, of conveying this food in sufficient quantity and with sufficient rapidity into the famine-stricken districts in the interior remained the same; and therefore the distress in those parts cannot be relieved in anything like the same degree as at Madras itself. And one of the most, if not *the* most, important of the things to be considered in adopting measures for the future is the provision of facilities of carriage. The *Times'* correspondent, telegraphing from Simla, points to this when he says, "The present famine would not have occurred if the vast amount of rice in the different parts of India could have been carried to the famine districts." The Mansion House Indian Famine Fund amounts now to more than £380,000—a grand sum to have been contributed in about two months,—and a large amount is still received every day. But more aid still will be required, and the Lord Mayor, when expressing a hope that the contributions to the Fund may reach £500,000, did well to draw attention to the following statement in the *Times'* telegram from Simla:—"It may be well to warn the English public, though there is every prospect of the Madras Famine terminating by February, that infinite misery will still have to be endured, and the need of alleviation is as pressing as ever. It is most desirable that the flow of charity should not cease through a mistaken notion. Reports from Madras speak in the highest terms of the wise and provident distribution of the Famine Fund, of which no words can adequately measure the beneficial results."

MEDICAL STUDENTS.

The annual registration of gentlemen pursuing their studies in this metropolis has just been brought to a close, and from the report prepared at the College of Surgeons for Mr. Charles Hawkins, the Government Inspector of Anatomical Schools, it appears that the total number of entries is 1879, as follows:—

1. St. Bartholomew's	394,	including	149	new enties.
2. Guy's	338	„	112	„
3. University College	269	„	64	„
4. St. Thomas's	187	„	52	„
5. St. George's	128	„	35	„
6. The London	123	„	46	„
7. King's College.	115	„	40	„
8. Middlesex	112	„	35	„
9. St. Mary's	102	„	26	„
10. Charing-cross	82	„	29	„
11. Westminster	29	„	9	„

The above list includes also the separate registration of dental students. The various institutions are placed in numerical order of the gross number of students respectively pursuing their studies in them. The number of new entries, amounting to 597, is distributed in the following order:—1. St. Bartholomew's, 149, against 131 last year; 2. Guy's, 112, against 95; 3. University College, 64, against 79; 4. St. Thomas's, 52, against 43; 5. The London, 46, against 35; 6. King's College, 40, against 28; 7. The Middlesex, 35, against 38; 8. St. George's, 35, against 33; 9. Charing-cross, 29; 10. St. Mary's, 26; 11. Westminster, 9. Curiously enough, the three last-named hospitals register the same number this year as last. It will therefore be seen that there is a decrease in the following schools—viz., University College and Middlesex Hospitals—notwithstanding a large addition of dental students at the latter. In 1867 the gross number of students entered at the metropolitan schools amounted to 1125, and the new entries to 355.

ROYAL COLLEGE OF SURGEONS, EDINBURGH.

At the annual meeting of the College, held on Thursday, the following office-bearers were elected for the ensuing year:—*President:* Patrick Heron Watson, M.D. *Secretary and Treasurer:* Joseph Bell. *Librarian:* David Wilson, M.D. *President's Council:* Andrew Wood, M.D.; James D. Gillespie M.D.; James Spence; William Walker; Henry D. Littlejohn, M.D.; John Smith, M.D.; *ex-officio*, Joseph Bell. *Examiners:*

Archibald Inglis, M.D.; Peter D. Handyside, M.D.; James D. Gillespie, M.D.; Henry D. Littlejohn, M.D.; Patrick H. Watson, M.D.; David Wilson, M.D.; John Smith, M.D.; Argyle Robertson, M.D.; Joseph Bell; John Duncan, M.D.; Robert J. B. Cunyngham, M.D.; Alexander G. Miller, M.D. *Assessors to Examiners:* William Brown; James Spence; William Walker; Jas. S. Combe, M.D. *Conservator of Museum:* Robert J. Blair Cunyngham, M.D. *Clerk:* Jas. Robertson.

QUEEN'S UNIVERSITY IN IRELAND.

The annual ceremony of the conferring of degrees on the students of the Queen's Colleges of Belfast, Cork, and Galway took place on the afternoon of Friday, October 12, in St. Patrick's Hall, Dublin Castle. His Grace the Duke of Leinster, Chancellor of the University, presided. The following is an extract from the annual report, which was read by the Chancellor:—"In the Faculty of Medicine 72 candidates have sought the degree of Doctor in Medicine, and of these 44 have satisfied the examiners. Out of 58 candidates for the degree of Master of Surgery, 35 have passed; and 25 out of 43 have been deemed qualified for the diploma in Midwifery. At the Second University Examination in Medicine, 115 candidates presented themselves, of whom 73 have satisfied the examiners; and 154 out of 198 candidates have been successful at the First University Examination in the same faculty. The Board report to the Senate the unusual excellence of 823, William Whitla. The Board report to the Senate J. W. Macnamara and William Macnamara for the excellence of their answering. The number of students attending lectures in the Faculty of Medicine during the past session was 527." On the same occasion the Peel Prizes in Composition (limited to the competition of undergraduates in medicine) were awarded as follows:—For the essay signed "Vis Medicatrix Naturæ," Alfred Henry Keogh, Galway. Proxime accessit, "Quid est in Somnis gelidæ nisi Mortis imago," Henry Tomkins, Belfast. Peel Exhibition, awarded at the First University Examination in Medicine—Robert Thomas M'Geagh, Belfast, first, £20 a year for two years.

THE METROPOLITAN WATER-SUPPLY FOR SEPTEMBER LAST.

The report of the Water Examiner on the metropolitan water-supply for the month of September last shows that the water drawn from the Thames by the Chelsea, West Middlesex, Southwark, Grand Junction, and Lambeth Companies was much more polluted by organic matter during that month than in the preceding July and August. The water delivered by the Grand Junction Company was turbid, owing to inefficient filtration. The remaining Thames water was efficiently filtered, but that supplied by the Lambeth and Southwark Companies was distinguished by containing a large proportion of organic matter, some of which was of animal origin. The water from the Lea, supplied by the New River and East London Companies, was of much better quality, and was efficiently filtered before delivery. The water drawn from the deep wells by the Kent and Colne Valley Companies, and by the Tottenham Local Board of Health, was palatable, wholesome, and of most excellent quality for dietetic purposes. That portion of the Kent Company's supply obtained from their deep well at Crayford was slightly turbid, owing chiefly to the presence of minute particles of chalk. The water in the river Thames at Hampton, Molesey, Sunbury, and Ditton was fairly good during the month. The highest flood state of the river was recorded as nine inches above, and the lowest was at the summer level.

THE EFFECTS OF CLIMATE UPON HEALTH.

Among the many papers read at the recent Sanitary Congress at Leamington was a very interesting one by Surgeon-Major De Chaumont, on the Effects of Climate on Health. The conclusions at which he has arrived on the subject are—"1. That with proper hygienic precautions there is hardly a place on the earth where man may not enjoy good health, and that where this is not found possible it is from the existence of malaria. 2. That, admitting this much, there are, however, still differences existing which render residence in certain climates more desirable than in others, as most conducing to the fullest heath and vigour. 3. That the possibility of acclimatisation has been greatly exaggerated, but that there still remains a residuum of truth in the idea. 4. That there is still a certain importance to be attached to the climatic treatment of disease, although the particular factor or factors that produce the influence are still involved in much obscurity."

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

A full-sized marble statue of the late Dr. Robert J. Graves, one of the most distinguished ornaments of the medical profession in Ireland, is at present being placed on a pedestal in the Statue Hall of the College. Three other statues grace this beautiful apartment—those, namely, of Dr. Stokes (Graves's colleague at the Meath Hospital), the late Sir Henry Marsh, Bart., and Sir Dominic Corrigan, Bart. The statue of Graves is by Mr. Albert Bruce Joy, an Irishman resident in London, son of Dr. Bruce Joy, and a relative of the late Chief Baron Joy. It is an extremely successful work of art. It represents Dr. Graves in the act of commencing to lecture, and attired in an academical robe. His tall and manly figure, intellectual head, and handsome aquiline nose are faithfully portrayed. The attitude is easy, and the drapery very artistically carved. On the pedestal is the simple inscription, "Robert James Graves, M.D., President of the King and Queen's College of Physicians." Still more simple is the inscription, dictated by himself, which is engraved on his tomb in the cemetery of Mount Jerome, near Dublin—"Robert James Graves, son of Richard Graves, Professor of Divinity, who, after a protracted and painful disease, died in the love of God and in the faith of Jesus Christ."

CASE OF HYDROPHOBIA.

We have to record another case of hydrophobia. A farmer's boy in the village of Marston, near Oxford, was bitten in the thumb by a strange dog, at the latter end of June or the beginning of July. The wound was dressed at a chemist's shop, and healed in a week. The boy continued at work on the farm till October 4, when he complained of pain in his arm, and went home. In the evening it was observed that he could not swallow. He was taken to the Radcliffe Infirmary on the 6th, and died exhausted on the 9th inst. At an inquest held on the case, the Coroner (Mr. Hussey), in charging the jury, said that the number of dogs at large without a visible owner was a subject deserving serious consideration. He understood that in the London police district the police had the power, under a special Act of Parliament, to seize the stray dogs and to kill them. As a member of the Local Board he had made inquiry whether the Board, as the sanitary authority of the district, had any power to abate such an abominable nuisance; and he was informed that they had not. In addition to this unsatisfactory piece of information, he learned that a dog was entitled to have a bite of you before you had the right to knock him on the head.

THE EDINBURGH CHAIR OF CLINICAL SURGERY.

At the long last the Professor of Clinical Surgery in the University of Edinburgh has been appointed, and the choice of the Crown has fallen on Mr. Annandale. We have nothing to say against the appointment. Mr. Annandale is a good surgeon, and of sound experience. Of course the appointment will not please all—it would be strange if it did; but at all events it must be looked upon as fair. Certain of our contemporaries have ventured on strongly supporting one

candidate. We shrank from such a course when so many good men were in question. Personal feeling might have led us to adopt a similar course, but there are cases where this must be subordinated to more public considerations. We trust and believe that Mr. Annandale will worthily fill a chair so famous as that of Clinical Surgery in Edinburgh.

THE CHAIR OF ANATOMY AT QUEEN'S COLLEGE, GALWAY.

LAST week we announced the candidature of Dr. J. Cunningham for this vacant chair. There are also in the field three other gentlemen whose qualifications for the post are of a high order. One is Dr. Edward Wolfenden Collins, Surgeon to Jervis-street Hospital, Dublin, and Demonstrator of Anatomy in the School of Physic in Ireland (University of Dublin); the second is Dr. Anderson, Demonstrator of Anatomy in Queen's College, Belfast, and assistant to Professor Redfern of that College; and the third is Professor Pye, of Queen's College, Galway.

ASPIRATION IN PLEURITIC EFFUSION.

ELSEWHERE we publish an account of a brief discussion on the subject of aspiration in pleuritic effusion, before the Clinical Society. Most of the speakers seemed to be in favour of it; no one spoke strongly of its risks. Its needlessness and meddlesomeness in some cases were barely hinted at. It is a pity the Manchester discussion was not given to the world in full.

CLEOPATRA'S NEEDLE.

WE have much pleasure in recording the following, which has just been received from Lloyd's agent at Ferrol, in Spain, dated the 18th inst.:—"Steamer *Fitzmaurice*, from Middlesbro', for Valencia, recovered at sea Cleopatra's Needle, ninety miles north of Ferrol."

ISLINGTON MEDICAL SOCIETY.—The first meeting for the present session of this flourishing Society of medical practitioners will be held on the evening of the 23rd inst., when Mr. Keele, who has retired from the secretaryship, will be presented with an emblazoned address. Dr. Sansom will then open a discussion on anæsthetics.

THE HEALTH OF ST. MARYLEBONE PARISH.—In his report for the months of August and September last, Dr. John Whitmore, Medical Officer of Health for the parish of St. Marylebone, is able to record an exceedingly low rate of mortality for the district, very nearly 25 per cent. below the average annual death-rate of the parish for the last twenty years. This he considers is attributable to two causes—first, to the comparatively few deaths that occurred from zymotic diseases generally; and next, to the absence of sultry weather in August, owing to which the number of deaths from infantile diarrhœa were considerably decreased, and some other diseases also which are rendered more fatal by a high temperature. The last outbreak of small-pox in the parish, of any especial importance, occurred in Gray's-buildings, early in the month of August. Between the 1st and 8th of the month, twelve persons, nearly all children, were attacked in these buildings; ten of the cases were sent to the Hampstead Hospital, and two were treated in their own homes, one of the latter proving fatal. The disease was conveyed there by a woman suffering from the malady, and it spread, as infectious diseases invariably spread amongst the lowest and most ignorant classes, because nothing was done or attempted to prevent it. Since this outbreak there have been but very few fresh cases, and only one death from small-pox has been registered in the parish during the two months under notice. In all probability, Dr. Whitmore thinks, measles will be the next epidemic, and as there are no hospitals specially built for the reception and treatment of patients suffering from this disease, but little can be done to check its extension among the poor in crowded localities. Happily it is not so fatal as either small-pox or scarlet fever, but its fatality is greatly increased by being complicated with diseases of the respiratory organs, which are very likely to supervene by exposure to a low temperature. If, therefore, there should happen to be a severe winter, measles may become unusually fatal.

FROM ABROAD.

THE MEETING OF THE GERMAN NATURALISTS AND PHYSICIANS.—THE fiftieth and jubilee meeting of the Association of German Philosophers and Physicians, at Munich, this year, has been a success from the great number of members present, and the distinguished position in the world of science of many of these. Considerable dissatisfaction, however, prevailed at the determination which has been come to of abolishing the entertainments hitherto given by municipalities and governments, in order to render these meetings more strictly scientific. Many who looked forward to the jollification of a banquet, where they were brought much more intimately into communication than at the general and sectional meetings, do not admire the change at all. Something like an entertainment, termed a "Kellerfest," was got up at one of the great breweries, where at least there was no lack of beer to drink the toasts; but this had to be paid for at an increased price, as had other articles of food, and had to be partaken of amidst a crushing crowd of men, women, and children.

However, the meetings themselves seem to have gone off quite successfully. Geheimrath Prof. von Pettenköfer delivered the address of welcome, in which he reviewed the history of the Association, the prolific parent of such a vast tribe of associations and congresses. It was, he observed, to Ludwig Lorenz Oken that the establishment of this Association was due. Leading a most active life, both as a teacher and as a writer at Göttingen, Weimar, Jena, Basle, and Munich, he took a comprehensive view of the different branches of what was then called natural philosophy, and made many efforts to bring together in natural connexion that which was accidentally separated. Among these was his now famous journal "Isis," in which he first set forth his ideas concerning these assemblages. On his invitation, twenty men met at Leipzig in 1822, and founded the Association of German Naturalists and Physicians; and, under the political circumstances and the difficulty of intercourse of that time, even the modest number of twenty was regarded as a good beginning. The next meeting, at Halle, was attended by 34 members; the third, at Würzburg, by 36; the fourth, at Frankfort, by 110; the fifth, at Dresden, by 116; the sixth, at Munich, by 156; and the seventh, at Berlin, in 1828, by 464. The Association thus exhibited its viability, and the number increased with rapidity year by year, until at the last meeting at Hamburg it amounted to more than 2000. With these augmented numbers different arrangements and groupings were adopted. The first six meetings were conducted entirely in common, and it was at the seventh meeting, held at Berlin, that Alexander von Humboldt, who was president, created, besides the general meetings, seven sectional meetings. These have gradually increased in number, so that at the present meeting there are twenty-five—this increase being not only a sign of the increase in the numbers of members, but also a sign of the progress of science and the necessity of the division of labour. The Association calls itself a Society of Naturalists and Physicians, thereby unmistakably announcing that the science and practice of medicine is indissolubly united with the natural sciences and their development, and that the philosopher's stone, once dreamt of, conferring health, riches, and longevity, is only to be sought for in natural science. This day, in the fiftieth year of their union, natural science and medicine celebrate, so to say, their golden wedding.

Prof. Waldeyer, of Strasburg, delivered an interesting oration on "Carl Ernest von Baer and his Significance in Relation to the Natural Sciences"—this great Russian *savant* having died in his eighty-fourth year since the last meeting of the Association. In eloquent words he set forth the immense amount of work done by him in anatomy, zoology, palæontology, and other branches of natural science, and his claim to be regarded as the founder of modern embryology. As is usually the case at the general meetings of congresses, perhaps this part of the address, like that of Prof. Allen Thomson at the recent Glasgow meeting, went too much into detail for the comprehension of many of the auditory. The universality of knowledge, which (like Goethe and von Humboldt) von Baer attained, presents a picture of what

should be the aim of this Association. Year by year new special congresses spring into life, and in this much of its best power is drafted off. Surely it is not desirable that the separate branches of science should so isolate themselves as that at last they will scarcely comprehend each other; and if special congresses have become a necessity, yet men of science now, as heretofore, should lend their strength to this Association, so that the connexion of teachers and learners may be carried beyond the narrow limits of the university.

Other discourses were delivered by Prof. Haeckel, of Jena, "On the Present Condition of the Doctrine of Development in relation to the Sciences"; and by Prof. Virchow, "On the Freedom of Science in relation to Modern State-Life." A most liberal address was also delivered by the Grand Duke Karl Theodore of Bavaria, the honorary President of the meeting, in which he laid claim to participation in the honours done to science as being a doctor of medicine (and, we may add, as the author of a remarkable essay on the histology of the brain—the first instance, we suppose, of such a title having been conferred on one of royal blood.

The next place of meeting is to be Cassell.

Iodic Purpura.

In a paper contributed to the new journal, the *Révue Mensuelle*, for September, Prof. Fournier, of the St. Louis Hospital, observes that while among the numerous and various phenomena which may follow the ingestion of iodide of potassium, there are some which are of common occurrence and well known, there are others which have either escaped attention, or have only been imperfectly described. Among these may be ranged, he believes, a cutaneous affection, consisting in the production of small miliary, non-pruriginous, sanguineous spots, proceeding after the manner of purpura, and to which he proposes to give the name of iodic purpura, or petechial iodism. That the appearance of the exanthem and the taking the iodide are not a mere coincidence he concludes from the following observations:—1. In all the cases the purpura has appeared a very short time (from one to six days) after commencing the iodide. 2. In some of the patients the same purpuric eruption has been produced several times after each new administration of the iodide; and in three of these it occurred every time the medicine was used. Two cases are detailed in which this was the case three and four times. 3. In another case, in which the purpura was produced on three successive occasions, it was found in all these that whenever the dose was notably increased, a marked aggravation or additional production of the eruption ensued.

As to the characteristics of this eruption, in all the patients the well-known appearances of purpura, and the impossibility of effacing them by pressure with the finger, were distinctly present, the petechial colour due to extravasation being very obvious. The seat of the eruption, with one exception (when it was on the thorax, and that only), was in all the cases on the legs only, being always more confluent on their anterior than on their posterior part. It never descended to the foot or extended beyond the knee. This purpura seems to assume an eminently discrete form, few spots being usually observed, about a hundred of these on each limb constituting the maximum of confluence—fifty or sixty, or even less, being the number usually observed. On the successive appearances the purpuric spots are even yet fewer in number. This rarity of confluence, and the especial localisation of the exanthem about the anterior tibial region, impart to this variety of purpuric affection a somewhat peculiar physiognomy of its own. It is always a miliary purpura—that is, a petechial eruption of the smallest extent—resembling in size a millet-seed, the head of a pin, or at most, and that rarely, a grain of corn or a small lentil. The spots are usually of a regular rounded form, and less often oval or irregular in form and notched. The eruption never advances beyond this petechial and miliary condition. The spots are quite level with the skin, seemingly incorporated with the integument, the appearance of which they only modify by their bright colour. Like as in purpura vulgaris, these spots give rise to neither local nor constitutional disturbance, inducing neither heat, pain, nor pruritus. Thus there is a great chance of this eruption passing unperceived; and it is always by accident that the patients have observed its existence, while undressing, at the bath, etc., so that many cases have no doubt escaped the notice of patients and their attendants. The eruption comes on at an early period of the iodide treatment, and has completed its course in two or three days, at the end of which period it ceases to increase in confluence, even when the use of the medicine is continued. It remains for a certain time in the condition of purpurine petechiæ, after which the spots undergo the ordinary changes of colour observed in cutaneous hæmorrhages, finally disappearing at the end of two or three weeks. When, under the influence of a large dose of the iodide, a new purpuric outbreak is produced, the intruding eruption is easily distinguished from that which has preceded it by the bright purpurine colour of its spots, contrasting with the faded condition of the prior spots. It has a curious appearance, this intermixture in the same locality of petechiæ of different ages, with differences of colour corresponding to the periods of their appearance.

This purpura is certainly a rare accident, or rather phenomenon, for there are few remedies which are more employed than the iodide of potassium; and if iodic purpura were not almost an exceptional occurrence, it must have attracted the attention of observers. Professor Fournier, who, during the few years since he first became aware of its existence, has carefully sought for it, has not met with more than some fifteen cases. It would be premature, with so small a number of facts, to define the conditions which may act as predisposing or occasional causes of its production; but some etiological data may perhaps be derived from the cases already observed. *A priori* one would be inclined to believe that a predisposing and adjuvatory cause would be found either in the impoverished, anæmic, or debilitated condition of the patients, or in some of the graver forms of syphilis. This is far from being the case. All the subjects of the affection hitherto met with enjoyed either a flourishing or a medium condition of health; and although some of these seemed affected with a certain degree of "lymphatism," none could be said to suffer from anæmia or scrofula, and none had presented anterior hæmorrhagic proclivities. Any of these who were the subjects of syphilis exhibited only benign or medium forms of this; two-thirds of the cases being exempt from any specific manifestation of this disease at the time when the iodide, which in fact was only administered as a preventive, produced the purpuric eruption. Further, in a negative point of view, neither sex, age, occupation, nor external temperature seemed to have exerted any influence. Nor can the eruption be attributed to excess of dose, since most of these patients had not taken more than fifteen grains of the iodide when the eruption had manifested itself. Still, quantity is not a matter of indifference, for when a given dose has been followed by purpura, a kind of tolerance of the remedy seems to be established, and no further manifestation ensues. But let the dose be much increased—doubled, for example—and a new outbreak of purpura may be immediately produced, although this is less confluent and less important than that which preceded it. But it is probably the *individual predisposition* which predominates over all the etiology, for however unknown and impenetrable in their nature, the existence of idiosyncrasies in regard to the action of certain remedies and articles of diet is beyond doubt. Iodic purpura in its nature takes its place in the group of affections termed by M. Bazin *provoquées indirectes* or *pathogénétiques*. It is a medicinal eruption, which ranges nosologically with the roseola from copaiba, the erythema from belladonna, the exanthems from arsenic, the acne from iodine, etc.

Determined to be a Martyr.—On Saturday, a newsagent of Chesterfield, named Lawton, was brought up at the police-court for the twenty-fifth time for not having had his child vacciuated. He has several times been fined or sent to prison for similar disobedience; and on Saturday the magistrate again ordered that the child be vaccinated within fourteen days. Mr. Lawton once more declared he would not comply with the order.

Examinations for the Degree of M.B. and in Preventive Medicine and Public Health.—Examinations for the degree of Bachelor of Medicine will be holden at the University of Oxford early in December. Candidates are requested to forward their names to the Regius Professor of Medicine before November 24. Also, it is proposed to hold an examination in Preventive Medicine and Public Health in conformity with Statute XII., Titulus Sup. XIX., page 291, ed. 1877. The examination is open to all persons who have taken the degree of Bachelor of Medicine in the University of Oxford. Candidates are requested to send in their names to the Regius Professor of Medicine on or before November 10

REVIEWS.

An Atlas of Human Anatomy, illustrating most of the Ordinary Dissections, and many not usually practised by the Student; accompanied by an Explanatory Text. By Rickman John Godlee, M.S., F.R.C.S., Assistant-Surgeon to University College Hospital. Imperial 4to. London: J. and A. Churchill. 1877.

Messrs. Churchill, in publishing this volume, have added one more to their magnificent series of illustrated works by eminent authors; this last addition is as well chosen, both as to subject and author, as their previous volumes, and Mr. Godlee's Atlas will undoubtedly take a first place among illustrated works on anatomical dissections. The object of the author in bringing out this series of plates is to supply a full illustration of the anatomy of the human body in a portable form. It is also intended, by illustrating dissections not usually seen in the dissecting-room, to enable the student to understand the mutual relations of parts; and it is further hoped that, by making the dissections follow one after another, he may find assistance in working out for himself the steps by which particular organs and regions may be exposed. This summary of the author's preface speaks for itself, and clearly lays down what should be the object of every dissector, and points out how that object may most satisfactorily be obtained. Mr. Godlee is not only an able anatomist, but also an excellent and a successful teacher. Moreover, he is a clever artist, as the execution of these drawings sufficiently testifies. We are greatly pleased with the arrangement of the plates, and with the definite plan on which they are classed, for this will render them available for the physician or surgeon as much as for the student. In the accompanying text the author has fully described each plate, and has given a description of the manner in which the dissections were made. He has also made references to their medical and surgical bearings, so that the work, when completed, will really be a very comprehensive *exposé* of the subject. The Atlas commences, and we think rightly, with the dissection of the head and neck; the first part includes four plates, each with two figures. The parts are to appear at intervals of two months, until completed. We heartily recommend the work to the attention of all who wish to learn anatomy both practically and agreeably.

Hints on Insanity and Signing Certificates. By John Millar, L.R.C.P. Edin., Medical Superintendent, Bethnal House Asylum, London. Second Edition, enlarged. London: H. Renshaw, Strand. 1877. Pp. 142.

The first edition of Mr. Millar's little work was published so long ago as in 1861, and we must confess to a feeling of surprise that a second edition was not called for much sooner. The medical practitioner has, in general, but a very slight and imperfect knowledge of the various steps that have to be taken in order to place a person of unsound mind under legal restraint, and not much acquaintance with the different forms of insanity; and we are sure that he could not fail to find this book a very useful guide and aid. Mr. Millar gives first, very briefly, "a general view of insanity," dividing the cases into the two great classes of the "curable" and the "incurable," the former being "that in which the disorder may be considered as the result of functional derangement"; and the latter "that in which it is dependent upon organic change for its origin." The "curable" forms are—"acute mania," "ordinary mania," "melancholia," "recurrent mania," and "puerperal mania"; while "general paralysis," "epilepsy," "hallucinations," "masturbation," and "dipsomania" are called "incurable." We cannot say that we think the classification perfect, and Mr. Millar himself does not pretend that it is, as he mentions some cures of "incurable" cases; but it is a practically useful classification. The "hints" as to treatment, also, are generally good. Then follow notes on the responsibility of the insane, and on the prevention of insanity; and some general remarks on "visiting patients"; on "removal to asylums," its advantages and disadvantages; on the "class to be removed"; and on asylums. And then the form of admission of private patients to asylums is given, with minute and full directions on the filling up of the printed form, and examples of the errors of omission and of commission most frequently met with. This part of the book we look upon as particularly useful and instructive; and we recommend it to the careful study of medical practitioners. An Appendix is added, containing the "Instructions of the Commissioners in Lunacy with reference to Single Patients"; Notes on the Removal or Transference of Patients"; on "Chancery Patients"; and on "Wandering Lunatics"; Forms of Certificates for Admission into Private Asylums in Scotland and in Ireland—for, absurd and wrong as it may seem, the certificates differ in form in each division of the kingdom; and Lists of the Commissioners in Lunacy, of the Metropolitan and the Provincial Licensed Houses, of Lunatic Hospitals, and of the Lord Chancellor's Visitors in Lunacy. The little volume contains a large amount of very useful information.

La Province Médicale. Journal hebdomadaire de Médecine, de Chirurgie, et de Pharmacie. Bordeaux, 1877. (Première année.) Rédacteur-en-chef, G. Poinsot.

The Medical Provincial. A Weekly Journal of Medicine, Surgery, and Pharmacy. Bordeaux, 1877. (First year of publication. G. Poinsot, Chief Editor.

We have received several numbers of a new French medical paper, published at Bordeaux, and which appears to us to be edited with considerable ability. A high compliment is paid to British physicians by translations of the *verbatim* reports of clinical lectures by Dr. McCall Anderson, Dr. Hughlings-Jackson, and others, and also by detailed accounts of papers read at the Clinical and Pathological Societies of London. Among original works we notice a "Clinical Study on Osteo-Sarcoma of the Limbs," by the Editor; "Researches on the Lymphatics of the Mammary Glands and its Neighbourhood," by Professor Coyne, of Lille; and an article on "Detachment of the Retina, and its Treatment by a New Method," by Dr. Despagnet, chief assistant to Dr. Galezowski, of Paris. There are also some interesting reports of cases, and accounts of clinical and therapeutic novelties, extracted from a variety of French and foreign periodicals, as well as an extremely useful list of new works which deserve to be consulted on medical subjects. One feature, which is common to other French medical journals, such as the Paris *Progrès Médical*, is worthy of adoption in this country. We refer to the lists of new, or interesting cases, in the wards of the St. André Hospital at Bordeaux, which appear from time to time, and by which the medical men of the city have their attention called to examples of disease which they might otherwise never have an opportunity of seeing. As the beds are all numbered, and the wards all named, any case can easily be found at the hour of the visit of the *chef de service*. If similar lists of the cases in two or three of the large London hospitals were published each week, it would be a great boon to many busy practitioners. We welcome the appearance of the *Province Médicale*, and wish it success.

PROVINCIAL CORRESPONDENCE.

LIVERPOOL.

October 13.

The Medical Institution—Infectious Diseases Hospital at Birkenhead—Adulterated Cream—Whooping-Cough.

For a year or two past the increase in the number of members of the Liverpool Medical Institution has given rise to the belief that some modification of its premises would be necessary. In addition to a library, council, and several other rooms, it had two theatres, in the smaller of which (a most comfortable room) its ordinary meetings were held. So long as the number present did not exceeed fifty or sixty, no particular inconvenience was experienced from this. When, however, as has often been the case of late, seventy, eighty, or more attended, the heat and closeness of the room became very trying. It was resolved, therefore, at the close of last session to modify the larger theatre, which for several reasons was, without such modification, unsuitable for the meetings. the necessary change has been carried out at a cost of about £620, and the first public meeting held in it was that for the distribution of prizes to the successful students of the School of Medicine, on September 29, by Mr. Simon, when an introductory address was given by Mr. Rushton Parker, F.R.C.S., Lecturer on Surgery to the School.

Again, in the same room, on the 11th inst., Dr. Turnbull, the President, opened the session 1877-78 of the Institution

itself by an introductory address. Last year the same gentleman, on a similar occasion, chose Embolism as the subject of a singularly able address, which was subsequently published. This year he gave an interesting historical sketch of the rise and progress of the Institution. He remarked that it was about forty years ago that the late Dr. Rutter, the first president, gave an opening address in that place, but that the history of the Institution extended back for nearly a century, the first combined movement of the medical men of Liverpool for the advancement of professional knowledge having been made in 1779, on October 7 of which year twenty medical men united for the purpose of forming a medical library. The collection of books then made formed the nucleus of the present library. It had various local habitations, one after another being given up in consequence mainly of the demand for space for the erection of railways or other public works, owing to the rapid increase of the town, till at length, nearly fifty years ago, negotiations were entered into with the Corporation, which resulted in the erection of the present building. Soon after its completion an amalgamation was effected between the Library Committee and the Medical Society, which up to that time had been a separate body, meeting in a different place. The first meeting of the amalgamated institutions was held in the present structure in 1839. The early years of the united society were marked by many vicissitudes, and as its occasional want of success was thought to be in some measure owing to the existence and rival aims of yet a third society—the Pathological—a further union with this was effected in 1847, since which time the history of the Institution has been one of almost undeviating progress. In 1869, on the motion of Mr. Robert Hamilton, the scope of the Society was still further enlarged by the formation of a microscopical branch, which meets monthly and does good work. An able vindication of the claims of the microscope to have advanced practical medicine was then given, followed by an interesting sketch of the work of Dr. Roberts of Manchester, Dr. Burdon-Sanderson, and others, and a number of suggestive queries as to the possible antifermentative action of quinine, salicylic acid, arsenic, mercury, and other remedies.

In proof of the growth of the Institution, the number of members in 1856 (some years after the amalgamation of the three bodies) only amounted to 78; in 1866 it had risen to 117; in 1870, to 135; while at present it stands at 187.

A variety of suggestions were then offered as to the means best calculated still further to promote success, and among others that of the publication of an annual volume of proceedings. And lastly, in rapidly reviewing the work of the preceding session, special attention was drawn, firstly, to the fact that the prompt action of this Institution had had the effect of preventing such a change in the laws of the chief medical charity of the town as would have tended, in the opinion of the majority of the profession in Liverpool, to lower the status of its honorary officers, and hence, in time, of that of the officers of all other local medical charities; and, secondly, to meetings which had been held on the subject of gratuitous medical advice, with their outcome—the recommendation of provident dispensaries.

Great efforts have been made for a considerable time by Dr. Vacher, Medical Officer of Health for Birkenhead, to obtain for that town an infectious diseases hospital. There seems some probability of his wishes being at length fulfilled, as plans for such a building, to accommodate thirty-two patients, were passed by the guardians at their meeting on the 9th inst. Nothing now is required but the approval of the Local Government Board before the building can be commenced. It will cost £3500 without fittings.

A mixture of starch-paste, colouring matter, and new milk, so ingeniously effected as to give it the appearance of very rich cream, having been vended for that article by a Mr. R. Beardwood, an unappreciative customer caused his appearance before the Liverpool Stipendiary Magistrate on the 10th inst., who, while recognising Mr. Beardwood's originality and genius, felt compelled to mark his sense of the absence of other qualities, even more essential in a tradesman than they, by imposing a penalty of 20s. and costs.

Whooping-cough has prevailed in Liverpool for some time. During the week ending October 16 there were fifteen deaths from that disease, or ten above the average. The number of deaths from other zymotic diseases, however, was considerably below the average, and on the whole the health of the town is, as it has been during the whole of the past summer, fairly good. This week, however, the death-rate has risen.

GENERAL CORRESPONDENCE.

POISONING BY BICHROMATE OF POTASH.

LETTER FROM MR. METCALFE JOHNSON.

[To the Editor of the Medical Times and Gazette.]

SIR,—As the cases of poisoning by bichromate of potass have been hitherto somewhat rare, and the details of treatment and recovery both scanty and infrequent, I trust the following case may prove of some interest to your readers, not only as one of speedy recovery from dangerous symptoms, but as showing what dose may be dangerous and fatal if neglected:—

On the evening of a Saturday, after work was over, A. B. on going to bed thought to take a dose of medicine from a bottle which stood among others, one of which was a solution of bichromate of potass, which he used as a wood stain in his business of French polisher. After swallowing a wineglassful of this liquid, containing, as I afterwards ascertained by analysis (metrical), about two scruples of the salt, he felt a burning taste and sense of great heat and pain in the stomach. This at once showed him what was his mistake; on finding which he ran to my house (about two minutes' walk). I was from home. He went home, and swallowed the contents of three eggs, under some idea of an antidote. After this he returned to my house. I was still away, but after about twenty minutes had elapsed I arrived, and found him retching, vomiting slightly, and in very great agony of pain in the epigastrium. His skin was sweating profusely; pulse very rapid (about 120). Being a strong man he did not exhibit much fainting. I immediately administered a mustard emetic (a tablespoonful of mustard in powder in half a pint of warm water). This, with tepid water copiously swallowed, induced free vomiting, and I removed from the basin a piece of mucous membrane which would cover about an inch and a half of surface of the lining membrane of the stomach. This was one of many such shreds—perhaps half a dozen to a dozen,—with much other mucous fluid and a few drops of blood. A sense of pain and griping in the bowels was beginning to be felt. I applied a large liquid blister over the abdomen on either side, vesicating a surface (of about six or eight inches square) on either side.

I administered a large enema of about three to four pints of warm water, which brought away with it about half a pint of a sediment, consisting of the villi of the gastro-intestinal mucous membrane. I then inserted about a quarter of a grain of acetate of morphia by subcutaneous injection; and, visiting him once or twice in the night, found him next morning complaining of less pain, less vomiting, and no further action of the bowels. I ordered some ice for him to suck, and left instructions for a small quantity of tepid water-arrowroot to be administered occasionally, with the view to prevent the secretion of gastric juice acting injuriously on a perfectly empty stomach.

There is no need to describe in detail the recovery, which (excepting a slight threatening of general paralysis on the third day, which soon gave way) was uninterrupted, and requiring no treatment, save the use of liquid food and the abstinence from alcoholic drinks; and now, after the lapse of a few weeks, his stomach has resumed its tone, and his digestion is as good as ever—in fact, he seems to have sustained no permanent injury from the accident, which might without prompt measures very easily have proved speedily fatal.

Hoping you will find this slight sketch sufficiently interesting to your readers to give it a place in the pages of your journal,

I am, &c.,
METCALFE JOHNSON.

"BLOOD POISONING."

LETTER FROM MR. G. J. S. CAMDEN.

[To the Editor of the Medical Times and Gazette.]

SIR,—I unfortunately did not see and read the two letters in the *Times* of September 5, on poisoned arrows, until a few days since, from which it appears that, instead of mineral or vegetable poison being used, the arrows are simply dressed with putrid matter, obtained either from human or animal flesh; but *which* will not make the slightest difference, as death will generally ensue. If such is the case, from what I have done, it is easily curable. I once had a case (a lady) whose blood was thoroughly poisoned by absorption of putrid matter from a portion of highly putrid placenta, which had been

retained eighteen days; and only three or four more days would elapse before my patient would succumb, as the generality of cases sink before the expiration of twenty-two or twenty-three days. I fortunately thought I could, by saturating her system with hydrochloric acid, destroy the putridity. I accordingly gave her hydrochloric acid, eight drops in three tablespoonfuls of water, every four hours, drinking after each dose half a tumblerful of water; and I had the immense gratification to find that in twelve hours the room became tolerably sweet, which it had not been, nor could I keep it so, for days before; and within twenty-four hours the putrid part was thrown off blanched, the room was scentless, and my patient so far relieved that I felt no anxiety about her recovery. If the hydrochloric acid will act thus under such fearful conditions, how much more would it act on simple inoculation! I will add that I well remember hydrochloric acid being given by my late father, combined with decoction of bark, in typhus and typhoid fevers, in 1816-17, or 1817-18, with great success, and that those who had it in the earliest stages did the best. I have also given it myself, but much more freely. It would be well if Dr. E. G. Clarke's "Medicinæ Praxeans Compendium" was read more by the juniors of the profession—there is much to be gleaned from it; but unfortunately it is in Latin, an old work (two small volumes)—probably not to be had, as I had a difficulty to get one in 1824—first printed in 1800, June 4. There are many other disorders which, if treated in a similar way by other remedies, may be cured.

October 8.—I have just read a leading article in the *Times* of September 15, which referred to the sanitary state of the Turkish quarters, in the *Times*, September 13. It enables me to state that poisonous flies were not uncommon in England, as was stated in the *Times*, about July or August, 1865, from whose bite eight or ten persons died; but one case which came under my care was cured by one dose (twenty grains) of iodide of potash in a tumblerful of water on going to bed.

I am, &c., G. J. S. Camden.

REPORTS OF SOCIETIES.

THE CLINICAL SOCIETY OF LONDON.

Friday, October 12.

George W. Callender, F.R.S., President, in the Chair.

Cases illustrating the Behaviour of the Carbolised Catgut Ligature upon Human Arteries.

Mr. Bryant read a paper upon this subject. He said that the carbolised catgut, as made by the Apothecaries' Company, Virginia-street, Glasgow, had now been so freely employed since its introduction in 1869 by Professor Lister that the time had come when an estimate of its value might be arrived at. He, therefore, introduced the following cases supplied from his own practice, together with four preparations and drawings, in order to assist in solving the question. The first preparation was from a man in Guy's Hospital, who had had ruptured aneurism of the right common femoral artery, with ulcerative endocarditis. A catgut ligature was applied to the external iliac artery, but the man died of the heart affection fourteen hours subsequently. The inner and middle coats of the artery were then found completely divided by the ligature, and the external coat also divided in parts. Some clot existed above and below the ligature, and the catgut was intact. Preparation No. 2 was from a right common carotid artery, to which a ligature had been applied twelve days before death for supposed aortic and innominate aneurism, with the effect of relieving pain and other urgent symptoms. In this case the artery had been completely severed; there was clot above and below the point of separation, but it was not firmly adherent. The ligature had disappeared. Preparation No. 3 was that of a right subclavian artery ligatured with catgut thirteen days before death for ruptured traumatic axillary aneurism. The man had died from lung trouble; all the parts about the wound having gone on satisfactorily towards repair. After death, no suppuration was found about the wound; the artery and vein were normal, except that the former was ligatured. There was a firm clot in the vessel for half an inch above and the same distance below the ligature. All the coats of the artery had been divided and afterwards repaired. The knot of the ligature alone remained. Preparation No. 4 was from a right common femoral artery, ligatured nineteen days before death for elephantiasis Arabum of the leg. Death ensued from gangrene of the limb. Very little suppuration occurred at the wound. All the coats of the artery had been divided and repaired, and good clots existed above and below the ligature, the knot of which, with perhaps some of its loop, remained. In all these cases the inner and middle coats of the vessels had been probably divided at the time of operation, as would be done by any permanent ligature, the external coat afterwards by an ulcerative process, though in the first case this was partially accomplished in fourteen hours. Mr. Bryant stated that he had also ligatured ten other large arteries in their continuity with catgut, viz., five femoral, four external iliac, and one subclavian. One of these had died on the tenth day; in two, there was secondary hæmorrhage; and in the other cases an uninterrupted recovery, with little or no suppuration, ensued. In one of the femoral cases the wound healed by primary union, without one drop of pus. In no case was the antiseptic spray used. Rest, moderate pressure over the site of operation, and dry lint or water dressing were alone employed. In the single fatal case death ensued from pyæmia and cardiac disease. The inner and middle coats of the artery were there divided, and the outer coat ulcerated. Only the knot of the ligature remained. In the subclavian case, a little hæmorrhage took place on the fourth day, but was arrested by pressure, and the wound then healed. In one external iliac case, the wound, which had almost healed, bled on the twenty-ninth day, but pressure arrested the hæmorrhage, and all did well. These further cases led one also to conclude that the ligature at first divided the middle and inner coats, and then excited ulcerative action in the external coat. "If, therefore," said Mr. Bryant, "I cannot endorse what the distinguished introducer of the catgut ligature claimed for it in 1869, 'that by applying a ligature of animal tissue antiseptically upon an artery, whether tightly or gently, we virtually surround it with a ring of living tissue and strengthen the vessel where we obstruct it,' yet I may express my belief that, as the loop of the catgut ligature dissolves within an uncertain period, and there is not of necessity any sloughing or ulceration of the whole coats of the constricted artery, as must ensue where a more permanent material is employed, we have in the carbolised catgut the best ligature at our disposal."

Mr. Maunder said: It will be in the recollection of many that some years ago Mr. Lister advocated, by precept and practice, the use of carbolic silk for the ligature of an artery in continuity. Soon after the notification of this, I ligatured the common carotid with silk with antiseptic precautions. The wound quickly healed over the ligature, and I was delighted with the result. From silk, Mr. Lister progressed to catgut. It happens that I have tied nine arteries antiseptically, but only five with catgut, to which I shall confine my remarks; and I am bound to say that I was satisfied with the result. About three years ago I delivered some lectures at the Medical Society of London upon the Surgery of the Arteries; and on making inquiry concerning the use of catgut in the hands of other surgeons, I learned that several accidents of a most serious and fatal character had attended its use. I then stated "that the fate or behaviour of a given antiseptic catgut ligature, applied to the continuity of an artery, cannot be foretold." Since then other accidents of a serious character have reached my ears. It appears to me that if it is shown that certain casualties happen in connexion with the use of catgut, but which are not known when the time-honoured silk is employed, then the former ought to be discontinued. Serious consequences, such as solution, slipping of the knot, division of the coats of the artery in one instance, immunity from this in another, while death has followed from early hæmorrhage and embolism, have decided me—an enthusiast in its favour as I once was—never to use it again. It is obvious that no such accidents attend the use of silk.

Mr. Barwell said he had fortunately no post-mortem experience, but his views inclined towards those of Mr. Bryant. He had had five cases; all did well. The cutting through of the external coat was new to him. Greater force should not be employed than was necessary to occlude the artery or divide its internal coats. The ends of the ligature, moreover, should not be cut too close. Often the catgut ligatures spoiled by being kept too long in oil. With silk ligatures, however, there must be an opening right down to the artery, and from this cause he thought he had seen phlebitis arise. In a recent case of tying the subclavian and carotid the catgut ligatures did very well.

Mr. Sydney Jones asked what was the age of the patient just operated on. He also desired to know how long after the ligature of small vessels the ligatures were in being absorbed. He thought that in simple operations they tended to keep open or form troublesome sinuses.

Mr. Bryant said, in reply, that the age of the patient alluded to was twenty-nine, and that his arteries were perfectly healthy. He only spoke in this paper of arteries tied in their continuity. The ligatures, he thought, might exist for nineteen or twenty days. The gut ligature acted just like other ligatures, but then it was not necessary that the vessel should be actually sundered for its removal.

The President said that in each of the three Bartholomew's cases the ligature had been applied for aneurism. The ligature seemed to slip or yield, and pulsation returned in a few hours.

Recent Cases of Paracentesis Thoracis.

Dr. George H. Evans read notes of three cases of pleural effusion which had recently been under his care, in which he had performed paracentesis thoracis; and which cases seemed to illustrate some of the advantages of that operation:—1. A groom, aged twenty-three, was admitted into Middlesex Hospital on April 24, 1877. His previous health had been good. Three weeks before admission he had caught cold; sixteen days before admission he had felt pain in the right side of his chest, and had become short of breath. On admission his temperature was 101·6°; the respirations were 36. The right pleural sac was obviously full of fluid. On April 26, paracentesis was performed with Coxeter's aspirating syringe, and seventy-two ounces of clear serum were removed. He improved rapidly in health, and was discharged recovered on May 18. 2. A saddler, aged twenty-nine, was admitted on September 6, 1877. He had caught cold in November, 1876; was then in bed for four months, and had not since been fit for work. On admission his temperature was 98·2°; the respirations were 20. The right lung was healthy; the left pleural sac was full of fluid. On September 7 he was punctured with Coxeter's syringe (the syphon action only being used), and thirty-five ounces of rather cloudy serum were removed. Fat globules were found under the microscope in the fluid. He progressed rapidly to health, and was discharged convalescent on September 26. 3. A porter, aged thirty-two, of previous good health, was admitted on May 24, 1877. His illness had commenced in December, 1876, with pain in the left side. On admission, the left pleural sac was full of fluid, which had probably occupied it for some months. Temperature 98·6°; respirations 32. He was tapped on May 26, in the seventh interspace (Coxeter's aspirating syringe), but only fifteen ounces of serum were removed. On June 9 he was again tapped in the next interspace above, and fifty-five ounces of clear serum escaped. He then gradually improved in condition, and seemed to be doing well, when Dr. Evans ceased attending the hospital at the end of June. On July 24 he was discharged relieved, and made an out-patient. On Dr. Evans's return, the man was attending as an out-patient; and on August 15 his left chest was found to be fuller than before. Being readmitted on August 16, he was tapped on the 17th, and fifty-five ounces of serum were removed, with immediate improvement in the condition of his chest. He gradually improved in health and condition, with occasional suspicious signs at the upper part of the overworked right lung, which, however, had all disappeared, so that he was now convalescent, and rapidly gaining health and weight. Dr. Evans remarked that, having been for some years a strong advocate and admirer of the operation, he had been surprised to hear of and to read lately observations of much older and more experienced physicians rather in disfavour of the operation than otherwise. Of course, he must admit that, in many cases of effusion of serum into a pleural sac, the fluid disappeared without being artificially removed; but he believed that nobody would deny that this process involved usually a considerable amount of time, during which almost absolute rest was a necessary part of the treatment. Now, he could not see why one should not considerably shorten this interval by an operation of a very simple, and, as far as he had been able to ascertain, harmless description. He believed that the old doctrine, suggesting that the admission of air into the cavity during or after the operation would probably lead to the serous effusion becoming purulent, was now exploded. At all events, he had never seen nor heard of such a case, though he knew of certainly one and probably two cases in which the delay or neglect of paracentesis had been followed by a change from serum to pus, indicated in the one case, which he had followed throughout, by a rigor and afterwards a constant hectic temperature. As to the advantage of shortening the period during which fluid remained in the chest, one of the cases (No. 2) afforded an instance. The day before he was seen by Dr. Evans, he had, by the advice of his medical attendant, consulted an eminent hospital physician, whose advice was to the effect that he should rest at home for a month and then see him again, with the view of some action being taken in case the chest should be still occupied by fluid. Owing to the advice of a friend whom he met in the street, he came as an out-patient to the Middlesex Hospital, where, being admitted, he was at once tapped, and in three weeks afterwards sent out in good health.

Dr. Cayley said there were other reasons for speedy operation. One of these was the risk of tuberculosis, especially in children. In these cases he thought the uncompressed lung usually became affected—perhaps owing to the prolonged hyperæmia, the other being but little used.

Dr. C. T. Williams agreed with the practice of early tapping. Yet cases occurred to show that this was not necessary. Thus, in the case of a child twelve years old, whose pleura was full of fluid, he wanted to tap, but the parents refused. Gradually the child got better, and was now (five years after) quite well, and with no appearance of the old disease. He thought the compressed lung was most liable to tubercle.

Dr. Southey thought the question before the meeting was that of tapping whilst yet the fluid was serous; there could be no doubt of the rule when the fluid became purulent. Simple serous fluid was often very rapidly absorbed. As to the period for operation, he was guided by these rules: quick breathing, much displacement, fever, and diminution of urine. There was a risk in using too strong a vacuum, so he preferred the syphon method. With too great a vacuum blood might be effused.

Dr. James Pollock thought the operation was generally successful, but would wait a month to see the result of rest, quiet, etc. He preferred the syphon method. If there was too great delay the lung got fastened down. He thought the unaffected side was most apt to become tubercular.

Dr. Goodhart also thought the unaffected side was most apt to become tubercular, partly from hyperæmia, but partly, also, because the other was practically more at rest.

Mr. George Brown said that at the North-Eastern Hospital for Children the early operations did best.

Dr. Lees referred to a case where the fluid long remained serous, notwithstanding hectic symptoms.

Dr. Evans having replied, the meeting adjourned.

THE PATHOLOGICAL SOCIETY.

Tuesday, October 16.

Charles Murchison, M.D., LL.D., F.R.S., President, in the Chair.

New Volume of the Transactions.

The President laid on the table the volume of *Transactions* for the last session. It was in every respect worthy of the Society, and contained more plates than any of its predecessors. In a few words the President expressed his hope that the session just commenced might be as successful as the last.

Aneurism of the Heart.

Dr. Wickham Legg showed this specimen, which occurred in the left ventricle of a man of thirty-eight years. He had been a sailor, and served eighteen years in the navy. There was no history of syphilis. The aneurisms were in the form of bulgings, due to the growth in the cardiac wall of a firm white material, disposed in islets amongst the muscular fibres. The growth occurred in various places, very abundantly where the aneurisms were situated, but also at the attachment of the mitral valve and elsewhere. Microscopically examined, there were seen, at the edges of the growth, cells and nuclei embedded in a semi-fibrillar matrix. Towards the centre of the mass only dark granular material was found. These appearances, Dr. Legg said, were considered characteristic of syphilitic gumma. But there was no further evidence of syphilis in the body, and a clinical history of syphilis had not been obtained.

Dr. Stretch Dowse asked whether the cerebral capillaries had been examined microscopically, and whether atheroma was found in the aorta or in the arteries at the base of the brain.

Dr. Legg replied that the aorta was atheromatous, but not unusually so.

Cerebral Aneurism.

Dr. Wickham Legg also exhibited this specimen. A man of twenty was brought insensible to St. Bartholomew's Hospital, and soon died. It was reported that for some time previously he had been half-starved, and that the day before he had eaten a heavy meal of tea, new bread, and periwinkles, had become greatly excited and had danced, and finally had fallen down insensible. Post-mortem there was found extensive meningeal hæmorrhage. An aneurism occupied the anterior communicating artery, not larger than a millet-seed, and granular on the surface like a mulberry. Its cavity communicated with the lumen of the artery, and its wall was unruptured. The hæmorrhage had therefore some other source, but this could not be found. Only ten cases of unruptured aneurism of the anterior communicating artery had been recorded. There was no cardiac or renal disease in this case, and the body was remarkably free from atheromatous change.

Dr. Hare inquired whether the source of the hæmorrhage had been discovered; and

Dr. Legg replied in the negative.

The President remarked that in Dr. Peacock's collected cases of cerebral aneurism, embolism and syphilis had been found as important elements in the causation.

Dr. Thomas Barlow exhibited a specimen of aneurism of a branch of the anterior cerebral artery from a case of apoplexy. This was a specimen of the miliary aneurisms described first by Charcot and Bouchard. It was taken from the brain of a man of fifty-two, who had been a heavy drinker, and who was admitted into Charing-cross Hospital on account of dyspeptic symptoms. These symptoms (pain in left hypochondrium, vomiting, and wasting) were found post-mortem to depend on a scirrhus of the stomach. The only nervous signs presented by the patient were—a slight thickness in articulation, slight flattening of the left side of the face, and slight collapse of the left nostril. No history of previous hemiplegia could be obtained. On the third day after admission, without any warning, the patient had a general convulsion, which was slightly more pronounced on the left side, and which lasted ten minutes. After this he became comatose, his temperature rose to 100°, and he died within twenty-four hours. At the post-mortem there were found, in addition to the scirrhus of the stomach, granular cystic kidneys. Along the outer border of the right optic thalamus thero was an old narrow *plâque jaune*. There were no changes in the cortex. In the substance of the anterior lobe—viz., at the root of the right superior frontal convolution—there was a cerebral hæmorrhage about the size of a hazel-nut. In the centre of this was a small ruptured aneurism, of the size of a hemp-seed. It was composed of two parts—viz., a hard spherical nucleus, and an outer shaggy portion. It was situated on a minute vessel about half an inch long, a branch of the right anterior cerebral. On the proximal side of the aneurism, quite close to it, were found subsequently three minute dilatations, each not bigger than a pin's head, which must be regarded also as aneurismal. Another minute vessel opened into the aneurism before deseribed. All the vessels of the circle of Willis were extensively atheromatous, but the anterior cerebrals were not so in the ordinary sense. There was no source discoverable whence emboli could have been carried to this small branch of the anterior cerebral, and it seemed probable that the aneurisms had arisen from primary disease of the arterioles. Dr. Barlow believed that the discovery occasionally of small aneurisms in cerebral apoplexies ought strongly to suggest that in every case of cerebral apoplexy with granular kidney and hypertrophied left ventricle the local condition of the small vessels should be investigated before taking refuge in the hypothesis of increased arterial tension as a cause of the apoplexy.

Dr. Douglas Powell said that six years ago he had exhibited for Dr. Quain a specimen of a very similar kind from a girl of about twenty. A portion of the brain presented a group of minute aneurisms. Charcot spoke of the condition as occurring in quite young subjects.

Dr. Hilton Fagge said that there were certain difficulties in the way of Dr. Barlow's theory of the frequent connexion between miliary aneurism and apoplexy. Charcot and Bouchard found renal disease in very few of their cases of miliary aneurism, while contracted kidney is very common in cases of cerebral hæmorrhage. The account also given by these pathologists of the common situations of miliary aneurism, and of the other morbid states of the brain associated with it, did not agree with what is familiar to all in ordinary cerebral hæmorrhage. Miliary aneurisms were said to occur in numbers in some cases; and if they were so, it was not remarkable that one or more of them should be found in the centre of an extravasation of blood in the brain.

Dr. Greenfield said that he had seen several cases of cerebral hæmorrhage in which miliary aneurisms were found on the smaller vessels. In the last case of the kind that he had observed the hæmorrhage had proceeded, beyond all question, from an aneurism of a branch of the posterior cerebral artery. Therefore some cases of hæmorrhage were due to aneurism. On the other hand, he had failed to find aneurism in the usual seat of ordinary cerebral hæmorrhage; and this showed that there were other causes of cerebral hæmorrhage than aneurism. In cases of miliary aneurism Dr. Greenfield had found a peculiar condition of the cerebral vessels. It was not usually atheroma, but a condition in which the arteries were rigid, standing open when cut, and yet translucent—a kind of cirrhosis. This state had never been described by a special name. Much had been said about aneurism due to embolism. But there were many cases of embolism without aneurism, and in most cases of "aneurism from embolism" the condition of the clot was peculiar. Therefore they should hesitate to accept the conclusion that aneurism was in any large number of cases due to embolism.

Dr. Coupland suggested that the condition of cerebral vessels just described by Dr. Greenfield might be that called hyaline fibroid by Sir William Gull.

Dr. Greenfield replied that the specimens referred to would be submitted to the Committee upon the subject of the vessels in Bright's disease.

Dr. Goodhart said that Bouchard and Charcot had given a description of the state of the vessels associated with miliary aneurism closely resembling that of the hyaline-fibroid change of Gull and Sutton. With respect to the connexion between aneurism and embolism, he had, in drawing attention to it, never suggested that embolism was the only cause of aneurism; and he had pointed out that the clot in these cases was peculiar, and caused inflammatory changes in the wall. Dr. Goodhart showed a sketch of an aneurism due to embolism originating in ulcerative endocarditis.

The President said that when cerebral hæmorrhage occurred in kidney disease, a change was allowed to be present in the vessels not amounting to aneurism, though there might be aneurism in some cases. The age at which cerebral aneurism occurred was of much interest. No doubt a certain number of cases of apoplexy were due to rupture of aneurism, and in a large proportion in young subjects. Of eighty-six cases collected by Dr. Peacock, nine were quite young; and a case had come under Dr. Murchison's own observation in a patient of twenty-four. Therefore there was a strong presumption that cerebral apoplexy in young persons was due to aneurism.

Fibrinous Balls and Clot in Left Auricle in Mitral Stenosis.

Dr. Wickham Legg's third specimen was a heart in which three balls of fibrin were found in the left auricle, while the mitral opening was contracted. The patient, a man of twenty, died suddenly. The concretions of fibrin were large, spherical, and smooth, and presented no evidence of adhesion to the wall. One of them had found its way into the orifice and arrested the circulation. The concretions had undoubtedly resulted from the stenosis. A second specimen of the same kind was found in a woman who died slowly of mitral stenosis; the concretion exactly resembled a billiard-ball. Similar specimens were preserved in the museums of St. George's and St. Thomas's Hospitals.

The President said that there was also a specimen of the same kind in the Middlesex Hospital museum.

Dr. Hilton Fagge mentioned two cases of sudden death in mitral stenosis. In one of these an ordinary ante-mortem clot was found. In the other case a clot adherent to the valve had given way, and one portion of it had been folded over and driven into the orifice, which it blocked.

Dr. Ewart exhibited a specimen of ante-mortem clot filling the left auricle in mitral stenosis. A woman of thirty-seven had suffered from rheumatism at twenty-one and twenty-six, and for the last two years of her life from symptoms of chronic

disease of the heart. No clinical examination could be made. For months she had presented cyanosis, and this deepened greatly before death. Post-mortem both mitral and tricuspid openings were found to be contracted. The left auricle was filled by a clot, which was not solid until it had been put into alcohol. When pricked *in situ* it yielded a few drops of a grumous fluid. Nearly all the surface had been adherent to the endocardium; but two spaces were free from adhesions, and channels were found along which the blood had been transmitted from the mouths of the pulmonary veins. Even these had been plugged before death. The clot appeared to have commenced in the auricular appendage and grown thence.

(*To be continued.*)

NEW INVENTIONS AND IMPROVEMENTS.

UNGUENTUM PETROLEI.

The substance introduced by Messrs. Allen and Hanbury, of Plough-court, Lombard-street, E.C., into this country from America, under the name of "Unguentum Petrolei," is a hydrocarbon of the class of paraffins, as are cosmoline and vasiline, which it closely resembles. It is of about the consistence of good lard, has no smell, in colour reminds us somewhat of the old "unguentum citrinum," and possesses the same useful properties that vasiline does. It is bland and non-irritating; it keeps any length of time, apparently, without becoming rancid, and may be exposed to any kind of atmosphere without undergoing chemical change. It has long been, we understand, in use in America, where it enjoys a widespread popularity; and it will, we doubt not, come into extensive use here also, as a vehicle for making ointments, as a demulcent in various diseases of the skin, and as a lubricant. It is recommended "as an application to burns and scalds, inflamed and excoriated skin, chapped nipples, inflamed hæmorrhoids," etc., and as a dressing for wounds. It is said, also, to be much superior to lard for lubricating the finger and hand, the forceps, and the catheter, in obstetric practice; and for protecting surgical instruments, both steel and hard rubber, from rust and cracking—which, as it does not undergo oxidation, is in all probability quite true. And, as it is not acted on in any way by the secretions of the stomach and bowels, it will also, according to the importers, be found very serviceable for administration internally.

LIEBREICH'S SYRUP OF CHLORAL.

We need not dwell here on either the immense value of the hydrate of chloral as a nerve-sedative, or the importance of being able to feel sure when prescribing the drug that it will be obtained in a perfectly pure state. Unexpected inconveniences, and even serious danger, have sometimes resulted from its use; and Dr. Oscar Liebreich, Professor of Therapeutics in the University of Berlin, who introduced it into medicine, has, as is well known, insisted that it is of the highest importance that absolute purity should be obtained in the manufacture of the drug, and that all the solutions of it should be free from bye-products. In a valuable paper by him on Chloral, published in the *Practitioner* for June in the present year, he says, "I have good reason to believe that a large proportion of the chloral, both solid and liquid, which is at present employed in medicine is not trustworthy in respect to its purity. I am, moreover, well assured—and I wish to draw the attention of practitioners to this point—that many of the impurities of chloral, when it is not prepared with great strictness and tested with scrupulous accuracy, are of a kind seriously to detract from its uniformity of effect." And further on he adds, "The accidents which have occurred frequently in England are, I am satisfied, largely due to the impurities and uncertainty of the many preparations, and especially of many of the solutions in vogue." He tells us also that "there is no practical means by which the purity of chloral in solutions can be tested"; and that, according to the best authorities, a very large proportion of the solutions current in medical and pharmaceutical practice are of an impure, untrustworthy character, and therefore liable to produce dangerous results.

Messrs. Corbyn, Stacey, and Co., of High Holborn, London, have therefore met a very decided want in undertaking to supply a solution of chloral hydrate which shall be guaranteed as of the highest purity and efficiency, and of equal and standard excellence, being prepared under the immediate supervision and direction of Dr. Oscar Liebreich himself. Each tablespoonful of the syrup contains fifteen grains of chloral, and it is issued in bottles bearing Dr. Liebreich's signature. It will be known and should be ordered or prescribed under the title of "Syrupus Chloralis, Liebreich." Practitioners will unquestionably be glad to avail themselves of a preparation concerning the perfect purity of which there can be no doubt.

PATENT PRINTED PILLS.

Druggists and pharmaceutists have of late shown wonderful ingenuity in making medicine pleasant to the eye and not displeasing to the palate; and their attention has especially, and perhaps it may be said most successfully, been directed to improving the manufacture of pills. Almost any drug can now be exhibited in the pill-form, and pills or pilules may be had coated in various ways, so as to be tasteless and to look nice. But Messrs. Burgoyne, Burbidges, and Co., of Coleman-street, London, have gone a step further, and made each pill itself tell its composition and strength. Their "Printed Pills" are really a very ingenious invention. The pills are beautifully made; are tasteless, odourless, perfectly round and smooth, and quickly soluble; and, according to the description given by the makers, "they will keep for any length of time in any climate, and the coating is purely vegetable, and absolutely innocuous." Each sort of pill has a distinctive colour, so that they are almost attractive in appearance; and, moreover, each is stamped with its formula and dose in clear and distinct letters; as, "Pil. Al. c. Myrrhâ gr. v.," "Pil. Podophyl. gr. $\frac{1}{4}$," etc., according to order. We do not see what further improvement can be made, unless some druggist can bring out a "Self-administering Pill." Joking apart, however, the "Patent 'Star' Coated and Printed Pills" are a very striking and useful novelty. And it may be added, they are not dearer than other coated pills.

MEDICAL NEWS.

Queen's University in Ireland.—The following degrees in Medicine and Surgery, and diplomas in Midwifery, were conferred by his Grace the Duke of Leinster, Chancellor of the University, on October 12:—

Doctor in Medicine.—October, 1877.—First Honour Class: William Allen, Galway; James Clarke, Belfast; William Whitla, Belfast. Upper Pass Division: Gervase Robert Percy, Belfast; William John Sprott, Belfast. Lower Pass Division: Daniel Francis Barry, Cork; Patrick Maurice Carleton, Belfast; John Power Carmody, Cork; Thomas Reid Denham, Belfast; Robert E. Donovan, Cork; Isaac Chichester Dundee, B.A., Galway; Charles Frederick Knight, Cork; Joseph Stanislaus Lawlor, Galway; Robert Lindsay Love, B.A., Galway; Michael J. Lyden, Galway; John Wesley Megarry, Belfast; Thomas M. O'Brien, Galway; Patrick O'Connor, Galway; John O. G. Sandiford, Cork; James Stuart, Belfast; Garnett George Tatham, Galway; David Taylor, Belfast; Henry Tomkins, Belfast and Galway; Francis Henry Walmsley, Belfast; John Edward Walsh, Cork; Edward Alexander White, B.A., Belfast; James O'Brien Williams, Galway; John Wilson, B.A., Cork and Belfast; Thomas John Withers, Belfast. June, 1877.—Archibald R. H. Bland, Cork; William Henry Bracken, Belfast; George Henry Bull, Cork; William Corry, Belfast; Robert D. Donaldson, Cork; Hugh L. Donovan, Cork; J. J. Kent Fairclough, Belfast; Denis Harrington, Galway; Henry O'Neill, Belfast; William A. Quayle, Belfast; Robert H. Robinson, Belfast; Henry George Thompson, Galway and Cork; William Henry Thornhill, B.A., Cork; James Tidbury, Cork; Charles Workman, Belfast.

Master in Surgery.—October, 1877.—Denis Harrington, M.D., Galway; Henry O'Neill, M.D., Belfast; William Allen, Galway; Daniel Francis Barry, Cork; John Power Carmody, Cork; James Clarke, Belfast; Thomas Reid Denham, Belfast; Joseph Stanislaus Lawlor, Galway; Robert Lindsay Love, B.A., Galway; Michael J. Lyden, Galway; Thos. M. O'Brien, Galway; Patrick O'Connor, Galway; Gervase Robert Percy, Belfast; John O. G. Sandiford, Cork; William John Sprott, Belfast; James Stuart, Belfast; John Edward Walsh, Cork; Edward Alex. White, B.A., Belfast; James O'Brien Williams, Galway; Thomas John Withers, Belfast. June, 1877.—Dr. J. J. Adams, Belfast; David Bradley, M.D., Belfast; John Mulrennan, M.D., Cork; Archibald R. H. Bland, Cork; George Henry Bull, Cork; William Corry, Belfast; Robert D. Donaldson, Cork; Hugh L. Donovan, Cork; J. J. Kent Fairclough, Belfast; Wm. A. Quayle, Belfast; Robert H. Robinson, Belfast; Henry G. Thompson, Galway and Cork; Wm. H. Thornhill, B.A., Cork; James Tidbury, Cork; Charles Workman, Belfast.

Midwifery.—October, 1877.—Denis Harrington, M.D., Galway; Henry O'Neill, M.D., Belfast; Maurice J. O. Sullivan, M.D., Cork; William Allen, Galway; Daniel Francis Barry, Cork; Patrick Maurice Carleton, Belfast; James Clarke, Belfast; Thomas Reid Denham, Belfast; Robert E. Donovan, Cork; Charles Frederick Knight, Cork; John Wesley Megarry, Belfast; John O. G. Sandiford, Cork; William John Sprott, Belfast; James Stuart, Belfast; Edward Alex. White, B.A., Belfast; Thomas John Withers, Belfast. June, 1877.—Dr. J. J. Adams, Belfast; Archibald R. H. Bland, Cork; George Henry Bull, Cork; William Corry, Belfast; Hugh L. Donovan, Cork; William A. Quayle, Belfast; William H. Thornhill, B.A., Cork; James Tidbury, Cork; Charles Workman, Belfast.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.—At the ordinary monthly examination meetings of the College, held on Tuesday, Wednesday, and Thursday, October 9, 10, and 11, the following candidates were successful:

Previous Examination for the Licence to practise Medicine.

Butler, Frances Jane.

Final Examination for the Licence to practise Medicine.

Abbott, Charles Edward.
Canavan, Patrick.
Finegan, Lawrence Patrick Joseph.
Kehoe, Matthew Joseph.
McCann, Joseph George.
Mackey, Stephen William.
Macnamara, Rawdon, jun.
Miley, William Kildare.
Mitchell, Daniel.
Nicholson, Joseph John.
Owen, William Hall.
Pollard, Evelyn Richard Hugh.
Russell, Thomas O'Dwyer.
Smith, James.

For the Licence to practise Midwifery.

Abbott, Charles Edward.
Canavan, Patrick.
Finegan, Lawrence Patrick Joseph.
Kehoe, Matthew Joseph.
McCann, Joseph George.
Mackey, Stephen William.
Macnamara, Rawdon, jun.
Miley, William Kildare.
Mitchell, Daniel.
Nicholson, Joseph John.
Owen, William Hall.
Pollard, Evelyn Richard Hugh.
Russell, Thomas O'Dwyer.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

CRIPPS, W. HARRISON, F.R.C.S.—Assistant-Surgeon to the Royal Free Hospital, Gray's-inn-road.

STURGE, W. A., M.D. Lond., M.R.C.P.—Assistant-Physician to the Royal Free Hospital, Gray's-inn-road.

NAVAL, MILITARY, &c., APPOINTMENTS.

WAR OFFICE.—MEDICAL DEPARTMENT.—Surgeon-Major John Wickliffe Jones retires upon temporary half-pay; Surgeon Samuel Baptiste Gamble, M.D., resigns his commission; Deputy Surgeon-General James Pattison Walker, M.D., Bengal Establishment, to be granted the honorary rank of Surgeon-General on retirement.

BIRTHS.

BRAILEY.—On October 9, at 38, King's-road, Brownswood-park, N., the wife of Wm. Arthur Brailey, M.D., of a son.

HECTOR.—On August 28, at Wellington, New Zealand, the wife of James Hector, M.D., C.M.G., of a son.

HOPKINS.—On October 15, at Hovingham House, Highbury New-park, the wife of Alfred Boyd Hopkins, M.R.C.S. Eng., of a son.

LUPTON.—On October 2, at Stratford-on-Avon, the wife of Harry Lupton, L.R.C.P. Lond., of a daughter.

STOCKER.—On October 9, at Peckham House, Peckham, the wife of Alonzo H. Stocker, M.D., of a daughter.

MARRIAGES.

BAILY—BUCK.—On June 8, at Hindmarsh-square Church, Adelaide, South Australia, Frederic W. Baily, M.R.C.S., L.R.C.P., of The Parade, Kensington, Adelaide, to Helen, eldest daughter W. C. Buck, Esq., J.P., of Rosemont, Adelaide.

CULIMORE—HIRSCH.—On September 12, at St. Stephen's Church, Ootacamund, Daniel Henry Culimore, F.R.C.S.I., Surgeon Madras Army, to Emma Esther, third daughter of Jacob Francis Hirsch, of Oak Lodge, Kilburn.

HARRIS—CARR.—On October 9, at Christ Church, Cheltenham, Edwin P. Harris, Captain Suffolk Artillery Militia, younger son of the late C. P. Harris, Esq., of Newnham, Cambridge, to Maria Augusta, eldest daughter of J. K. Carr, M.D., Deputy Surgeon-General, retired.

HUMPHREYS—DUNCAN.—On October 11, at the parish church of Dagenham, Essex, Henry Humphreys, M.A., M.D., of Eccles, Assistant-Physician to the Hospital for Sick Children, Pendlebury, Manchester, to Louisa, youngest daughter of the late Edward Duncan, M.R.C.S., of Leadenhall-street.

LITTLE—SHAW.—On October 10, at Buglawton Church, Cheshire, David Little, M.D., of Manchester, to Marian, second daughter of Anthony Shaw, of Bank House, Congleton.

DEATHS.

BONNEY, FRANCIS AUGUSTUS BURDETT, L.R.C.S. Edin., L.S.A., at Elm House, Queen's Elm, Brompton, on October 13, in his 74th year.

BROWNE, JAMES HERBERT VALENTINE, son of James V. Browne, M.D., Surgeon to the Galway County Infirmary, at Prospect Hill, Galway, on October 7, in his 20th year.

DAVIES, FREDERICK, F.R.C.S., of 124, Gower-street, London, at Ryde, Isle of Wight, on October 7, aged 68.

JOHNSON, JAMES, M.R.C.S., at Grove Lodge, Fulham, on October 14, aged 65.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

WORKSOP DISPENSARY.—Resident Surgeon. Candidates must be unmarried and doubly qualified. Applications, with testimonials, to J. Wilson Hamil, M.D., The Dispensary, Worksop, on or before October 27.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the censns of 1871.

RESIGNATIONS.

Castle Ward Union.—Mr. J. H. M. Gallwey has resigned the Pontelan District; area 19,839; population 2083; salary £20 per annum. Also the Workhouse; salary £30 per annum.

Drayton Union.—Mr. F. J. Sandford has resigned the Second District area 10,295; population 1485; salary £16 per annum. Also the Workhouse salary £25 per annum.

Drayton Union.—Mr. J. Stewart has resigned the Fifth District; area 11,201; population 2438; salary £21 per annum.

Southmolton Union.—Mr. F. F. Dickenson has resigned the Fourth District; area 25,887; population 2760; salary £50 7s. per annum. Mr Timothy Daly has resigned the Eighth District; area 10,638; population 1496; salary £20 per annum.

APPOINTMENTS.

Blandford Union.—James Bartlett, L.R.C.P. Edin., L.S.A. Lond., L.F.P.&S. Glasg., to the Holworth District.

Buckinghamshire.—James A. Wanklyn, M.D., as Analyst for the County until January 1, 1880.

Lincoln Union.—Joseph Goodall, M.R.C.S., L.R.C.P., and L.S.A. Lond., to the First District.

Llanfyllin Union.—Edward J. Edwards, M.B. Lond., L.S.A., L.R.C.S. Edin., to the Llanfyllin District and the Workhouse.

Merthyr Tydfil Union.—John Lewis William Ward, M.R.C.S. Eng., L.R.C.P. and L.M. Edin., to the Workhouse. Cornelius Biddle, M.R.C.S. Eng., and L.R.C.P. Lond., to the Town and Vaynor District.

Monmouth Union.—George O. Willis, L.R.C.S. Edin., L.R.C.P. Edin., to the Rockfield District.

St. Asaph Union.—Albert E. Lloyd, M.R.C.S. Eng., L.R.C.P. Edin., to the Rhuddlan District.

Shrewsbury.—James A. Wanklyn, M.D., as Analyst for the Borough.

Walsingham Union.—Robert Herbert Foot, M.B. and M.D. Univ. Dub., L.R.C.S. and L.M. Ire., to the Wells District.

THE Committee of Westminster Hospital are now able to announce that they have received half the amount (£12,000) required to defray the expenses of remodelling the building. Amongst the larger donations recently contributed are sums of £1000 from the residuary estate of the late Mr. James Graham, £500 from "A Friend to the Hospital," and £210 from the Corporation of the City of London. The improvements and alterations which have been in course of progress for the last few months are now so near completion that it is expected the Hospital will be ready to open for the reception of patients on the 23rd inst.

DR. WALTER FERGUS, of Marlborough, in writing to a contemporary, says:—"I was called to see a child five years old, who had been suddenly seized with symptoms of poisoning—sickness, diarrhœa, and great general depression. Nothing was found to account for this state of things, but, on examining a box of counters for the game of 'Go Bang,' one set of the counters was found to be bright green. The colour was easily removed, and had a very sour taste. The tests for arsenic showed the presence of that poison to a considerable extent, and as it is just possible that the child may have suffered from using and handling the counters, it may be well to give a word of warning."

DEATH OF SANITÄTSRATH DR. ALBRECHT ERLENMEYER.—This distinguished physician, so well known in the province of psychiatry, died (in his fifty-fifth year) last month at his residence at Bendorf, near Coblenz, where since 1849 he has had a large private asylum for mental and nervous diseases. He has just published the second edition of "Die luëtischen Psychisen" (Syphilitic Nervous Diseases), and was on the point of publishing the sixth edition of his "Wie sind Seelenstorüngen in ihrem Beginn zu behandeln?" (How are Mental Diseases to be Treated at their Commencement?)—a work that has been translated into every language in Europe except English.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—Bacon.

A Tutor, and A Successful Candidate.—You will find a list of those gentlemen who passed the Arts Examination at the College of Surgeons in the issue of this journal for last week.

M.D. Oxon.—It was founded by Dr. John Radcliffe; it was his successor, the equally celebrated Dr. Mead, who, according to Dr. Johnson, "basked in the broad sunshine of life more than almost any other man."

An Old Member.—If a fine skeleton, Professor Flower will no doubt accept it, but not as that of such a notorious criminal. The skeleton of Thurtell was presented to the museum by Mr. Percy Wormald on the death of his father.

DE LISLE ALLEN FUND.—AN APPEAL.

Since our last notice of this case, Dr. De Lisle Allen, who for more than two years was incapacitated from following his profession, has died in Bethlehem Hospital. An appeal is once more made to enable his widow and daughter to keep a home, and to put them in a position to earn a livelihood for themselves. Dr. W. B. Richardson, 12, Hinde-street, Manchester-square, is treasurer; and subscriptions will be received either by him or by the Union Bank of London, Argyle-place, Regent-street.

(Signed) J. E. ERICHSEN, F.R.C.S., F.R.S.
BENJAMIN W. RICHARDSON, M.D., F.R.S.
J. HUGHLINGS-JACKSON, M.D.
THOMAS SMITH, F.R.C.S.

A Manchester Teacher.—The return from the provincial schools is not yet made up.

Mr. T. Cawley, F.R.C.S. Edin.—Mr. Wadd, of facetious memory, states that when George II. went to Newmarket he made several doctors of physic. These, by way of joke, were called "Jockey Doctors." The qualification to which you allude is not registrable.

A Student, Bristol.—Having had two years at your school, you will, on coming to this metropolis to finish your studies, be considered a *first-year's student;* but full credit will be given to you for the time spent at Bristol. The return from the metropolitan schools will be found on another page. We cannot express any opinion on the matter; you can draw your own conclusions by referring to the "*pass and pluck*" report from the College of Surgeons. We believe the subject to which you allude was discussed at a meeting of the Council of the College on the 18th inst.

Aquæ.—The Chelsea Company have completed the construction of three out of the four new subsiding reservoirs at Molesey; and the Southwark and Vauxhall and Grand Junction Companies have acquired land for the construction of suitable storage reservoirs and other works at Hampton.

D. D. H.—Pinel, the great French physician, was appointed Physician to the Bicêtre in 1793, and entered on his great work of non-restraint treatment of the insane towards the end of that year. Holland has made great advance in her treatment of the insane. In 1837, Professor Van der Kolk succeeded in procuring the intervention of the Legislature. Commissioners were appointed, and laws passed for the regulation of existing asylums. In Germany, insanity had for a long period received much attention. The asylum of Lounenstein, near Dresden, was the first to adopt more humane modes of treatment. Austria is in advance of Prussia in the treatment of those afflicted with mental diseases. The new public asylums at Vienna and Prague are, in their construction and management, worthy of commendation.

Alcohol.—Yes, in New York the spirit trade was forbidden in 1837; but the result was that wine—so designated—was greatly more brandied, and the total consumption of spirits was not diminished.

Pharmacologist.—A return to the House of Commons, showing whether the guardians of provincial unions supplied cod-liver oil, quinine, and other expensive medicines, was a short time ago issued. Dr. Lush's return gives details for every union outside the metropolitan area, from which it appears that the majority of the unions do, in some form or other, provide costly medicines. Among 121 unions in widely different parts of the country, and of extensively different industrial circumstances, about one-sixth do not supply costly medicines. The medical officer, as part of his contract, affords that aid to the sick.

C. C.—The rank of Presidency Surgeon was conferred on Dr. Esdaile, a surgeon in Calcutta, by Lord Dalhousie—then Governor-General of India—"in acknowledgment of the services he had rendered to humanity." Dr. Esdaile performed numerous severe and tedious operations, without the infliction of pain, upon natives in whom he had induced the mesmeric sleep.

M. T. M.—Yes; the Cape of Good Hope University resolved to throw open, without reserve, degrees, honours, and pecuniary emoluments at their disposal, to candidates who desire to be examined in places beyond the bounds of the Cape Colony, upon the condition that the Government of the Colony or the State where such candidates reside contributed £200 annually to the funds of the University.

MEDICAL ADMINISTRATIVE POLITY, ET ALIA.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—I venture to put on paper some comments of the proceedings of the Medical Council which I have read in the *Medical Times and Gazette*, trusting to the *bonhommie* of the redaction (editorial body) for their insertion in the same journal.

What I want to make very clear is the incommensurable superiority of the Brazilian curriculum over the modest projects and requirements of the English Council. No one can matriculate in Brazil in the Faculties of Medicine without previous approval in separate examinations on the following subjects:—Portuguese, French, English, Latin, arithmetic and algebra, rhetoric, philosophy, history, and geography. After matriculation the student must follow a six years' course of academic study, being submitted to an annual examination; and when he fails in this he must repeat the year. At the end of the six years he must pass the examination of the year, and then a clinical examination, and finally must defend a printed thesis, and explain a certain number of aphorisms of Hippocrates; after which (and generally in the Rio de Janeiro Faculty in presence of the Emperor) he receives the doctor's gown, bands, cap, and and ring. This is the only medical qualification at present existing; but a want is felt of a second (less highly educated) class of practitioners, more apt to deal with the middle and lower classes, which are making their appearance in the Brazilian social organisation, the present physician class being the most convenient for the necessities of the landed proprietors and their slaves. Notwithstanding these rigorous exigencies as regards the home supply, the Brazilian Government admits to a pass examination and sustation of thesis all foreign medical and surgical qualified professionals, having only excluded bearers of Philadelphia diplomas. The majority of these foreign licentiates are decidedly inferior in illustration to the native physicians.

The Faculties have a *personnel* of a director, vice-director, secretary, eighteen *professores cathedratici*, and fifteen substitutes. The course of the first year comprises physics, chemistry and mineralogy, and descriptive anatomy; of the second, botany and zoology, organic chemistry, physiology, and descriptive anatomy; of the third, physiology, general and pathological anatomy, and general pathology; of the fourth, surgery, medicine, and obstetrics; of the fifth, medicine, regional anatomy, operative surgery, materia medica and therapeutics; of the sixth, hygiene and history of medicine, legal medicine, and pharmacy. Clinical surgery occupies the third and fourth years' students; clinical medicine those of the fifth and sixth years. The course is very complete, but I think it defective in not placing pharmacy in the third year, in not placing pathological anatomy in the sixth year, general pathology in the fourth, and in not separating materia medica from therapeutics. I trust that the present exposition may induce the Medical Council to make official inquiries, and, verifying its exactness, to place the Brazilian Faculties of Bahia and Rio de Janeiro on the same footing as to registration of qualification as that which must be accorded to the graduates of Paris, Montpelier, Vienna, Madrid, etc. It is not a little humiliating to compare English and even the Edinburgh curricula with this of the Brazils.

I regret the singular persistence of the Council and the concurrence of the University of Edinburgh and others in the (to me) incomprehensible violence of the forcible uniting of the professions of physician and surgeon. Both will lose by the innovation, which is opposed to the best traditions of medicine. This Conjoint Scheme I hold to be a pernicious levelling scheme, which will demoralise the corporations and the universities. It is a bad unitarian centralising idea, which will yield bitter fruits. I trust that Ireland and Scotland may, in the legitimate exercise of the little autonomy left them, reject any such project. The profession of pharmacy is here organised with a due regard to the public safety. Every pharmaceutist must have passed three years of practical service in a pharmacy, and afterwards a three years' course of lectures, with yearly examinations. The scholastic year in Brazil in all the Faculties and schools is of nine months' duration. The examinations are all public. The pass examinations of foreign medical men may be held in French, Latin, or Portuguese. The Physician of the Imperial Princess (actual Regent) is a viscount. A most distinguished physician of Rio is a grandee of the empire. Many physicians and eminent surgeons are barons. A distinguished physician of the province of Minas is also a viscount. These titles are not, however, hereditary. Brazil still offers a fair field for young physicians and surgeons of high attainments. What is indispensable is facility in acquiring languages. It is much to be regretted that some therapeutical society in Europe does not take measures to obtain from Brazil a collection of articles of the materia medica of the country, which is most rich in invaluable agents for encountering disease. The old Galenists would have turned the facilities of modern commerce to much better account. A neutral substance called Vixirino, from the name of a physician (Dr. Vixira), who was the chief instrument of popularising its properties, has been extracted from the Cinchona ferruginea, which abounds in the province of Minas Geraes and parts of San Paulo, and is proved a very effective substitute for quinine, and preferable to this when there is any gastric disturbance. I have employed it on a large scale—now as a tonic, now as an antiperiodic, now as a neurosthenic—with great success. I see that in Europe dog's milk has been preconised as an excellent remedy for rachitic children. Now, for the last two hundred years dog's milk has been used in the interior of Brazil for weakly and ill-nourished children. It is surprising what a number of fresh European discoveries are old news in the interior of this country. An interesting fact is the successful employment of the flesh of the rattlesnake as broth, and also stewed, in inveterate syphilis, and even in cases which have all the characters of cancer.

Some time ago I saw a dispute in the medical journals of London as to the reality of the existence of centenarians. Those who doubt the fact receive a weekly contradiction (even a more frequent one) in Brazil. Cases of longevity of 100 years are very common; of 110 are frequent; from that age to 120 are not uncommon; and even as high as 135 occur and are well authenticated. There is a village and district near San Paulo (city) called Santo Amaro, where the longevity was formerly great, and many old people are still to be found there. It is a mountainous, cold district. The cattle and horses are diminutive but powerful, and the people, who are laborious, moral, and hardy, often attain 120 years. Very long-livers were a number of inhabitants of the Azores brought here as colonists. I knew one who died aged 114 years, and several who exceeded 100. These cases occur in Africans, in Indians, in native whites, and even (as among these Azorians) among Europeans. I am &c.,

RICHARD GUMBLETON DAUNT, M.D. Edin.

Campinas, San Paulo, Brazil, September.

OPEN SPACES.

Mr. Cross's Enclosure Bill was brought in to defend the rights of the general population in waste lands, and to preserve open spaces for the recreation of the poorer classes. The Act is generally recognised as a compromise between the owners of the lands and those who oppose their enclosure. No enclosure, as a general rule, will be allowed within a certain distance of large towns; and when enclosures are effected, facilities are given for the protection of the rights of the poor commoners, and of the inhabitants of the neighbouring towns.

A HINT.

The Japanese are said to be most skilful operators and dissectors on account of their extreme delicacy of touch. This is chiefly attributable to their training in acquiring the Chinese written character, which is an essential feature in the education of every Japanese gentleman. The beauty and intricacy of this character, it is stated, are such that years of patient labour are required to master it.

Corrigendum.—In Mr. E. Marlett Boddy's paper on Neuralgia, in our issue of the 6th inst., at page 384, line 39, *for* "any amount of *sudorifics*," *read* "any amount of *soporifics*."

COMMUNICATIONS have been received from—

Dr. R. G. Daunt, Brazil; Dr. Llewelyn Thomas, London; Dr. Carter, Liverpool; Dr. R. Lawson, Banstead; Dr. Sparks, London; Mr. G. J. Cayden, Rhyl; Mr. Metcalfe Johnson, Lancaster; Mr. J. Ingpen, London; Dr. Greenfield, London; Dr. Lawrence Hamilton, London; Dr. J. W. Moore, Dublin; Mr. J. W. Bartleet, Edgbaston; Mr. W. Sargent, Bolton; The Secretary of University College; The Secretary of the Clinical Society; Mrs. Dinah de L. Allen, London; The Librarian of the Charing-cross Hospital; Dr. Gillespie, St. Thomas's Hospital; The Secretary of the London Hospital; The Secretary of the Leeds School of Medicine; Messrs. Pagny, Wallace, and Co, London; Dr. Byrom Bramwell, Newcastle-on-Tyne; Mr. W. E. Poole, London; Mr. John Chatto, London; Mr. Timothy Holmes, London; Mr. B. R. Wheatley, London; Dr. J. Mitchell Bruce, London; Dr. Thomas Barlow, London; Mr. T. M. Stone, London.

BOOKS AND PAMPHLETS RECEIVED—

D. B. St. John Roosa, M.D., and Edward T. Ely, M.D., Ophthalmic and Otic Memoranda—T. Spencer Wells, F.R.C.S., Surgery, Past, Present, and Future; and Excessive Mortality after Surgical Operations—Dr. A. Pierret, Essai sur les Symptomes Céphaliques du Tabes Dorsalis—Chas. H. Piesse, F.C.S., Chemistry in the Brewing-room—Surgeon-Major G. J. H. Evatt, M.D., Army Medical Organisation, A Comparative Examination of the Regimental and Departmental Systems—National Portrait Gallery, part 74 - A. R. Robinson, M.B., L.R.C.P. & S. Edin., Sycosis—May Young England Smoke? A Modern Question Medically and Socially considered—Erasmas Wilson, F.R.S., Our Egyptian Obelisk, Cleopatra's Needle—S. Weir Mitchell, M.D., Nurse and Patient and Camp Cure—Arthur Ransome, M.D., The Present Position of State Medicine in England—James Stevenson, M.D., Report on the Fever Carriages of the Metropolis, and on the Removal of Persons suffering from Infectious Diseases - Charles Henry Ralfe, M.A., M.D. Cantab., An Inquiry into the General Pathology of Scurvy.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times — Iron — Cincinnati Clinic—Westminster Review—Dublin Journal of Medical Science—Journal of Psychological Medicine and Mental Pathology - Indian Medical Gazette—Révue des Sciences Médicales—Saint Louis Clinical Record—New York Medical Journal—Students' Journal and Hospital Gazette—Canada Medical and Surgical Journal - La Basse-Cour—Boston Journal of Chemistry—New Orleans Medical and Surgical Journal—Home Chronicler.

APPOINTMENTS FOR THE WEEK.

October 20. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

22. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Medical Society of London, 8½ p.m. Mr. J. Knowsley Thornton, "Removal of Fibroid Uterus and both Ovaries." Dr. C. Theodore Williams, "A Case of Persistent Pyrexia, during Phthisis, reduced by Diet." Dr. R. J. Lee, "Maternal Impressions."

23. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Royal Medical and Chirurgical Society, 8½ p.m. Dr. William Miller Ord, "On the Œdema (Myxœdema) observed in the so-called Cretinoid Condition of Women."

24. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex. 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

25. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

26. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.; Guy's, 1½ p.m.

Clinical Society, 8½ p.m. Dr. Henry Thompson, "A Case of Hysteria, with Contraction of the Lower Limbs, Anæsthesia, and Ischæmia, in a Boy." Mr. Lawson (for Dr. Aikman), "A Case of Injury to the Lower Portion of the Spinal Cord, followed by Wasting and Contraction of the Muscles of the Lower Extremities." Mr. Bellamy, "A Case of Unusually Large Urethral Calculus." Dr. Dowse, "A Case of Cerebro-Spinal Lateral Sclerosis."

Quekett Microscopical Club, 8 p.m. Dr. James Edmunds, "On the Immersion Paraboloid."

VITAL STATISTICS OF LONDON.

Week ending Saturday, October 13, 1877.

BIRTHS.

Births of Boys, 1188; Girls, 1204; Total, 2392.
Average of 10 corresponding years 1867-76, 2213·1.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	658	663	1321
Average of the ten years 1867-76	670·2	647·3	1317·5
Average corrected to increased population ...	...	...	1410
Deaths of people aged 80 and upwards ...	...	...	46

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	2	7	8	1	...	...	3	1	8
North... ...	751729	6	7	14	2	2	...	5	2	9
Central ...	334369	...	4	8	1	1	...	3	...	3
East	639111	1	7	13	...	3	1	3	1	16
South	967692	5	8	7	7	4	2	7	1	12
Total	3254260	14	33	50	11	10	3	21	5	48

METEOROLOGY.

From Observations at the Greenwich Observatory

Mean height of barometer	29·937 in.
Mean temperature	48·1°
Highest point of thermometer	61·4°
Lowest point of thermometer	33·8°
Mean dew-point temperature	41·3°
General direction of wind	N.W. & S.W.
Whole amount of rain in the week...	0·33 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, October 13, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Oct. 13.	Deaths Registered during the week ending Oct. 13.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533184	46·9	2392	1321	61·4	33·8	48·1	8·95	0·33	0·8
Brighton	102264	43·4	63	36	60·6	38·0	49·1	9·50	0·10	0·2
Portsmouth ...	127144	28·3	60	37	60·3	39·5	50·6	10·34	0·19	0·4
Norwich	84023	11·2	60	27	62·0	40·5	48·5	9·17	0·46	1·1
Plymouth	72911	52·3	60	19	59·5	38·5	49·6	9·78	0·10	0·2
Bristol	202950	45·6	149	86	59·8	32·9	46·7	8·17	0·14	0·3
Wolverhampton ...	73389	21·6	43	27	56·5	31·7	44·8	7·12	0·23	0·5
Birmingham ...	377436	44·9	284	167	...	...	...	...	...	...
Leicester	117461	36·7	99	51	62·2	35·5	47·2	8·44	0·16	0·4
Nottingham ...	95025	47·6	83	43	60·6	32·1	45·9	7·67	0·16	0·4
Liverpool	527083	101·2	409	268	...	...	...	...	...	...
Manchester ...	359213	83·7	253	181	...	...	...	...	...	...
Salford	141184	27·3	149	81	64·5	33·0	47·3	8·50	0·93	2·3
Oldham	89796	19·2	64	34	...	...	...	...	...	...
Bradford	179315	24·8	118	65	58·6	41·4	47·8	8·78	0·84	2·1
Leeds	298189	13·8	202	109	60·0	41·0	48·5	9·17	0·63	1·6
Sheffield	282130	14·4	185	102	65·0	37·5	48·1	8·95	0·72	1·8
Hull	240002	38·5	117	64	...	...	...	...	...	...
Sunderland ...	110382	33·4	87	38	62·0	40·0	49·6	9·78	0·40	1·0
Newcastle-on-Tyne	142231	26·5	120	61	...	...	...	...	...	...
Edinburgh	218729	52·2	134	78	60·6	34·0	47·1	8·39	0·64	1·6
Glasgow	555933	92·1	379	235	...	...	...	...	...	...
Dublin	314666	31·3	149	136	66·7	37·1	51·8	11·01	0·25	0·6
Total of 23 Towns in United Kingdm	8144940	38·3	5659	3276	66·7	31·7	48·2	9·00	0·39	0·9

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·94 in. The highest reading was 30·45 in. at the beginning of the week, and the lowest 29·69 in. on Saturday morning.

* The figures for the English and Scottish towns are the number enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

A CLINICAL LECTURE

ON DISLOCATION OF THE HIP INTO THE OBTURATOR FORAMEN.

By TIMOTHY HOLMES, M.A., F.R.C.S. Eng.,
Surgeon to, and Lecturer on Surgery at, St. George's Hospital.

GENTLEMEN,—The subject of our lecture to-day is a case of dislocation of the hip into the obturator foramen. I will first read the notes of the case. The patient was a young man, tall and very muscular, who was thrown from a carriage in Piccadilly on June 7, and brought at once to the Hospital, presenting the symptoms of dislocation of the hip into the thyroid foramen well marked. He was in great pain, but too much distressed and agitated to be able to describe exactly the seat and nature of that pain. The injured (right) limb looked much longer than the other, but accurate and repeated measurement, taken from the spine of the ilium to fixed points in the limb, on the two sides, showed that this was due entirely to twisting of the pelvis. Below the outer side of the buttock was a deep pit, at the bottom of which the trochanter was to be felt. The limb was abducted and everted to a moderate degree. On its inner side was a tense band, evidently formed by the adductor muscles (chiefly the adductor longus), to which region the pain and tenderness were chiefly referred. The head of the bone was not perceptible. He remembered that in his fall this leg was pointed outwards.

Chloroform was administered, and when the muscles were completely relaxed, attempts were made to reduce the dislocation by the method of flexion and inward rotation figured in Bigelow's work. The head of the bone did not, however, enter the acetabulum, though the position of the trochanter approached much more nearly to the normal. I then stood over the patient, and placed my foot on the horizontal ramus of the pubes, while the bystanders held the pelvis firm. The dislocation was then easily reduced by direct traction of the flexed thigh vertically upwards, along with slight to-and-fro or "wagging" movements, the head entering the acetabulum with a very perceptible snap.

A long splint was put on, and he was kept in bed for about twelve days. Beyond a little swelling and some tenderness of the part for a few days, there were no after-symptoms.

Dislocations of hip are rarely seen in hospital, especially at the present day, when the introduction of chloroform has rendered them easily reducible, so that it is less necessary to send them from their own homes. The great difference in the treatment of these injuries in old and recent times depends on the use of anæsthetics more than on any change in the theory of reduction. In these, as in all other dislocations, many methods of reduction will succeed, if only the head of the bone can be freely moved, for when it is once moved from its new position it will be pulled into its proper place by the elastic recoil of the muscles, which are mechanically on the stretch. This is still more the case when the patient is under anæsthesia, for then the recoil of these muscles is not opposed by any forcible or irregular action of their antagonists. Thus we see that many different methods of manipulation will succeed in reducing similar dislocations, even though some of the movements may be the very reverse of each other.

The most important change in surgical teaching on the pathology of dislocations is that the chief obstacle to reduction is now thought to reside, not in the muscles, but in the ligaments. We owe this change, no doubt, chiefly to the treatise of Bigelow, though there is nothing absolutely novel in his teaching—in fact, he himself is careful to observe that a portion of it is as old as Hippocrates. And those who have read the thoughtful and laborious treatise of Fabbri will be aware that he also showed that the obstacle to reduction in dislocations of the hip was not always or usually to be found in the muscles, though he attributes it to a different part of the ligamentous apparatus from that on which Bigelow has laid so much stress.

Still, no one is more conscious of the value of Bigelow's work than I am. If I dissent from any of his statements it is only in matters of less importance. The great cardinal fact which he has pointed out is, I think, indisputable; and it is, as he says, at the root of all successful treatment of this injury—viz., that the untorn portion of the capsule is the chief agent in fixing the head of the bone in its unnatural position, and that therefore this ligamentous band forms the chief agent in opposing the surgeon's efforts to replace the bone, especially when those efforts are not judiciously directed.

Now, much information on this subject may be obtained, as Fabbri has pointed out, by producing these dislocations in the dead subject; and he has given directions which are tolerably easy to follow for doing this. I have here specimens of each of the common forms of dislocation which I produced on the dead body in the post-mortem room some years since. All such manipulations require great force, and they may be, and very probably are, accompanied by more laceration of the articular capsule than takes place in accidents. However this may be, you will always find that in producing a dislocation of the hip on the dead body you tear away from the bone almost the whole capsule—except that very strong accessory part of it which is called by Bigelow the Y-ligament (but which is more accurately described in our books by the simple name of ilio-femoral), and a variable portion of the common capsular ligament near it. You will see that this is the case by inspecting these specimens.

The dislocation into the foramen ovale, which is the subject of these remarks, is usually produced in the living body (as it was in our patient) by a fall on the abducted limb. In the fall the foot gets fixed against the ground, and the falling weight of the body rotates the thigh so as to drive the head of the bone through the capsule inwards and backwards.

These movements are thus imitated in Fabbri's manipulation. He directs that the limb to be dislocated is first to be forcibly abducted till the capsule is heard to crack, and the head of the femur can be felt passing out of the joint on the inside of the thigh; then the knee is to be bent to a right angle, and the manipulator is to take the foot in one hand and the knee in the other, rotating the foot violently upwards and outwards, and the knee downwards and inwards, till a further cracking of the ligaments is felt, which Fabbri attributes to the tearing of the ligamentum teres; and now the head of the bone can be felt through the skin covering the tuber ischii. Finally, by extending the limb and turning the knee a little outwards, the head of the femur will be guided round the cotyloid cavity to the foramen ovale. This will be sufficient to indicate the method of production of the dislocation.

As for the anatomy, there can be no question that the internal portion of the capsule must be freely torn, and the ligamentum teres broken away. It seems probable, also, that the pectineus and some fibres of the adductor brevis, and possibly also the longus, are lacerated, and that the obturator nerve is put on the stretch and may also be lacerated. But it must be confessed that we have no accurate knowledge of the extent of the laceration in these cases, recent dissections of the accidental dislocation being, as far as I know, wanting.

The *symptoms* are always well marked. One of the main symptoms of all dislocations of the hip is the change in outline of the trochanteric region of the buttock. In the dislocations backwards and upwards (those which are classed in Sir Astley Cooper's nomenclature as "on the dorsum" and "into the sciatic notch") the trochanter is displaced outwards, and the buttock is broader, as is shown in Sir Astley Cooper's well-known pictures. In the forward or inward dislocations, on the contrary (those into the obturator foramen, and on to the pubes), the trochanter is displaced inwards, and the width of the buttock diminished. This symptom was strikingly marked in our patient, and is well shown in a sketch of him taken by Mr. Branson, one of my dressers. This alteration in the position of the trochanter forms one of the most prominent symptoms of the obturator dislocation, and I thought it well to bring it distinctly under your notice, since an unfortunate ambiguity in Sir Astley Cooper's language, which has been followed by later authors, has obscured this easy diagnostic point. In describing the dislocation on the dorsum, he says—"The trochanter is less prominent than that on the opposite side, for the neck of the bone and the trochanter are resting on the line of the surface of the dorsum ilii; on a comparison of the two hips the roundness of the dislocated side will be found to have disappeared." This description seems to me to be very obscure; but the plate which Sir Astley Cooper gives, and which has been copied by every author who has followed him, shows accurately what he means, and what may always be verified in this inquiry—viz., that the buttock is broader, but flatter, and the trochanter unnaturally near the spine of the ilium, whilst in the two anterior dislocations the trochanter is driven downwards, and lies at the bottom of a deep pit, being in the immediate neighbourhood of the acetabulum.

Another leading symptom is the length of the limb. In

many specimens of obturator dislocation this length may be absolutely increased, and sometimes very much so. Fabbri says that by accurate measurement he has been able to detect from one to two inches of lengthening, referring—I presume, to dislocations produced on the dead body. But this will vary with the precise position of the head of the bone. The nearer the head of the bone lies to the horizontal ramus of the pubes—*i.e.*, the further forward in the thyroid foramen it lies,—and the more nearly the dislocation approaches to the pubic, the less will be the lengthening, and the more at the same time will the limb be abducted and everted, as it is in that form of dislocation. In our patient, though the limb at first looked very much longer than the other, accurate measurement proved that this was not the case, but that the apparent lengthening depended on a twisting of the pelvis, no doubt instinctively adopted with the view of relaxing, as far as might be, the stretched muscles on the inner side of the thigh, as well as the psoas and iliacus. I think it highly probable that in many of the cases in which the limb has been said to be "lengthened," the lengthening, on accurate measurement, would have turned out to be apparent only, as in this instance.

Another striking symptom of the obturator dislocation, which is not much dwelt on, is the tense condition of the parts at the inner side of the thigh. This is not noticed by English authors, and has been only slightly alluded to by Fabbri, who describes it as "a tense cord parallel to the axis of the thigh, beginning at the spine of the pubes, widening as it descends, and disappearing in the middle third of the thigh." It is formed clearly enough by the adductor muscles (and chiefly the adductor longus), stretched and irritated by the displaced head.

Finally, I may mention the acute pain of which this patient complained. He could not describe it very accurately, but it was probably due to interference with the obturator nerve, and possibly the anterior crural also.

Having said so much about the symptoms, we now come to the method of reduction. Now I must repeat what I said before—that (under chloroform, at any rate) many different methods will succeed. The one before us is the only case of obturator dislocation in which I have had the opportunity of seeing the manipulation method tried, and those who were present saw how easily I succeeded in replacing the bone by my own unaided force. But I have seen the perfectly different method of Sir A. Cooper succeed without much difficulty more than once. Still, there can be no doubt that less violence is required, and therefore less risk of injury incurred, when the reduction is managed with reference to the real obstacles—*i.e.*, when the limb is placed in the position which will most relax the parts that are on the sketch before the surgeon commences his traction on the limb with a view to pull the head of the bone into the acetabulum.

No one who has produced, and afterwards dissected, artificial dislocations of the hip on the dead subject, can, I think, resist Bigelow's conclusion, that in the backward dislocations the main agent which fixes the thigh in its inverted position, and which swings it up as it were to the ilium, and limits the shortening of the limb, is the untorn portion of the capsule (that which he describes as the outer branch of the Y-ligament), the very thick part of the capsule attached to the trochanter major. And, similarly, the position of the limb in the obturator dislocation is maintained chiefly by the portion of the capsule attached around the lesser trochanter (the inner branch of Bigelow's Y-ligament); and it is to the relaxation of this same ligament that the surgeon's first efforts are to be directed. In other words, flexion of the limb is at the root of easy success in the reduction of all dislocations of the hip; and this practical fact seems to have been known to Hippocrates, and to have formed the basis of his practice in this injury.

Fabbri's explanation of the difficulties of reduction is not so clear as Bigelow's, but is possibly less artificial, less diagrammatic, if I may so express myself. For we must remember that the independence which Bigelow has given to the Y-ligament does not exist in nature. There is no definite ligament with two branches till the dissector has cut away the intervening part of the capsule. Fabbri, however, prescribes almost exactly the same method of reduction as Bigelow afterwards described and figured; and, as Fabbri's treatise is less known in this country than its merit entitles it to be, I will, in justice to an author who wrote long before the publication of Bigelow's work, transcribe what he says about the state of the capsule and the method of reduction:—

"The laceration of the capsular ligament," says Fabbri, "is variable. Sometimes the capsule is torn from all the inner half of the lip of the acetabulum; and in such cases the zone of Weber(a) embraces the neck of the bone, and the thigh is strongly flexed on the pelvis. In other instances the capsule is torn longitudinally between the inner margin of the triangular ligament (the ilio-femoral) and the zone. In such cases the latter has no longer anything to do with the dislocated limb, and the thigh is less bent. The aperture in the articular cavity is closed immediately by the portion of the capsule which has been left intact; and this is stretched from the outer to the inner side, and from above downwards, by the traction of the dislocated bone into which it is inserted."

You will observe that this description, though much less clear, is substantially identical with Bigelow's.

The coincidence between these authors is still more plainly marked when we come to the method of reduction, which Fabbri thus describes—

"First flex the thigh, then let it be held in this flexed position, and let the knee be carried from without inwards; this movement being arrested at the point where the limb, looked at from the front, is seen to be parallel to the median line.

"This manipulation has brought the head of the bone from the foramen ovale to a situation just inferior to the articular cavity; nothing now remains but to make it surmount the lower lip of the acetabulum.

"The button-hole in this ligament, and the psoas and iliacus muscles, are relaxed by the bent position of the thigh.

"Now let the surgeon slip his forearm under the popliteal space, and seize the thigh in the other hand at its back and upper part; then let him drag the knee towards him, and at the same time make a lever of the thigh by turning the knee downwards and raising the upper part of the thigh. In this manipulation the head will re-enter the cavity."

It is obvious that this manipulation differs only in non-essentials from Bigelow's method of reduction by flexion and internal rotation.

It is almost superfluous to add that in saying this I am as far as possible from attributing any plagiarism to Bigelow, who shows the most scrupulous care not to claim any originality not justly due to him, and to refer to the previous authors on the subject. Fabbri's pamphlet has never been translated, as far as I am aware, out of the *Transactions of the Medico-Chirurgical Society of Bologna*, where it first appeared, and had doubtless never fallen under Bigelow's notice. The coincidence between them gives a support to their doctrines, which indeed is now hardly needed, so amply has experience shown their truth.

Still, however successful the method by flexion and circumduction may be, it does not always succeed, in consequence probably of the projection of the lip of the acetabulum being too great for the head of the bone to pass over without more powerful assistance, or possibly in consequence of some torn portion of the capsule (such as Fabbri's zone of Weber) getting in between the bones. In such cases—in fact, in all forms of dislocation—the direct method of traction, which is used with such success in dislocation of the shoulder, will probably be successful; and it was in this manner that I reduced the dislocation in the case before us.

The patient may remain on his bed if the bedstead is perfectly strong and firm, but otherwise had better be laid on the floor. Flexion and internal circumduction having been sufficiently tried, will have considerably changed the position of the trochanter, and have placed the head of the bone, according to Fabbri's description, near the lower edge of the acetabulum. Then let the surgeon stand over his patient's body (which is of course held perfectly steady by the bystanders), and, placing his foot firmly on the horizontal ramus of the pubes, hooking one hand or arm under the flexed knee, and manipulating the thigh with the other, draw the head of the bone directly into the joint, giving it a little "wagging," or to-and-fro movement, so as to disengage it from any accidental obstructions, and lift it over any projecting ridges of bone or fascia.

If all this and other kinds of manipulation fail, the powerful force which Sir Astley Cooper's method sets in motion may be employed to drag the head of the bone directly into the cavity.

THE ELASTIC LIGATURE IN OVARIOTOMY.—Dr. Kleberg, "opérateur" in the Odessa Hospital, furnishes brief notes of three ovariotomies and three extirpations of the uterus in which he employed the elastic ligature instead of the clamp.—*St. Petersburg Med. Woch.*, October 6.

(a) The deeper part of the capsule, inserted like a ring round the neck of the femur.

ORIGINAL COMMUNICATIONS.

THE STRUCTURE AND FUNCTIONS OF THE NERVOUS SYSTEM.

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Before entering on the consideration of the nervous system, I may be permitted to make a few remarks by way of introduction on the fundamental properties of living matter. Every kind of living matter is found to be a complex combination of carbon, hydrogen, oxygen, and nitrogen, and some other secondary, but still essential, constituents. The peculiarities of the substance of living bodies, therefore, do not depend on the existence of a new kind of matter, but on new combinations or collocations of constituents with which we are familiar in their separate states, and in their simpler combinations.

But a great many persons cannot bring themselves to believe that the forces which produce the form and actions of living beings are the same as those which are operative in the organic world. Everyone must admit that certain kinds of living action, such as the motions of the limbs by muscular contraction, are subject to mechanical laws; but some think that the more recondite processes, such as the muscular contraction itself, are under the control of a higher principle. An attempt has been made in all ages to formulate this conception. Aristotle assumed the existence of a vegetative soul to account for living processes and actions. Van Helmont called the principle of life "Archæus," and Stahl called it "Anima"; while in modern times these ideas have been superseded by the conception of a "vital force," which is in no way related to the physical forces.

But science, especially in its objective aspect, cannot recognise the dualism which would ascribe some living actions to mechanical forces, and reserve others for the supervision of another force which is in no way related to the former. No living action or process has ever been, or can ever be, rescued from the unknown to the known except by the application to it of the laws of inorganic nature. Life does not introduce us to a new order of force, but to new combinations or collocations of the forces which have already been more or less made familiar to us in the study of the physical and chemical sciences. In one word, the great law of the conservation of energy is as applicable to the objective study of living beings as to any part of the universe within the reach of our observation.

The principle of conservation of energy asserts that force can neither be created nor annihilated, and that the quantity in the universe is as unalterable as the quantity of matter. The different forms of force may be transmuted into one another; but nothing is lost in the transfer. Mechanical force may pass into heat; but by suitable arrangements the heat might be reconverted into the original amount of mechanical momentum.

This is not the place to enter on an exposition of the doctrine of the conservation of energy, but I may be allowed to remind the reader that the various forms of force are on ultimate analysis reducible to two kinds—namely, attraction and repulsion. When two bodies which mutually attract each other are separated by a space, the system possesses energy, or a power of performing work. If they are prevented by an external force from obeying their attractions by moving towards one another, the energy of the system is potential; and when all hindrances to their movement towards one another are removed, the energy becomes actual, dynamic, or kinetic. In the case of bodies which have a mutual repulsion for each other, they must first be pressed towards one another by some external force before the system possess energy; and so long as this external force prevents the two repelling bodies from moving away from one another, the energy is potential; and when all hindrances to the free action of their mutual repulsions are removed, the energy becomes kinetic. The force which removes all the obstacles to the motion of attracting bodies towards each other, or of repelling bodies away from one another, and which thus converts the potential into kinetic energy, is called the liberating or discharging force. Two other terms are employed in describing the transformations of energy, which it is well to remember. When two bodies are so related to one another that a small liberating force renders kinetic their potential energy, then the system is said to be in a position of "unstable equilibrium"; and when the system either possesses no potential energy, or when a relatively large liberating force must be applied before its potential energy can be rendered kinetic, it is said to be in a position of "stable equilibrium." As a familiar instance of unstable equilibrium, I may take a thin book from my table, and place it on end on the floor. A slight touch at the free end of the book will cause its centre of gravity to project beyond its base, and the earth and book will then rush towards one another—the slight touch has converted the potential into kinetic energy. Now, however, when the book rests on its side, a relatively large amount of external force would require to be applied to it before it would give out any actual energy; the earth and book are in a position of stable equilibrium with relation to one another.

Let us now proceed to the consideration of the fundamental properties of living matter. The most casual observation must convince anyone that organisms are not an aggregate of materials heaped up in any fashion; but that, however diverse may be their forms, they are constructed in an orderly manner. Now, suppose that an intelligent inhabitant of Central Africa, on visiting this country, had been struck with the utility of brick buildings, and had wished to acquire a knowledge of their construction, what would be the best means of imparting the desired information? We should show him that the house is mainly composed of walls; that each wall, and each part of a wall, is made up of bricks. Having shown that the unit of composition, or, in other words, the structural unit of the house, is a single brick, we should then direct him to make a special study of the mode of formation and properties of the brick; and after he had mastered the details of brick-making, he could then be shown how brick is united to brick to form a wall, and so on, until he was taught how a house is built. In short, in order usefully to study such a simple construction as a brick house, there must first be either a real or ideal breaking down of the building into its constituents, and then either a real or ideal putting together of the constituents to form the building. Analysis and synthesis must go together, but the former ought to precede the latter.

If we subject organisms, in the first place, to ideal analysis, we shall find that each is composed of certain mechanisms or organs; and that each organ is composed of certain definite arrangements of tissues; and, finally, that each tissue is composed of structural units, which, for the sake of the illustration, we may call "organic bricks." To make a real analysis of a living organism is a much more difficult matter than to make a similar analysis of a brick building, since the living properties of the structural unit which we wish to study generally escape us in the act of making the analysis. But even in the higher organisms there are some units—such as the white blood-corpuscles—which can be kept alive for some time after detachment from the parent organism, and in which the fundamental properties of the structural unit can be usefully studied. We generally, however, avail ourselves of the analysis which nature has made ready to our hands. It is not possible to build a house with a single clay brick; but it is possible for a single organic brick to constitute a complete living individul. The lowest living organisms—if indeed they are entitled to be called organisms, since they do not possess real organisation—are mere specks of albuminoid matter, the protoplasm of biologists, and correspond to the structural units of the higher organisms. It is by the study of these lowly organisms that we must expect to ascertain the primordial properties of living matter.

Amongst these first organisms, probably the best adapted for the study of the fundamental properties of life are the amœbæ, both on account of their simplicity, and their similarity to the white corpuscles of vertebrate blood. There are several kinds of these, but all of them may be arranged under three leading orders:—

1. Organisms consisting of a simple speck of protoplasm, such as the *Protamœba primitiva* found by Hæckel in fresh water.

2. Organisms more or less similar to the former, but possessing a distinct nucleus.

3. Similar organisms, exhibiting, along with the granular protoplasmic interior or endosarc, a more solid external layer or ectosarc. The external layer, instead of being a membrane, is sometimes represented by a shell; but the former, owing to its similarity to the membrane surrounding the cells which form the tissue of the higher organisms, is of the most importance to us.

This classification shows that the protoplasm is the fundamental substance, without which no organism can exist, and that the other constituents found in the unit are mere specialisations of this fundamental substance. A knowledge of the primary properties of life will, therefore, be best gained by the study of the first order of unit.

1. If one of these lowly organisms be watched, it is seen to throw out processes of its substance, and then to retract them—changes which are accompanied by a flux and reflux of its granular substance,—and it is able by this means to perform a certain amount of locomotion. The amœba is "contractile."

Amœboid movements occur under two conditions. In the first place, contact with foreign bodies, and chemical and electrical agents, call forth these movements. These disturbing causes act as liberating forces in rendering kinetic the energy potential in the protoplasm; and, as usual in such cases, the energy set free is out of all proportion to the cause which determined the transformation. A disturbing force, which determines an explosion of energy in living matter, is called a "stimulus." In the amœba, the application of a stimulus leads to movement, but in some cases the energy set free by the explosion takes on the form, not of contraction, but of heat. We want, therefore, a generic term to express the fact that when living matter is acted on by a stimulus it suffers an explosion of energy, whatever be the form the energy may assume. The term employed for this purpose is "irritability," and a tissue which responds to a stimulus by an expenditure of energy is said to be "irritable." Irritability, therefore, is the genus, of which contractility is the most important species; the former is, but the latter is not, co-extensive with life.

But in the second place, the movements of the amœba cannot always be referred to the action of external stimuli; the energy is frequently set free in consequence of internal changes, and the movements are then called "spontaneous" or "automatic." It may therefore be said that protoplasm is irritable and automatic.

We have already seen that when there is an explosion of energy, matter has fallen from a relatively unstable to a relatively stable position, in which it possesses a comparatively small amount of energy or none. And if no counterbalancing actions were proceeding, the store of energy in the substance of the amœba would soon be exhausted; and, indeed, this store may be exhausted at one stroke by the application of a powerful stimulus. This action may be very readily watched with an organism closely allied to the amœba—the *Protococcus pluvialis*. While watching its movements under the microscope, if a drop of dilute alcohol or a weak solution of quinine or strychnine be placed at the edge of the cover-glass, when the chemical agent makes its way to the organism its ordinary movements give place to one or two violent contractions, which are followed by quiescence. In this condition no further stimulation will evoke movements; the protoplasm has lost its irritability. There was one violent explosion of energy, ending in complete expenditure of the stock. In this case the expenditure of the stock is followed by permanent loss of irritability, or death, probably because the chemical stimulus continues to act upon it; but when the action of the stimulus is temporary, as with an electric stimulus, the loss of irritability induced may be followed by gradual restoration. But whether the loss of irritability be temporary or permanent, when caused by the sudden application of a violent stimulus, the condition is called "shock." The loss of irritability may also be caused by the prolonged application of a moderate stimulus, if the conditions necessary to the acquirement of a new stock are prevented; and under these circumstances the state is called "exhaustion."

2. The allusion just made to the absorption by the protoplasm of the amœba of a new stock of energy leads us to the consideration of a second group of fundamental properties of living matter. Certain substances serving as food are received into its body, and there manufactured into new protoplasm. The latter process is called "assimilation." The protoplasm, however, is continually undergoing chemical change (metabolism); the old protoplasm is broken up, and the products of disintegration are cast out of the body as "excretions." Some of the products, however, are probably retained within the body for a time, and used in the solution and preliminary changes of the raw food, and these are termed "secretions."

3. But all the protoplasm formed by an amœba is not immediately disintegrated; some of it is added to its substance, constituting "growth."

4. And when the amœba attains a certain size, it generally resolves itself by fission, or by other means, into two or more parts, each of which is capable of living as a new individual, which passes through phases of life similar to the parent from which it is derived. This process, then, represents the first beginnings of two great living functions—reproduction and inheritance. So far we have spoken of the protoplasm as being the fundamental agent which exhibited all the properties of life, and there can be little doubt that this substance exhibits the great functions at present under consideration. When, however, the protoplasm becomes so far differentiated as to possess a nucleus, the latter constituent appears to preside in a peculiar manner over the functions of reproduction and inheritance. In the second order of amœbæ the nucleus is seen to divide into two or more parts prior to the fission of the protoplasm. When these units, instead of parting company and each leading a separate life of its own, aggregate together so as to form a compound organism or a compound tissue, this process of fission subserves the great function of growth, since the organism or tissue grows not so much by increase in the size, as by a multiplication in the number of units.

5. Two of the constituents of the unit have been passed in review. The nucleus being of denser consistence than the protoplasm, and presiding, as we have supposed it to do, over the great functions of reproduction and inheritance, will tend to make the offspring like the parents. The protoplasm, on the other hand, being of a semi-fluid consistence, and adapting itself, as it does, to different circumstances by changes of form, will tend to introduce variety, as well as to make the individual vary at different periods of its life, and to make the progeny unlike the parents. But this power of adaptation, although very varied in degree, is only of one kind—namely, contractious of the substance; and the fact that a stimulus produces a contraction at one time, does not enable the protoplasm to respond to a similar stimulus better a second time. So far there is no principle of improvement or progress. Under these circumstances we turn to the third constituent of the unit, namely, the cell membrane. The membrane in the first instance limits to a large extent the degrees of adaptation of the protoplasm. Being of denser consistence, it will offer greater passive resistance to external forces, and the flow of nourishment towards the interior will be retarded, so that the amount of irritable matter at the disposal of the organism will be diminished. The powers of the organism, then, are so far greatly limited by the membrane. But if the membrane diminishes the degrees it increases the kinds of adaptation. The increased density of the ectosarc enables it to offer a certain degree of passive resistance to external forces, and the endosarc is therefore more free to expend its energies in internal action. And although the membrane is not an active agent in producing adaptations, it tends to fix and perpetuate those adaptations which are frequently repeated, and in the compound organisms makes possible progressive improvement through successive modifications.

6. Besides the protoplasm and nucleus, other substances are found enclosed in the cell-membrane, technically called cell-contents. Sometimes the cell-contents are fluid, and then generally belong to the secretions or excretions already mentioned. Generally, however, they are solid, such as inorganic crystals, organic concretions like starch corpuscles, fat granules, chlorophyl, hæmoglobin, and various pigmentary granules. Some of these, like starch and fat, are stores of potential energy; chlorophyl and hæmoglobin appear to be subservient to the respiratory function, while the accumulation of pigment has obscure relations to other special functions.

The two most fundamental processes of life, then, are assimilation, or the process by which irritable matter is formed, and energy rendered potential; and disassimilation, or that by which the irritable matter is broken up and energy rendered kinetic. These processes underlie and render possible the other processes of life. When assimilation is in excess of disassimilation—or, in more general terms, when integration is in excess of disintegration—growth takes place; and when growth proceeds to a certain extent, a portion of the material is given away for the production of a new individual. On the other hand, the energy rendered active during the disintegration of the irritable matter is probably all applied in these lower organisms to the execution of movements, and, to some small extent, to the production of heat. All these functions, then, mutually aid each other in the preservation of the individual and of the race. Were that addition to the bulk of the organism which constitutes growth to cease, reproduction would soon become impossible, since, in the absence of the former, the process of fission, which is the essential factor of the latter, would soon diminish the size of the organism to a point incompatible with life; and that growth could not proceed far without reproduction is too manifest to require pointing out. These functions are in their turn dependent on the contractile power of the protoplasm, since without the latter property the circulation of materials which is necessary to life would cease.

But although the growth, reproduction, and motor functions of these simple organisms mutually aid each other, there are

fundamental antagonisms between them. Whenever multiplication occurs, it is clear that the parent individual must part with a certain amount of material, and that its bulk must be diminished by the bulk of the matter given away. The nutriment may be applied either to the growth of the parent or to the production of one or more new individuals; but it cannot at one and the same time be applied to both purposes. Every bit of material given away to form a new unit is a deduction from the size of the parent; and when the latter frequently parts with material for the production of progeny, its size will be diminished, or, in other words, rapid reproduction will be accompanied by small bulk of units. And again, an organism may use the nourishment it obtains in executing movements; and when movements are executed, nourishment must be transformed, just as coal must be transformed in order to put our locomotives in motion; and when it is transformed, it cannot at the same time be added to the bulk, nor devoted to the production of a new individual. A fresh supply of coal may be disposed of in several ways: it may be added to the previous stock, given away, or burnt; but it cannot at one and the same time be stocked, gifted, and burnt. And so it is with respect to the disposal of nourishment by protoplasm: it can be applied to increase the size of the organism, to its multiplication, or to the execution of movements; but so much of it as is applied in one direction cannot be applied in either of the other directions.

Once more. When the protoplasm is surrounded by a dense membrane, the flow of nourishment into it will be much retarded; and as an organism can neither expend, nor add to its bulk, nor give away what it does not receive, one surrounded by a dense membrane (or shell) can neither move actively, nor increase rapidly in size, nor multiply quickly. The membrane gives form, and fixity, and permanence, and resisting power to the protoplasm; but these properties are gained at the expense of the motor functions, growth, and production. There is, in short, a mutual antagonism between each and all of these functions, so that excess of activity in one direction means decrease of activity in the other directions.

In the construction of the higher animals, the units, instead of parting company, and each living an independent existence, aggregate together, and every new unit formed becomes incorporated with the general mass. But a simple aggregation of living units having similar properties would not confer any advantages on the organism; while the units themselves would greatly lose by the fact of their contact. One effect of the contact is that the surfaces exposed to the environment, and through which food can be absorbed, are greatly diminished, and their chances of obtaining prey when associated together are less than when each unit is free. When, therefore, we see an organism of considerable dimensions, we may be quite sure that the units, by the fact of their association, have gained advantages in certain directions, even if these are counterbalanced by losses in other directions.

In social organisms growth is rendered possible by the specialisation of function which is denominated "division of labour"; and the formation of a society of living units renders possible a similar specialisation of function which has been aptly named "a physiological division of labour." This "division of labour" does not introduce us to a new property of protoplasm, but merely to a new principle, whereby the properties with which we are already familiar may be combined in various ways. Certain groups of the constituent units become adapted for the manifestation of one or a few only of the fundamental properties of protoplasm, to the complete subordination of the other properties. This can be done with advantage to the organism only on condition that other groups of units become adapted for the manifestation of the properties which have become subordinate in the first group. In the higher organisms one group of units becomes pre-eminently contractile; a second pre-eminently irritable and automatic; other groups become respectively secretory, excretory, respiratory, and metabolic; while another group becomes specially adapted for reproduction; and a final group possesses only a passive or mechanical function.

"The physiological division of labour" has for its morphological correlative "differentiation of structure"; and the groups of units which assume special functions, correspond to the various tissues. In the formation of the tissues the cell-membrane assumes a great importance. It is evident that if the units of the tissues of a compound organism were entirely composed of the semi-fluid substance termed protoplasm, they would not have sufficient tenacity to stick together. In the formation of structure, therefore, the units must be surrounded by a membrane; and when the membranes of adjoining units become amalgamated, they are called intercellular substance. The disposition of the membrane or of the intercellular substance, and the relative amounts of the different constituents of the unit, must vary according to the function of the tissue. When the function of a tissue is of a passive nature—such as that of cartilage—a relatively large amount of intercellular substance is present; and if, in addition, the tissue requires rigidity, the intercellular substance is strengthened by the disposition of other materials, such as carbonate and phosphate of lime in bone. When, on the other hand, the tissue is actively growing, the proportion of intercellular substance to protoplasm is small, as in granulation tissue; and when the units multiply rapidly, the intercellular substance disappears, the nucleus becomes conspicuous, and the tissue breaks up into separate units, as in pus. We also meet with independent units, without membrane, in the white corpuscles of the blood, whose functions appear to be of a metabolic and therefore of an elementary character. When material is stored up in the tissue for future use, then the cell-contents come into prominence. The tissues which perform active functions, as muscle and nerve, must be composed of a due admixture of membrane and protoplasm. The transformation of the protoplasm supplies the motor force; and the disposition of the membrane gives fixity to the arrangements, and determines the direction in which the energy is expended. The burning of coal in our furnaces supplies the power which moves our factories; but the structural arrangements of engine and loom determine whether the factory shall be adapted for weaving or spinning, or for the manufacture of wool, cotton, or silk. And as the structural arrangements determine the functions of the factory, so it is with living tissues. The active tissues must therefore have a much more elaborate arrangement of the intercellular substance than the passive tissues, so that the energy given out by the transformation of their protoplasms may be directed to definite ends; and while the intercellular substance must be sufficiently dense to give fixity to the arrangements, it must not be so dense as greatly to retard the flow of nourishment from the blood to the protoplasm, otherwise the function of the tissue would be diminished as surely as a scanty supply of coal would diminish the work of the factory. It will be readily understood, from the antagonism between reproduction and active expenditure of energy, that a tissue which is performing an active function cannot have its units multiplying rapidly; and if from any cause these units begin to multiply, the capacity of the tissue for the display of function will become impaired.

In the formation of the higher organisms, the process of differentiation which ends in the formation of the tissues must be accompanied at every step by corresponding integration, whereby the tissues become united to form mechanisms or organs. Each organ is built up of a combination of tissues, and this is especially true of those organs which perform active functions. The fundamental tissue of each organ corresponds to its main function; but it is packed together to form an organ by means of a passive tissue.

Coincident with the integration of the tissues to form organs, there goes a corresponding integration of organs to form the individual. Some of these organs are devoted to the accumulation and elaboration of nourishment; others to its absorption and distribution; and others to the active expenditure of the nourishment, as in animal locomotion,—and this necessitates the formation of other arrangements for the removal of waste materials; and lastly, the integration is completed by the various tissues and organs being brought into close connexion under a central regulative organ, by means of which the various actions of the individual are duly co-ordinated.

(To be continued.)

NEURALGIA AND ITS TREATMENT.

By EVAN MARLETT BODDY, F.R.C.S., etc.

No. II.

In my last paper I drew the attention of the reader to the various so-called remedies which are advocated by many authorities in the treatment of neuralgia. I also mentioned the fact of the comparative obscurity in which the origin of this malady is enveloped, and the many different causes from which it is ascribed to originate. I endeavoured to give a plain definition, so that the diagnosis may be more easily determined, and, as a natural consequence, its successful treatment more thoroughly insured. I likewise showed the advisability of not only administering a sedative, but also

the advantages accruing from its combination with an antiperiodic, in order that the pain may be quickly relieved and its recurrence prevented. The reasons I advanced against the sole administration of a sedative were, that the pain was only momentarily arrested, and that in all probability it would return as soon as the soporific influence had passed off; and that, the pain recurring in paroxysms, soporifics would be of no permanent benefit. I also mentioned the fact that those forms of neuralgia which arise from some local lesion or derangement are not amenable to any therapeutic agent, and I designated them as spurious varieties; while I also showed that the definite form, or facial neuralgia, can be cured by the administration of a sedative combined with an antiperiodic.

Dr. Aitken says that in neuralgia "it is doubtful whether in any case medicine can be said to have cured it." He also affirms that "opiates are unquestionably serviceable in mitigating the sufferings of the patients, and perhaps in influencing the disease, but not to the extent generally supposed," and he accordingly mentions belladonna (both internally and as a plaster), stramonium, and chlorodyne; but he does not seem to have noticed that the combination of a sedative such as opium, and an antiperiodic such as arsenic, relieves the pain and prevents its recurrence, neither have any of the other authors whom I have previously mentioned—in fact, I think it has never been brought before the notice of the profession. It is clear that in those forms of spurious neuralgia no benefit would accrue from its administration, for reasons I have previously stated; and the cases I shall cite show that in what I call "definite" neuralgia it is a remedy which can be thoroughly relied on.

There is no doubt that in many females who are subject to neuralgia, some uterine derangement originates it. Therefore in these cases the subsequent treatment must be directed towards improving the general health, such as the administration of iron and quinine. It is in the male sex that we mostly meet with the definite form of neuralgia, which requires no other treatment than the administration of opium and arsenic. I have known quinine do good in some instances, but in my experience they are in the minimum compared to those cases which have been relieved by the method of treatment I am now advocating.

Mr. Erichsen, in his classical work on the "Science and Art of Surgery," affirms, after having mentioned the various modes of treatment, that "in many cases all these means are unfortunately unavailing, and the sufferer is doomed to an existence of almost constant pain, except at times when the disease appears to cease of itself, or has its intensity blunted by the administration of more powerful sedatives, such as morphia hypodermically, or veratria, aconite, or atropine externally." If these means fail, Mr. Erichsen advises division of the nerve, but at the same time says it may only afford temporary relief; but he does not mention the advantages derivable from soothing the pain and obviating its recurrence by combining opium with arsenic. The various modes of treatment which are advocated with such little benefit to the sufferer can be easily accounted for from the many conflicting opinions concerning the pathology of neuralgia, for all the authorities I have quoted do not agree either in their definitions or treatment of this malady.

Regarding the efficacy of opium and arsenic, I could cite many other cases besides those I now give, in which this remedy has invariably succeeded.

Case 1.—John S., aged fifty-five. Patient, a farmer, had been troubled with obstinate recurrent attacks of facial or definite neuralgia, and had tried various remedies, but had obtained no relief. He was in robust health, and there was nothing to be seen or felt on either the upper or lower jaw, and there were no decayed teeth. The attacks would come on violently and without any warning, and the pain was so excruciating that he said it made him "feel mad." After taking the opium and arsenic he fell into a profound sleep, and on awaking the pain had entirely left him. Now, in this case relief was almost immediately afforded, and no further treatment was necessary, for the attack no doubt depended upon "some obscure irritation of the fifth pair of nerves," and was not caused by the health being out of gear.

Case 2.—Henry H., aged forty, had been suffering, for some weeks previous to my seeing him, from the most excruciating attacks, and there were no carious teeth to account for them. As he was out of health, I treated it as a case of anæmic neuralgia. and so put him on a course of quinine and iron, which gave him no relief. At last he had such a severe attack that he was like one bereft; but the pain was immediately alleviated by the opium and arsenic, and left him, he said, "like a miracle." I now recommenced the tonic treatment and he very soon regained his ordinary health. In this case the neuralgia simply resulted from an "obscure irritation of the fifth pair of nerves," accompanied with debility.

Case 3.—Charlotte B., aged eighteen. Patient was what one would term in first-rate health, and, strange to say, had never had toothache. One evening, without any assignable cause she was attacked with the most "horrible pain" in the face—had never experienced it before. I administered the opium and arsenic, and the pain at once left her. The next day she had another attack, which immediately succumbed to the remedy.

Case 4.—Annie H., aged twenty-two. Patient had been irregular from puberty, and for the last six years had been subject to attacks of facial or definite neuralgia, and no remedy had afforded her the slightest relief. She was a well-formed girl, but was decidedly chlorotic and anæmic. The first dose relieved the pain slightly; the second entirely removed it, for she slept soundly, and there was no vestige of it on awaking. I now treated her general health by administering purgatives and tonics, such as iron and quinine. When I last saw her she had had no recurrence of the neuralgia, the catamenia were regular, and her general health had greatly improved.

These four cases, which I have selected from many others of which I have notes, are quite sufficient to show the efficacy of the combination of opium and arsenic in the treatment of this disease. Three of them are very good specimens of what I call definite neuralgia, and the last was of the same kind, though partly owing its origin to some uterine derangement. There is one very noticable fact—they all derived marked benefit from the remedy; it also quickly relieved them of an agonising pain, prevented its return, and no ill consequences resulted; and what is greatly in its favour, the opium promotes rest, which is so necessary, and the sufferer awakes up, feeling almost a new being, especially if the pain has been of long continuance.

The form of definite neuralgia which arises from hysteria is also amenable to opium and arsenic; but then it is desirable to give the patient a nervine sedative—such as the bromide of potassium or the tincture of valerian—after the neuralgic pain has subsided. The following is the mixture I always give:—R. Liq. arsen. ℥ ss., tinct. opii ℥ jss., aq. ad ℥iij.; one tablespoonful to be taken when required. The strength may be increased in very violent cases, but I have generally found the above sufficiently strong.

I am almost inclined to think that the neuralgic pain affecting other parts of the human system, such as the breasts, etc., would be benefited by the same method of treatment; but here I cannot speak so decidedly, as I have not yet had what would be considered a well-marked case under my care, for the most common, and one which is nearly an everyday occurrence, is the definite form or facial neuralgia, which of late years has so remarkably increased, and it has hitherto entirely baffled all the efforts of the profession to mitigate the agonising pain which is invariably experienced by the patient.

In conclusion, I must state that I hope this remedy will be as successful in the hands of others as it has been in mine, and that it may be given an impartial trial; for I have noticed there is not a medical man who does not find himself very frequently foiled in the treatment of definite or facial neuralgia, for the remedies which are in vogue at the present day are not in the least successful in allaying and alleviating the agony of this distressing malady.

Camberwell-road.

ON EARLY ANÆSTHETICS.

By J. DUDGEON, M.D., of Pekin.

In a late letter in the *Times* (May 25), calling attention to the proposed purchase by the British Museum of an ancient Chinese Encyclopædia, now on sale at Pekin, the writer falls into a series of curious blunders regarding the subject upon which he wishes to enlighten the public. He informs us that a copy of the work has long existed in Paris, and that it dates from 220 A.D. He takes occasion to extol the early discoveries of the Chinese; notes the early use of anæsthetics; and in true Oriental style, considering the idea to be quite fallacious that there is anything new under the sun, concludes thus:—"It is therefore probable that should England become possessed of the work in question, and should our Oriental philologists live long enough to translate it, we shall stumble prematurely

upon some of those results of a refined civilisation to which the ordinary progress would only bring us after the lapse of many centuries." We are naturally jealous of the honour of the discoveries of Harvey and Simpson, to both of which foreigners have laid claim for China. Let us review this latest claim to the knowledge and use of anæsthetics among the Chinese. The *Times'* correspondent, the author of "Flemish Interiors," has mistaken the age of the celebrated surgeon Hwato (whom he quotes), of the Wei dynasty, 220-230 A.D., for the age of the book. We say nothing of the error into which he has apparently fallen regarding the book itself, which cannot surely be esteemed either for its age or its bulk. The name of the book he quotes when translated into English is simply, "Collection of Ancient and Modern Medicines," and was published in the beginning of the sixteenth century. That the Chinese knew many of our later, but I hold separate and independent, discoveries, such as gunpowder, the mariner's compass, printing, etc., is well known, and in these pages we have already pointed out their early knowledge of laminaria in goitre, fish-oil in phthisis, and, we might add, arsenic in ague. It is incorrect to say that such things have been forgotten and discovered again in our day. The fact is that they were, generally speaking, never known to us at all, and certainly they have not been forgotten by the Chinese. What is remarkable, however, as we shall show, is that this same sort of knowledge seems to have been common property in both the East and the West. The writer refers to the existence of anæsthetics as in common use in surgery in the beginning of the third century, if not earlier. Such dangerous medicines, it need hardly be said, have never been in common use, and surgery can hardly be said to have ever existed in China, if we except, of course, acupuncture and the moxa. With the highest civilisation of all Asiatic countries, China stands lowest in medicine. The writer falls into a grievous error in stating *ma-yo* to be a specific name for Indian hemp. The term literally means anæsthetic medicine, and is applied in a generic sense to medicines of this class. There is no drug to be found either in the shops or books of China under this name, and the Russian physician Tatarinow has fallen into an error in calling it *Cannabis indica*. The late M. Stanislaus Julien, of Paris, called attention in 1849 to the employment of this class of medicines in China in ancient times. Other substances besides hemp entered into these benumbing recipes, such as the datura, a solanaceous plant probably identical with the *Atropa mandragora;* also aconite, hyoscyamus, etc. Some of these drugs form constituents of the formulæ said to be employed by kidnappers of children and robbers, and are therefore naturally forbidden in China to be sold or employed. The counterpart of this practice is found in early times in the West. The wine of mandragora was known in Greece, and is mentioned by Diascorides as administered for severe pains, insomnia, and in operations with the knife or cautery. Another preparation of the same, called morion, caused infatuation and took away the reason. Pliny refers much later to the same substance, and Lucius Apuleius (160 A.D.) tells us that under the administration of half an ounce of the wine a man may have a limb removed without pain or sense.

The Indian hemp, under the name *bhang*, is extensively used by the Mohammedans and others in Central Asia at the present day. One of the names for hemp in China is *hanma*, of Sanscrit origin, a word not unlike the German *Hauf;* and our hemp and the sounds *hannap* and *kannap* seem to run through nearly all languages. The most wonderful properties are ascribed to the hemp. Persons with ulcers, it is said, cannot look upon it without dying. Its antidote is linseed or huma. Taken in excess, the spirits and demons may be seen; it confers prophetic powers; it is sometimes taken by persons wishing to indulge in spiritualism; and it is used as an antidote to forgetfulness. It is supposed to prevent the hair turning white, and is consequently said to stop the advance of age. These foreign substances are usually so powerful, and their action so marvellous, that they are seldom, if ever, prescribed by the native faculty. I shall say nothing of the value of Chinese medical works, containing as they do so much that is shrewd and practical, with the most fanciful theories and puerile and ridiculous statements made in the most grandiose and sublime style. Although we are indebted for rhubarb, camphor, tea, etc., to China, I fear we need hardly look for any new discoveries, and certainly none that is to advance us in refined civilisation and material and scientific progress at such a rapid rate.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

CASES OF ABDOMINAL DISEASE.

MIDDLESEX HOSPITAL.

[REPORT abstracted from notes of Mr. F. W. Browne, House-Physician.]

Case 1.—*Pelvic Abscess situated between the Vagina and Rectum, causing Intestinal Obstruction—Abscess Evacuated from the Vagina—Cured with Exception of a very Small Sinus.*

(Under the care of Dr. CAYLEY and Mr. LAWSON.)

Elizabeth S., aged twenty-six, nursemaid, was admitted under Dr. Cayley's care on February 1, 1877. Her family history was good, and up to the present trouble her health had been good with the exception of slight occasional dyspepsia. On January 22, after breakfast, she vomited some green liquid, and had severe pain in both iliac fossæ. The pain was increased on pressure, and relieved for a time by poultices. Up to the 25th she vomited everything she took. Vomited material was green; nothing red or black was seen. From the 22nd till the present date (February 1) bowels have been moved twice very slightly—motions fluid and greenish; has not passed wind since attack. She took on the 23rd some antibilious pills, and since then some castor oil. The pains in the abdomen have continued without change, and there has also been a little pain in the left shoulder and side. Since the 28th she has felt a little relief from lying with her legs drawn up. Had an irregular period on the 24th and 25th. Says she has not passed enough water. Appetite poor.

Condition when admitted, February 1.—Patient very weak; has areolæ under eyebrows; lies with legs drawn up. Abdomen not much distended, very tender in parts below umbilicus. In both iliac fossæ there is dulness and resistance. She has no pain on deep inspiration. Tongue coated with dry yellowish fur; mouth very dry; skin fairly moist. Pulse 96; temperature 99°. Ordered simple enema, pulv. opii gr.ss., every three hours. Three leeches to be applied below the navel. The enema brought nothing away, but she passed water freely afterwards. In the evening she had vomited everything given to her.

February 2.—Pulse 120; temperature 100°; respirations 32. A little easier, but says the pain shoots from the navel. The breathing is entirely costal. She has hiccough, which she says gives her no pain. On left side, in hypogastric and iliac regions, there is some distinct hardness, with undefined margins. Right side percussion tympanitic. This evening an enema of three pints of tepid water was administered from a height of four feet. No passage of water through the bowel could be heard. She vomited after the enema, but said she felt slightly relieved. One grain of opium given. Some time after the enema the rest of the liquid came away; it was not tinged with blood. No fæces came away, but there was a fæcal smell. Before the injection there was a little blood noticed about the anus and genitals: the source of this was not discovered. Evening temperature 101°; pulse 120. In this case the symptoms clearly pointed to some obstruction situated low down in the large intestine. Dr. Cayley made an examination per anum, and found there was an elastic tumour bulging into the rectum in front, and requested Dr. Hall Davis to examine the case.

3rd.—Pulse 132; temperature 100°. Has vomited two quarts of brown, sour-smelling liquid. Everything brought up, including brandy. Pain very bad just about the navel. Tongue drier and browner in the centre. Has some tympanites. Has not passed any wind by the anus. Dr. Hall Davis made an examination per rectum and per vaginam. He found the os uteri and cervix natural. The sound passed into the uterus four inches. Beyond and behind the vaginal *cul-de-sac* a fluctuating soft tumour was felt. On rectal examination it was found that this tumour depressed the anterior rectal wall against the posterior wall, thus preventing escape of fæces. The examining finger brought away fæces. Mr. Lawson, who was called in consultation, found that the above tumour fluctuated, and it was determined to aspirate through the vagina. The patient was put under the influence of ether, and a duck-bill speculum

introduced into the vagina. Mr. Lawson plunged a medium-sized trocar and canula into the most prominent part of the tumour. After connecting the canula and the exhausting syringe, pus flowed freely; this, emptied into a porringer, was found very fetid. Under carbolic spray a free incision was made, and a copious discharge of brown fetid pus escaped, which at the end was intimately mixed with blood. This flowed away to the amount of at least a pint —ebbing and flowing with respiration. On exploring with the finger, Mr. Lawson found a large cavity occupying the whole recto-vaginal pouch. This was washed out with dilute Condy, and a drainage-tube passed in, which was connected with an indiarubber tube passing under the clothes into a basin of Condy. As much fluid passed away within half an hour after as had escaped during the operation. Patient complained of pain afterwards, and a hypodermic injection of morphia was administered. The abdomen became soft and yielding. In the evening, pulse 120, temperature 99·8°; the pain had gone, and she had been able to keep down some iced brandy-and-milk and blanc-mange. The abscess-cavity tended to contract and force out the tube. A piece of lint soaked in Condy was introduced into the vagina, encircling a short piece of perforated tube. This discharged below into a piece of oakum, which was secured outside the vagina by a T-bandage.

4th.—The amount of discharge into the oakum is not great. The tube is still kept in its place. Patient has had a fluid motion; the rectum is loaded with fæces. Tongue not so brown as it was; no pain; abdomen soft. 7 a.m.: Temperature 100°. 11 a.m.: Pulse 114; temperature 99°. Vagina, etc., syringed out with Condy; tube, oakum, and lint used as before. Enema of castor oil, very slightly retained, brought away only a small amount of liquid fæces.

5th.—Pulse 108; temperature 98°. Tongue brown but not dry. Has had a little hiccough and nausea, and has now slight tenderness in left iliac fossa. Discharge from vagina rather thick. Motions are found with the discharge in bed. The opium to be discontinued. Castor oil enema brought away a few lumps of fæces. Afterwards six ounces of olive oil were passed up into the bowel by a long flexible tube, and in one hour and a half afterwards a large enema of warm water was given. During the operation there was a continuous discharge of pale, thin, fetid fæces. Patient much relieved, but did not sleep well.

6th.—Puncture found now to be very small; some difficulty in passing tube into it; washed out with carbolic 1 in 100. Subsequently a catheter was introduced into the sinus, secured by a strip of plaster round the thigh, and surrounded by oakum.

9th.—An injection of half an ounce of tincture of iodine to one pint of water was ordered for the sinus. It was found on further examination that the direction of the rectum was towards the right.

10th.—Patient has acquired control over both micturition and defæcation.

17th.—Red lotion was to-day used as an injection instead of iodine, and the catheter was no longer kept permanently in.

19th.—Patient got up.

27th.—There is still a small sinus left, from which there is a scanty, inoffensive discharge; she has no pain, her appetite is good, and the bowels are opened naturally.

Arrangements were made for her to attend as an out-patient at the Gloucester Infirmary, which was near her home.

Case 2.—*Intestinal Obstruction—Enterotomy—Death.*

(Under the care of Dr. CAYLEY and Mr. LAWSON.)

Francis K., aged forty-seven, an engine-fitter, was admitted under Dr. Cayley on February 15, 1877. Patient was in his usual health on February 12. Bowels were opened once on that day; motions scanty, and of ordinary appearance. At 3 a.m. on February 13 he was seized with severe pain across the navel; vomiting came on at noon. Has only taken some milk since attack commenced. The pain has continued with very slight remission, and the vomiting has recurred repeatedly. He has passed some wind by the bowel this morning, but no blood and no stool. Has passed his water as usual.

On Admission.—Countenance anxious, and expressive of pain. Tongue coated, dry in centre. Has a purple line along gums. Breath offensive, but has decayed teeth. Pulse 78, soft, compressible; respirations 24; temperature 98·5°. He complains of severe pain about the navel, relieved by lying on the left side. Pain paroxysmal; paroxysms last sometimes five minutes, sometimes half an hour. Pain increased on pressure just below the umbilicus, but not elsewhere. Some gurgling is felt on pressure during the paroxysm. There is a distinct depression in each hypochondriac region, and the epigastric region is not at all full. Below the umbilicus there is a prominence, which passes from side to side of the abdomen. Over this prominence the resonance is less tympanitic than it is above. In the hypogastrium there is some dulness. In the afternoon six pints of tepid water were injected into the bowel from an elevation. Fluid returned with some scybala. After this there was a slight motion. Patient said he felt much relieved. He was ordered milk, ice, brandy, and pulv. opii gr. j. every three hours. He vomited half an ounce of bilious stuff, but retained some milk and brandy afterwards. Had some paroxysms of pain. At 9 p.m. he had hiccough. The prominence below the navel was considered a little less; otherwise the condition of the abdomen was unchanged. The injection as above was repeated; it gave the patient some distress. The injection came back discoloured, with a few flakes and fragments of fæces. Urine 1040, acid, no albumen; deposited urates.

February 16.—Pulse 60; temperature 99·2°. No vomiting since last injection; tongue large, thinly coated, not dry; not so thirsty; enjoys his milk; can now lie in any position; slight pain about navel; prominence continues, but is not tender; hypogastrium resonant; left flank not resonant. In the evening he woke with a paroxysm of pain. Enema of two ounces of castor oil with six pints of soap and water brought away scarcely any fæces; gave him pain afterwards; vomited also; but slept well.

17th.—Pulse 60; temperature 99·4°. Abdomen more tense, and tender on pressure in umbilical region; lies with his legs extended; passes water freely. Omit opium. Hypodermic injection of one-sixtieth of a grain of atropia to be given. At 11 p.m. a simple enema of tepid water from a height was administered. It gave the patient so much pain, and distended the abdomen so much, that not more than four pints could be given. During its passage gurgling was heard in the right and left flanks, and doubtfully in the epigastrium, but none in the umbilical region. Afterwards patient vomited half an ounce of green bilious matter. The injection returned stained with fæcal colour and with shreds of fæcal material floating in it. After this he was in a little pain, but took some milk, which he retained. Here the symptoms indicated an obstruction in the small intestine suddenly produced. Mr. Lawson was asked to see the patient, and he proposed to make an incision in the right loin, as if for colotomy, and to open the distended intestine which might present itself. He came to this determination from believing that if he were to open the abdominal cavity in front, and search for the seat of the obstruction, it would be quite impossible afterwards to replace the intestines owing to their distended condition. He also thought it improbable that the obstruction was due to a band which would admit of ready division.

18th.—Pulse 96; temperature 98·4°. Began to vomit at 5 a.m., and had great pain in the umbilical region. Vomited material sour smelling, contains thin pultaceous yellow material in suspension, and is acid in reaction. At 2.30 p.m., as the vomiting and distress were in no way abated, the patient was anæsthetised by equal parts of ether and chloroform, and Mr. Lawson made the usual incisions for right colotomy. The colon did not present, but coils of small intestine. One of these was apparently collapsed, one bulged; the latter was transfixed and attached to the edges of the abdominal wall, and then divided. The rest of the incision was sewn up. The division of the gut was followed by a discharge of yellow liquid. During the operation the patient vomited large quantities of sour yellow liquid. He was not much collapsed after the operation. A piece of carbolised lint was placed over the wound; over that a little oiled silk and a piece of flannel was lightly applied round the abdomen. The patient was taken back to bed, and one-sixth of a grain of morphia administered hypodermically. His pulse became feebler, and some milk and three drachms of brandy were given, which he retained. At 5.15 p.m. the wound was re-dressed. Half a pint of thin very fetid discharge had collected underneath. A single fold of warm flannel was placed over the wound, and above that some oakum. Patient afterwards slept. At 9 p.m., pulse 102; temperature 100·6°; respirations 25. Edges of wound rather puffy.

19th.—Began to vomit at 5 a.m., some thin sour yellow stuff; has altogether brought up about a pint of it. Temperature 102·4°. He does not complain of pain, but looks

very prostrate. Morphia ordered at frequent intervals. Died at 12.30 p.m.

Abstract of Post-mortem by Dr. Coupland.—Body was well nourished; a considerable amount of fat present in thoracic and abdominal wall. No undue distension of abdomen. In the right loin, immediately above the crest of the ilium, was an incision in the abdominal wall—the seat of a recent enterotomy. The edges of the wound were healthy-looking and blood-stained. On opening the abdominal cavity, the peritoneum generally appeared injected, and in the right iliac region it was covered with a scanty exudation of lymph. The omentum, well supplied with fat, was concealed in its lower half by two greatly distended coils of ileum, which passed across the cavity from right to left, each having a strongly marked flexure, the convexity of the bend being uppermost. Turning these coils aside, the omentum was exposed in its whole extent; and lying across the spine, in a perfectly collapsed and empty condition, was a large part of the ileum, arranged in the form of three well-marked loops. Tracing these coils in each direction, the gut was found to pass through a ring of fibro-fatty tissue, formed at the right lower angle of the omentum, where the intestine was firmly nipped, but not strangulated. The collapsed coils were of a bluish-black colour, but their mesentery (containing much fat) was unaltered, its vessels not being unduly engorged. The constricting band was three inches in circumference, and its free portion not thicker than stout whipcord. The included portion of bowel measured forty inches; the site of the distal strangulation being four inches from the ileo-cæcal valve. The ileum and jejunum about the constriction were much distended, forming the coils first noticed; and at a spot twenty-five inches above the constriction was a ragged opening, an inch and a half in length, which communicated with the wound in the right loin. The serous coat of the bowel was here covered by lymph. The small portion of ileum below the constriction, and also the cæcum and colon, were almost empty. The omentum was perfectly free from attachment to the parietal peritoneum, and no adhesion had taken place between the gut and the constricting band; in fact, it would not have been difficult to have gently drawn out the bowel through the ring at the lower part of the omentum. Two views were suggested as to the mode of formation of the constricting band. Either it was produced by a rent in the lower part of the omentum, just above its free border, or else some previous inflammatory condition had caused adhesion of the two portions of the omental margin, so as to form a loop through which the hernia took place. The absence of other peritoneal adhesions, and the presence of fatty tissue in the whole of the constricting band, pointed rather to the former alternative as opposed to the latter. The remaining viscera were perfectly natural, the lungs being, however, extremely engorged.

CLEVELAND-STREET ASYLUM.

Case 3.—*Syphilitic Disease of Rectum, for which Colotomy was performed.*

(Under the care of Dr. LEDIARD.)

Mary D., aged twenty-four, was admitted April 16, 1877.

History.—Patient states that she has suffered from syphilis in one way and another for seven years, and has had advice all along from various hospitals, both as an indoor and outdoor patient, having undergone a variety of operations of a minor character for extensive growth of warts, ulceration of the rectum, etc. During the last two years the rectum has given constant trouble, and now renders her existence unbearable, for she never has her bowels opened without enema or medicine, and when they act there is pain of acute character before and after for some time. There has been incessant discharge of matter and blood from the rectum, and ulceration both in and outside the rectum and vulva; she has never got rid of it even for a time. The throat has also been affected more or less from time to time.

Patient is a handsome girl, of very dark complexion, and a delicate and spotless skin. It seems that the disease which has rendered her life so miserable has altogether avoided the cutaneous system, and spent itself upon the orifices of the body more especially. She has a growth of fine black hair, and though she is pale and thin, yet no one would judge from her appearance only that she was the subject of visceral syphilis. She complains of great pain in the rectum on defæcation, and has a discharge of pus and blood. There are large condylomatous patches of ulceration outside the anus, and ulcerated surfaces within the vulva. Owing to the condition of parts, digital examination was not much employed, but the rectum was found ulcerated some distance up, and it was thought also to be contracted in calibre. The patient's temper was uncertain and irritable. The tongue was habitually foul, and the fauces always more or less red and irritable, but not much ulcerated at this time.

I commenced anti-syphilitic treatment, both internal and external, and continued it for three months with no success at all. She had a large quantity of the bichloride, but the gums were never touched. It seemed to me that so long as fæcal matter was passing over the ulcerated surface of the rectum there was little or no chance of healing going on. Externally, calomel dusting was used, and changed about with other things, but no permanent benefit obtained. The throat improved occasionally, but again relapsed. Under these circumstances I proposed colotomy, and she was very ready to accept relief in any form. Accordingly, on July 19, with the help of Mr. R. W. Lyell, I made an artificial anus in the left loin. The abdominal wall was very fat, and the incision made measured exactly nine inches. The colon took some time to find, since it was embedded in fat, and at one time the forceps seized the lower end of the kidney. (On the day after the operation there was slight hæmaturia.) The rectum was injected with water to afford assistance, and ultimately the bowel was secured to the skin without damage to the peritoneum. There was no bleeding to speak off, and the only difficulty experienced was caused by the presence of so much fat, which somewhat surprised me, seeing that the patient's appetite had been so indifferent, and little or no solid food taken. Subsequently she made very reasonable progress towards recovery, but there was a fair amount of suppuration about the deep part of the wound amongst the muscles; but under the circumstances, union by first intention could scarcely be looked for. The temperature and pulse naturally went up, but not to any alarming extent; the abdomen was tender on the left side for some time, but no peritonitis followed. The first passage of fæces from the loin took place on the fifth day, and by the eighth day all the stitches had been removed, and in a month's time consolidation of the parts had taken place. On August 20 she remarked, "I feel a different girl since the operation. I have no pain in the rectum, and less pain in the abdomen. I feel stronger." And here I may add that her spirits had undergone a very remarkable improvement, and the appetite returned. There is still discharge from the rectum, but much less; and to prove that the passage of fæces over the rectum was the cause of the great pain experienced; it may prove interesting to state that on August 24 she had a return of the old pain in the rectum. I ordered an injection, and a small lump of fæcal matter came away, after which she was easy. I then ordered, at the end of August, some mercury again, for there was a characteristic fringe of mucous tubercles all round the artificial anus, but in the course of three weeks this had disappeared. Still the ulceration of the skin round the anus, and also on the vulva, remained unhealed, though improved. At the present time her condition is one of general improvement, but the sores externally have defied treatment and cause great annoyance. The throat has not given trouble for some weeks, and she takes a fair amount of food, but exercise is impossible from the opposing sores outside the rectum; still, I am in hopes of sending her away perfectly well in the course of a few months.

Note by C. F. Maunder, Surgeon to the London Hospital.—I am often asked—How is the artificial anus controlled after the performance of lumbar colotomy? The answer is—As a general rule, a simple compress of soft rag retained by a bandage is all-sufficient. Occasionally, when the margin of the wound in the bowel becomes from any cause retracted, the tendency to cicatrisation and closure of the integumental wound is so great that another measure becomes necessary. The history of a case subsequent to colotomy which I here record will illustrate what is requisite. In November, 1876, I saw in consultation with Dr. Neale, of St. John's-wood, and Dr. Wilks, a male about fifty years of age, and performed lumbar colotomy on the right side. At the time of operation I prognosticated speedy closure of the skin-wound. About three months after, the opening would only admit a No. 6 catheter. To remedy this, and to delay, if not prevent, a similar occurrence in future, I cut away a circular piece of integument to the extent of one inch and a half around the aperture. In this way I expected, with or without some kind

of plug, to keep the opening patent. In a letter addressed to me on September 12 the patient says—"My health has gradually improved since the last operation. I am nearly as strong as I ever was; good appetite. I walk several miles a day without feeling fatigued, and forget for hours that I have anything the matter with me. I have also made flesh, and now weigh eleven stone (more than before my illness). The artificial anus is kept open by a vulcanite conical tube, and is washed morning and evening. The fæcal evacuations partly pass by it, but principally by the ordinary way. My bowels are in perfect order." I withhold the details, which would be lengthy, of this interesting case, and confine myself chiefly to the condition of a patient volunteered by himself ten months subsequent to operation. It should tend greatly to diminish the prejudice still unjustly cast upon an operation potent to afford instant relief to extreme suffering in most cases, and to prolong life indefinitely in a few.

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Medical Times and Gazette.

SATURDAY, OCTOBER 27, 1877.

SEASIDE SANITATION.

Mr. Brudenell Carter, in the excellent address delivered before the Sanitary Institute of Great Britain, noticed as one of the chief impediments which stand in the way of sanitary reform, "the existence of an apathy, which is the result of almost inconceivable ignorance, largely tempered by superstition." He evidently knows the struggle which will be necessary to awaken the sleepers from the dull dreams which are certain to end in death or in disease, for he acknowledges "that it is hopeless to talk to the average vestry or board of guardian mind about sewer-gas or polluted water as abstract agencies."

He advocates, as a first step, that education should be confined to argument, until the lazy, the selfish, and the ignorant can be persuaded to go to school, and learn what sanitary science means. Agreeing as we do with Mr. Carter, we wish to go a step further, and to point out that when the school is opened, and the unwilling pupils collected, "sanitary science" will receive a serious blow unless the "teachers" both know and do their work. We have lately watched with some interest the faint efforts of an apathetic and superstitious little community to struggle into life, and sense, and decency; and we fear that as they open their eyes they may look only on the results of bad sanitary measures in a neighbouring town, and so find an excuse for shutting them to dream over again that no precautions are required, and that "sanitation" means waste of money, increase of disease, unnecessary taxation, meddling interference and jobbery, invented by enthusiasts for the benefit of needy medical men. Moral lessons illustrated by vicious pictures are worthless.

> "Segnius irritant animos demissa per aurem,
> Quam quæ sunt oculis subjecta fidelibus."

The haters of improvement will not read sanitary lectures, but will prefer to look at a local board which has come to grief. Probably there is not a small place in all England which requires reformation more than the little townlet on the south-eastern shore of Devonshire, whose feeble struggles to emerge from the slough of ages of neglect we have lately been watching; for it is a place where disease may yet be prevented, and therefore dearer to the lovers of sanitation than a locality where disease has to be cured. Probably, the majority of the inhabitants regard the absence of disease as the best reason for ignoring medical advice; but we have long observed a growing feeling in the small community that "something" ought to be done. For a few years past the shopkeeper has shaken his head at the couduct and bad habits of the boatmen on the beach, and the toilers by the sea have grumbled at the impurities they have had to encounter in their little cottages, where the air is poisoned by the stench of the uncleansed slaughter-house and the neglected farmyard; but until very lately all were agreed that the "something" which ought to be done must be effected by the benevolence of some rich person who had plenty of money and nothing to do with it. The inhabitants got so far at last, that they ceased to object violently to sanitary measures, insisting only that they should not be made to pay anything for scientific experiments. The visitors to the place were the cause why matters were not allowed to rest without some real attempt at improvement. Strangers coming from better ordered towns and cities were outraged by the want of common cleanliness in the little seaside place they had selected for a health-resort. They noticed the streets dusty and uncared for, strewed with decaying sprats or pilchards or dog-fish, keeping company in death with the crushed rat or drowned kitten flung into the roadway by the careless householder. They observed the wells in the small gardens, into which drained the convenient cesspools; and they shuddered and held their breath as they passed the concealed slaughter-house and farmyard, hidden between the two streets of the little townlet. They grumbled at the want of all regulations upon the beach, and, when their month or six weeks devoted to recreation were at an end, the visitors expressed themselves pretty strongly, and made solemn vows to return no more, until the place, pretty as it was, should be improved by a local board. At last the eyes of some of the residents were fairly opened, and they acknowledged that the "something" which ought to be done should, in all fairness, be done by themselves. They saw that the visitors had reason to grumble, and they inferred that they probably would not return. They summed up the weaknesses of the little town for themselves, and recognised that the smells were bad, the sewers incomplete, the water not above suspicion, and the streets dirty; there was neither water-cart nor fire-engine in the place, there was no magistrate, no order, and no authority whatever. On the beach, things were worse. There were hardly any seats for visitors, the bathing was under no regulations, the watermen's boats were not licensed, and neither drags nor life-buoys were procurable in case of accident. An attempt was made a few months since to get a local board to remedy these wants, and of course a violent commotion ensued. Above the general chorus of personal abuse and incoherent

cursing of the followers of the heads of the rival factions arose the "assertion" that sanitation increased the diseases it pretended to cure. The board was won by votes, and lost by a legal technicality; and now, when the reformers are prepared to commence the struggle anew, they are met again with the assertion that sanitation means increased disease. "Look!" cry their opponents, "look at Sidmouth, only a few miles off, which has a local board. There see what sanitation does, and read the unsavoury report of Mr. Netten Radcliffe on the doings of a local board!" What can the sanitary reformers answer? They may say, of course, that sanitation is not bad because bad sanitation is no good; but what can they say when they are asked how they can insure better sanitation at their townlet than that which broke down at Sidmouth? It seems to us that, under the present system, local boards in small places, so far as sanitation is concerned, must always be breaking down. The health officer can scarcely afford to be independent in a small community, where, if he does his duty, he loses his practice, in addition to running the risk of not being listened to when he gives his advice. A remedy might probably most easily be found by *combining small districts*, and appointing a health officer whose salary would be sufficient to render him quite independent of the opinions of the ignorant and prejudiced, and leave him free to express his convictions in the strongest and plainest language. There would be no great difficulty now, and later on will be still less, in finding medical men fitted for the work, if their position were secured by an enactment which provided that both their local appointment and removal should be confirmed by the sanction of the Central Board. We are aware that when good advice is fearlessly given it need not be taken; but it will be taken by all classes when they learn that their interests suffer by their neglect; and "monthly reports" furnished to the central authorities of "recommendations made," and "whether attended to or not," would enable health-seekers on application to obtain a fair clue to the places where dirt, disorder, and disease were at a discount.

THE NEW ARMY HOSPITAL CORPS WARRANT AND THE ARMY MEDICAL DEPARTMENT.

Press of matter has, up to the present time, prevented our commenting upon the Royal Warrant for the Army Hospital Corps, dated August 14 last, which is destined to effect such an important change in the position of officers belonging to the Army Medical Department. The authorities have certainly done wisely in conceding, however reluctantly, the one great point which was necessary to make the unification of the Service palatable to the majority of its members—we mean disciplinary power over all persons connected with military hospitals. It had long been anything but an imaginary grievance that the Medical Officer was denied complete authority in his own special building, the hospital; and that in the great establishments of this character it was considered necessary to appoint a Commandant to superintend all military details. The new Warrant corrects all this, and gives to the Principal Medical Officer the powers which should never have been taken out of his hands.

The various clauses of the new Warrant direct that the Director-General of the Medical Department shall be invested with the administrative charge of the Army Hospital Corps. He is to be assisted by a staff officer, a member of the corps, who will be appointed on his recommendation. The officers of the Army Medical Department will, subject to the local military commanding officer, exercise command over the medical officers, all ranks of the Army Hospital Corps, all patients in hospital, and all such non-commissioned officers and men as may be attached thereto, without their own officers, for hospital duty. The Principal Medical Officer, subject to the general officer commanding the district, will have supreme authority in all matters of discipline affecting the Army Medical Department, including the Army Hospital Corps in his district. The medical officer in charge of each general, station, and field hospital will have disciplinary control over the medical officers, the Army Hospital Corps, and all soldiers in or attached to the hospital; but is to refer to the local military authority such cases as require to be dealt with by court-martial. The medical officer in charge will thus be vested with all the authority of an officer commanding a regiment, except in the matter of convening courts-martial. The officers and non-commissioned officers of the Army Hospital Corps will, under the medical officers, command not only the men of their own corps, but also the patients in hospital, and all non-commissioned officers and men attached without their own officers for hospital duty. On active service the "bearer companies" (the new institution which we recently explained and commented on) will be under the command of the senior medical officer present with each, who will be responsible to the principal medical officer of the force to which he may be attached; and the officer of orderlies under him will only take command of the company in the event of his absence. The officers of the Army Hospital Corps will act as quartermasters, and take over and be responsible for the equipment of bearer companies and field hospitals, under the superintendence and control of the medical officer. Further, the officers of the Army Hospital Corps will at all times perform such pay and clothing duties as are performed by captains in line regiments.

The new Warrant thus places the Army Hospital Corps directly under the command and control of medical officers; and this is exactly as it should be, considering that its duties are entirely connected with their province. It is also satisfactory inasmuch as that for the future the medical officer will cease to be an officer only in name, without any real control. Instructions are appended to the Warrant, which enjoin that the duties connected with the equipment and dieting of hospitals, and all duties formerly performed by the Purveyor's Department, shall in future be conducted by the officers of the Army Hospital Corps, under the supervision of the medical officers.

The foregoing is the substance of the new Warrant, which must certainly be regarded with feelings of satisfaction by the members of the Army Medical Service, since it accords to them complete authority in their own department, and releases them from the annoying pressure of administrative details. It is true that we cannot go so far as to say that it leaves nothin to be desired, but if those in high quarters have at length begun to perceive that the Medical Department of the Army has just grounds for dissatisfaction and complaint, it is not too much to hope that the present concession may in time be followed by others, and that in the end the Service may regain that position in the profession which of late years it has most certainly lost.

NORMAL OVARIOTOMY.

The title of this article is a term used to signify the extirpation of ovaries which are either not diseased at all, or not enough diseased to (of themselves) directly endanger life. The name comes from America, where the verbal critics have found much fault with it. We do not think it a happy one, but cannot here discuss its propriety. The thing it denotes being of greater moment than the name, we will go at once to that.

This operation has now been done often enough to enable us to form an opinion (liable, of course, to modification) as to whether, and when, it is a mode of treatment which ought to be carried out. Before stating that opinion, we will shortly put before our readers the evidence on which it is based.

Professor Hégar, of Freiburg, has in two cases removed both healthy ovaries, in order to bring on the climacteric, and so lead to the cessation of hæmorrhage from uterine fibromata.

In each case other means had been tried, and had failed. This operation was chosen as being easier and less dangerous than the taking out of the tumour. Both patients got quite well, one without a bad symptom, the other after some suppuration in the abdomen. In each case hæmorrhage stopped, and had not recurred nine months after the operation. The fibroids, Professor Hégar was certain, had got smaller. The patients both gained strength and got fat. Dr. Trenholme, of Montreal, has also removed the ovaries in a case of fibroid tumour. Enucleation had been unsuccessfully attempted; the cervix had been incised, and many milder measures tried, without relief. The patient recovered well from the operation. Periodical pains and hæmorrhage recurred afterwards, though not, it would seem, to the same extent as formerly. Four months after, Dr. Trenholme thought his patient well.

These cases form a class by themselves. In them all, hæmorrhage, the result of fibroids, was destroying health. The operator went on the sound principle that if he could lessen the blood-supply, the hæmorrhage would stop or diminish, and the tumour cease to grow. To do this, he removed the organs whose influence effected a monthly determination of blood. The result was as he had foreseen.

We next have some cases in which the ovaries were taken out to relieve distant symptoms, of which they were believed to be the cause. Hégar removed the uterus and both ovaries, to rid the patient of a most violent cough, which was thought to be due to anteflexion of the uterus, a conjecture supported by the fact, that her symptoms were absent when the uterus was kept straight by a stem: but this instrument caused so much pain and hæmorrhage that its use could not be endured. Therefore Professor Hégar removed the whole organs. The patient perfectly recovered, and three months after the cough had not returned. Peaslee, of New York, took out both ovaries by abdominal section, for epilepsy, but the patient died from peritonitis. Dr. Battey, of Georgia, U.S., removed both ovaries from a patient suffering from amenorrhœa, with vicarious hæmorrhages and epileptiform convulsions, which seemed to threaten life. After the operation, health greatly improved, the symptoms disappeared, and uterine hæmorrhage set in regularly (we are not told for how long).

The last set of cases to which we shall refer are those in which the disease was presumed to be local. In four of these only one ovary was taken away. Three of them were under the care of Dr. Battey, one under Dr. Trenholme. In each case it was done for so-called "ovarian dysmenorrhœa." In one the ovary was enlarged and cystic, and in one adherent. In these cases the organs were removed through the vagina by incision in its posterior *cul-de-sac*. Three patients recovered well, one slowly. In three cases there was temporary relief, but the symptoms returned, as was supposed, in the other ovary. In the other case there was no relief to any symptom, except some local tenderness caused by the ovary which had been displaced. In one of them the other ovary subsequently went the way of its fellow: it was found to be adherent, which was not so when the first was removed; the patient recovered perfectly from the operation, but no benefit followed.

The course of these cases seems to prove that, even if alterations in the ovary were the cause of the symptoms, these changes themselves depended on some deeper peculiarity, less easily removed; for, if not, why should it have returned in the other ovary? The clinical lesson of them is, that our diagnosis of ovarian dysmenorrhœa is not yet certain enough to warrant the hazard of so serious an operation.

Then we have five cases by Dr. Battey, in which both ovaries were taken out for what is described either as ovarian neuralgia or ovarian dysmenorrhœa. In two of these insanity is said to have been threatened; in one there was pelvic cellulitis and hæmatocele; in one there was retroversion of the uterus. In one case the method was by abdominal section, in the others by vaginal incision. Two of the latter died—one by peritonitis; in the other no autopsy was made. In one case there was prolonged suppuration, but ultimate recovery; and in one some pyrexia followed, but nothing more serious. The others recovered without a bad symptom. In one the menopause took place, the uterus underwent atrophy, and the symptoms ceased; the patient with retroversion also got quite well. The remaining one, in which there were pelvic adhesions and suppuration, was in no way benefited.

The result of these operations cannot be called satisfactory—two deaths and one failure to secure the object for which the operation was done. When we bear in mind that by extirpating both ovaries a great change is made in the uterus and in the whole organism, we see that ablation of the ovaries might be expected to extinguish other troubles than ovarian ones, and that therefore the one failure to give relief implies a greater error of diagnosis than the non-success by removal of one ovary only.

The evidence at present before us points to the following conclusions:—That removal of the ovaries, in cases of fibroid tumour in which hæmorrhage is so copious as to endanger life, and in which the conditions present make removal of the growth very unsafe, is a justifiable proceeding. It is not preferable to removal of the tumour, because, first, the ovaries are important organs, and the tumour a useless excrescence; and second, because the cure cannot be so certain or so complete. That in reflex symptoms threatening life, and dependent upon the generative organs, it seems (if the cases are correctly reported) an allowable expedient, other means having failed. Two conditions ought to be complied with before it is thought of: the patient's state should be really dangerous; and it ought to be absolutely certain (so far as is possible in a concrete science like ours) that the symptoms depend upon the reproductive organs. Lastly, that in the present state of our knowledge we are not able to be sure that pelvic pain depends solely and entirely upon the ovaries. Until we have this knowledge we cannot think it right to subject the patient to an operation of which the mortality at present is one in five, the cures two(a) in nine. This mortality might, doubtless, be lowered; but until we have more precise diagnosis, we do not think the results can justify even a much less risk.

Dr. Battey's paper (in the American *Gynæcological Transactions*) is one most commendable for the candour with which he narrates his cases. But the details given of their history are not exact or full enough to help forward the work of diagnosis; and in his reasoning upon them we do not think he has rightly seized the lessons they teach. Should this mode of treatment be further carried out, either here or elsewhere, we hope the fullest details will be given as to their history and symptoms; for in elucidating their pathology an operation of this kind is almost as valuable as an autopsy.

THE WEEK.

TOPICS OF THE DAY.

The Chaplain of Horsemonger-lane Gaol, the Rev. Mr. Jessopp, has pointed out a serious infringement of sanitary precautions practised in that and many other prisons. In a recent report to the Surrey magistrates he calls attention to the present rule of burying all persons executed for murder within the precincts of the gaol. This custom, he remarks, is a relic of a barbarous period, when to deprive a criminal of life was deemed an insufficient punishment unless some additional indignity was offered to his remains. In the present age the practice is indefensible, as burial within towns is prohibited by statute, and there is nothing to render a murderer's

(a) Or perhaps three, for Dr. Battey has been told by a third person that one of his unsuccessful cases has since got well.

corpse exceptionally exempt from submission to sanitary requirements. In Horsemonger-lane Gaol, Mr. Jessopp states, thirteen bodies lie buried side by side in a double row, within a few feet of the well which, until recently, supplied the whole establishment with drinking-water. A few feet further off, three other bodies have been recently deposited. This subject certainly demands consideration at the hands of the authorities, for, although we believe the bodies are covered with quicklime, it would certainly be better that they should be interred extramurally, whereby no ulterior danger would be incurred of the murderer revenging his own death by poisoning the air or water of his sometime gaolers, or, still better, that their bodies should be made to serve a beneficent purpose by being handed over to the medical schools.

The fortnightly returns from the London small-pox hospitals, which were presented to the managers of the Metropolitan Asylum District at their last meeting, show that 81 patients had been admitted, 21 had died, and 44 had been discharged since the previous report; and the number remaining in the hospitals on the 19th inst. was 162 as against 146 patients on the 6th inst., showing an increase of 16. A report was also brought up, showing that the number of patients received in the hospitals under the charge of the managers from October 21, 1876, to September 21, 1877, was 7333, of whom 1329 had died, showing an average mortality upon all cases of 18·1 per cent. On the motion of Dr. Cortis, it was agreed that this report should not be printed on the minutes until the returns for twelve months ending October 21 of the present year had been made up. Mr. Barringer, chairman of the Homerton Small-pox Hospital Committee, expressed his regret that the report of that Committee was not more favourable. The number of the patients now in hospital was double the number of its inmates a month since; this fact proved that the fever hospital had not been re-opened a day too soon, and in the first six days of its being re-opened ninety-five patients had been admitted.

An outbreak of scarlet fever is reported on board the Queensland emigrant ship *Gauntlet*, which left London on the 12th inst., with 302 emigrants for that colony. The ship, which put into Plymouth, was last week visited by the Board of Trade officials; and the medical officer, Dr. Eccles, ordered the two children affected, together with the families to which they belong, to be at once landed. The remainder of the passengers on board will be placed in a hulk while the *Gauntlet* is fumigated and disinfected. In the meantime, no communication is allowed between the ship and the shore.

The numerous cases of hydrophobia recorded from so many different localities have induced a gentleman at Birmingham to address an application to the Home Secretary on the subject. In his reply, Mr. Cross states that no representation has been made to the Home Office that local authorities have not sufficient power under the existing statute (Dogs Act, 1870) to deal with the matter, and he feels sure that they may be trusted to put in force the powers they possess. It is difficult to see how special legislation could obviate the occurrence of this terrible malady. In ordering all stray dogs to be destroyed, the local authorities do nearly all that can be done. Only the other day a lady lost her life from this disease through a bite from her own pet dog; so that the danger is not confined entirely to the streets, but exists more or less wherever these animals are found.

The Chairman of the Water Committee of the Liverpool Town Council has announced that that body has matured a scheme for the supply of water to the town, sufficient to provide for all requirements for many years to come. The supply is to be got from North Wall at a cost of a million and a quarter, and the interest upon this large amount would be paid without additional taxation of the ratepayers, and would be met by the saving of waste water in the borough, estimated at £50,000 per annum.

The Committee of the General Hospital, Birmingham, have published a denial of the statements made by Mr. Lawson Tait as to the unhealthiness of their hospital. Some years ago, they state, the sum of £20,000 was spent in practically reconstructing the building, the result being an almost absolute immunity from pyæmia and erysipelas; and, consequently, a great saving of life after severe accidents and operations has been effected. They are, therefore, astonished to find that in Mr. L. Tait's book, and subsequently in a paper read by him at the meeting of the British Association at Plymouth, the mortality following certain operations is stated to be twice as great in the Birmingham Hospital as in smaller hospitals in the neighbourhood, and nearly twice as great as in the new Infirmary at Leeds. On an examination of the statistics contained in Mr. Tait's book, it has been found that in one of his tables (table D) a death-rate, deduced by himself, when more correctly worked out from his own figures, gives a markedly lower result. And further he is reported to have compared the death-rate of the several hospitals, not only for different years, but for different numbers of years. In the table for Leeds he includes six years, for the smaller hospitals from four to six years, while for the Birmingham hospital he includes a period of sixteen years. The effect is that the death-rate of the latter hospital for a long period —a considerable portion of which was prior to the reconstruction alluded to—is compared with the mortality of a few recent years in entirely new hospitals. This mortality still continues to decrease, so that a comparison with the Leeds Infirmary for the year 1876 shows a marked difference in favour of the Birmingham hospital, and the records of the present year show a result still more favourable. The Committee of that institution express their belief that at the present time no hospital in England is more healthy, and that there is none where a patient suffering from severe accident or operation is more likely to recover. If Mr. Lawson Tait has really fallen into error in his statements on this subject, he will doubtless rectify them when his attention is called to the matter.

At the Portsmouth Hospital Saturday dinner, given by the Mayor of that town last week, it was announced that the gross amount received was £364, the expenditure requisite to realise this sum having been about 8 per cent.; last year the amount collected reached only £239, so that the present result may be looked upon as satisfactory. The result of the recent Hospital Sunday collection in Dover shows a total of £232 17s. for distribution amongst the local institutions for the relief of the sick.

A curious misunderstanding seems to have arisen between the Dorset bench of magistrates and Mr. Howard, the coroner for Portland, on the subject of the inquests held by the latter gentleman on the bodies of some of the unfortunate sufferers in the recent collision between the *Avalanche* and *Forest*. Mr. Howard's costs have been disallowed, and he has applied to the magistrates for advice on the subject. At the Dorset Quarter Sessions, held last week, Viscount Portman, the chairman, observed that it appeared to him that they had a very important question to decide, which he thought ought to be carefully considered. The standing order stated that no costs of inquests should be allowed on dead bodies cast on shore, manifestly drowned on the high seas. That standing order was founded upon a decision of the Court of Queen's Bench, the name and title of which was given in their standing order. It appeared quite impossible for them to justify payment of any sum for holding an inquest upon any body which had manifestly been drowned on the high seas, and therefore

he thought the Finance Committee had acted wisely in desiring Mr. Howard to show cause for his demand. It would be necessary that the case should come before the clerk of the peace, so that he might search the law books; and if Mr. Howard could produce any judgment subsequent to this, to alter the law, then he might show some cause for his demand. In case the law had not been altered since this standing order was made, he (the chairman) held that the Court could not be called upon to pay out of the county rate any sum for holding an inquest on a dead body cast on shore manifestly drowned on the high seas. In the interests of maritime parishes it is highly important that this point should be authoritatively settled, as it is certain that the decision of the Court of Queen's Bench on this subject, referred to by the Dorset magistrates, is not generally known.

Dr. Lawrence-Hamilton, who has warmly taken up the subject of "Art in Hospitals," has designed a picture-frame to meet the objections which have been advanced on the score of hanging prints and pictures collecting dirt. The frame is constructed of metal, and is intended to hold two pictures back to back, which are to be well glazed or varnished to do away with the necessity of a glass covering. It is proposed that each frame should be reversed at intervals, which would give a change of picture and insure a periodical cleansing, and they are stated to be extremely cheap and durable. It is to Dr. Lawrence-Hamilton that the suggestion is due of acquiring the site of the now defunct Cremorne Gardens for the formation of a hospital standing in its own site, instead of being closely surrounded by other buildings, as is the case with most of our metropolitan hospitals. The subject is worthy attention, but we fear its un-central position, to say nothing of the large outlay such a scheme would necessitate, preclude any possibility of converting Cremorne Gardens to so useful a purpose. Dr. Lawrence-Hamilton seems very active in meddling with other people's affairs.

The Statistical Society has announced that the Howard Medal will be awarded in November, 1878, to the author of the best essay on "The Effects of Health and Disease on Military and Naval Operations." The essays are to be sent in before June 30 next; and the Council have decided to grant the sum of £20 to the successful competitor in addition to the medal. Further particulars or explanations may be obtained at the office of the Society.

We are informed that Mr. Brudenell Carter has resigned the Surgeoncy to the Royal South London Ophthalmic Hospital.

THE INFLUENCE OF THE WAR ON THE HEALTH OF RUSSIA.

In an article on the "Dearth of Doctors," the *Globe* says it was a fact well known in Russia previous to the outbreak of hostilities that the supply of doctors fell far short of the actual needs of the empire. This deficiency is now aggravated by the departure of the *élite* of the medical profession for the seats of war, while the doctors at home have left their ordinary duties to wait upon the large numbers of sick and wounded soldiers at present located in various parts of the interior. The public are thus compelled in many places to prescribe for themselves, and their empirical treatment—by no means successful at the best of times—has been rendered all the more uncertain by the prodigious spread of epidemics. Official reports issued by the Municipal Council of St. Petersburg place the death-rate of the capital for the past quarter as high as 35 per 1000, at Moscow 38, and in the southern towns from 40 to 45—a mortality surpassing that of India during the most unhealthy seasons. Scarlet fever, small-pox, and cholera are the diseases most prevalent, and, if anything, they rage with greater intensity in the country than in the towns. This great mortality is largely due to the utter neglect of the most simple laws of sanitary science on the part of the Russian peasants, who thereby lay themselves open to the reception of every epidemic that passes over the land. These evils are of course largely increased by the removal of doctors from the provincial towns to the military hospitals, and still more so by the careless manner in which the invalids from Bulgaria are being transported through the country. Unless the reports in the Russian press are greatly exaggerated, train-loads of men suffering from typhus fever, small-pox, and other malignant diseases daily pass along the lines, and stay for hours in the stations, without any attempt being made by the authorities to prevent the spread of infection. According to the reports received from Bulgaria, the medical staff of the Russian troops there consists of 849 doctors, 3285 assistant-surgeons, and 146 chemists, besides the sanitary corps of the guards, the doctors of the Red Cross Society, and the sisters of charity. A telegram to the Russian paper the *Golos* further states that typhus fever and dysentery have broken out among the Montenegrin soldiers at Nicsics, and have already decimated the garrison there. In many other places in the principality epidemics have also made their appearance, and, as there is a dearth of doctors and of medical stores, fears are entertained that the country will be ravaged by disease. After making due allowance for exaggerated statements, it is evident that the present war is responsible for more evils than the loss of life by actual fighting, and its effects are likely to be felt, in the shape of transmitted disease, through many of the remoter portions of Russia.

THE HEALTH OF ST. GILES'S DISTRICT.

In his sanitary report on the St. Giles's District for the year ending March 25 last, Mr. Samuel R. Lovett, the Medical Officer of Health for the district, calls attention to the fact that scarlet fever was very prevalent among the children of persons residing over stables; and after careful inspection, he noted certain circumstances which may probably account for outbreaks of this disease in similar localities in other districts. Many of the houses he found to be defective in through ventilation; the mews in which they are situate being "no thoroughfares," the current of air was unable to pass freely as in streets open at both ends. The houses had windows and doors in front only, and no opening at the back, sides, or top. The water-supply was mostly from a tank, partly underground; the pails used by the grooms to obtain water were dipped into the tank, and the water for domestic purposes was obtained from the same tank by the same means, the water becoming thereby contaminated. In many cases where the tanks were not underground, they were too close to the water-closet. The pebble paving of the mews, also, held offensive matter between the stones, from which noxious gases were evaporated, so that robust health was impossible under such a state of things. Mr. Lovett records the case of a woman in his district who removed her child from the London Fever Hospital before the infectious period of scarlet fever had passed away or the clothes had been disinfected. The woman was eventually charged with this offence, and fined, but the case elicited an important statement from the medical officer of the London Fever Hospital, to the effect that whilst the authorities of that Hospital were powerless to detain their patients under such circumstances, the hospitals under the control of the Asylum Board had full power to prevent their removal without an order from the medical officer. The attention of the Home Secretary and the President of the Local Government Board was subsequently called to this important fact. Mr. Lovett further remarks that his district is in urgent need of a proper mortuary for the reception of the dead, and in such a central and populous parish it is somewhat singular that steps have not already been taken to supply so necessary a building, with all its proper appurtenances for holding post-mortem examinations and coroners' inquests.

THE BRISTOL SCHOOL OF MEDICINE.

The Students' Registration List at the Royal College of Surgeons gives eleven as the number of new students entered this year at the Bristol School of Medicine. This number, small as it seems, cannot be looked upon as bad, considering the very evil fortuue that has, it is said, of late befallen the students of that School at the examinations of the Royal College of Surgeons. We have heard that on a very late, if not on the latest, occasion when Bristol students were examined by that august body, 80 per cent. of them were rejected; and if that, or anything very near it, is true, there can be no doubt that it demanded some attention and consideration from the Council of the College. We are not surprised, therefore, to learn that the Council have had before them the question whether they should not exercise their power of visiting and inspecting the School. But the Faculty of the School have represented that the School has for some time been in a trausitional state, which is now at an end, as the School will henceforth be conducted as a department of the newly established Uuiversity College of Bristol; and this fact, together with a suggestion or suspicion that some other, also special and temporary, conditions may have exercised an unfortunate influence upon the success of the students, has induced the Council to resolve that they will not at present take any action with a view to an inspection of the School, but that at the end of the present winter session the Faculty of the School shall be required to report upon the steps which have been taken by them to carry out the amalgamation with University College, Bristol, and on the materials and arrangements which the School shall then have for the effective instruction of students; that such report shall be accompanied by returns showing the several courses of lectures which shall have been delivered at the School in this summer session, mentioning the date, duration, and subject-matter of each lecture, the number of students entered for each class, and the average attendances at each course; that such report shall also show what examinations have been held in each class, and by what average number of students the examinations of each class have beeu attended; what arrangements there are for superintendence, instruction, and examination in the dissecting-room; what subjects have been received for dissection during the session, aud how many students have taken part in dissecting them. The report, when received, is to be submitted to the Council, that they may then determine whether or not to take further steps in the matter, and as to the future recognition or non-recognition of the Bristol School of Medicine. Considering how many good men there are on the staffs of the Royal Infirmary and the General Hospital, from both of which institutions the teaching staff of the School is formed, we think the Council have decided wisely, both in granting a time of grace, and in hinting in the plainest terms what will be the result if they do not receive a satisfactory report. But we trust that a brighter and more prosperous future awaits the Bristol School of Medicine. The Royal Iufirmary and the General Hospital together contain more than 400 beds; each contains a library and a museum, aud offers valuable prizes and scholarships; aud there have beeu, and are, eminent and well-known men on the medical and surgical staffs of each institution. Bristol ought, therefore, to have no difficulty in supplying a really good and efficient medical school for the West of England.

THE CONJOINT EXAMINING BOARD FOR ENGLAND.

A meeting of the Conference of the Representatives of the Medical Authorities concerned in the formation of the English Conjoint Examining Board was held at the Royal College of Surgeons on Tuesday last, when it was resolved that the various medical authorities should be requested to elect respectively their representatives on the Committee of Reference. We suppose that this was virtually the last meetiug of the Conference, as, when the Committee of Reference has been elected, all the power of taking the next steps necessary for the formation of the new Examining Board will be in its hands, and the Conference of Delegates or Representatives will have ceased to exist. It will be remembered that the Committee of Reference is to consist of two representatives from each of the universities and medical corporations of Englaud; and it may be expected that in many instances the medical authorities will elect on the Committee the men who have represented them on the Confereuce; so that in some, and not improbably in a large, measure the latter body will be merged in the former. The Committee of Reference will possess very large and important powers: they have to nominate the men who may be appointed examiners on the new Board; they have, subject to the approval of the medical authorities, or of the majority of them, to arrange and superintend all matters relating to the examinations; and they have to consider such questions iu relation to the examinations as they may think fit, or as shall be referred to them by any of the co-operating medical authorities. Too much consideration aud care cannot, therefore, be given to the selection of the men who are to constitute such a body, and the authorities will, we should suppose, uaturally desire to elect on it the men who, having already represeuted them in various committees and conferences in connexion with the subject, are most intimately acquainted with the whole history of the Conjoint Scheme—with the causes of its failures, and of its fiual formation. But very possibly some of those men may shrink from the demands that the work of the Committee would make on their time, while some of them may aspire to be on the new Board of Examiners; and uo member of the Committee will be eligible for nomination as an examiner. The first duty of the Committee will be the *nomination* of double the number of persons required to be appointed as examiners, the *appointment* itself being vested in the three medical corporations—the Royal Colleges of Physicians aud of Surgeons, and the Society of Apothecaries; so that, in all probability, a considerable time will pass before the new Board actually comes into existence, and a long time must lapse before students can be required to present themselves for examination by it. It is to be remembered, also, that some legal difficulties regarding it—as respecting the admission of female medical students, for instance—have still to be settled.

THE HEALTH OF LONDON.

The Registrar-General's Return of deaths in London for the week ending October 20 shows an increase iu the rate of mortality. The annual death-rate from all causes, which in the four previous weeks had steadily increased from 17·4 to 19·5 per 1000, further rose last week to 20·7. To the seven principal diseases of the zymotic class 214 deaths were referred, against 153 and 195 in the two preceding weeks. Scarlet fever is spreading, 68 deaths having occurred from it, against 38 and 50 in the two preceding weeks; and the Metropolitau Asylum Hospitals and the Loudon Fever Hospital contaiued on Saturday last 139 scarlet fever patients, against 123 at the end of the previous week. The deaths referred to fever, also, which had been but 19 and 29 in the two preceding weeks, further rose to 47 last week, a number exceeding that returned in any week since October, 1873, and 10 above the corrected weekly average; 5 were fatal cases of typhus, 36 of enteric fever, and 6 of simple continued fever. The 5 deaths from typhus occurred in St. Mary's Hospital, admitted from Silvester-mews, Kensington; at 9, Albert-place, Hammersmith; at 10, Mead's-place, Hackney; at 48, Farringdon-buildings, Clerkenwell; and at 20, London-street, Southwark. The 36 deaths from enteric fever included 4 in Islington, 4 in Hackney, 2 in St. Giles's, 2 in Mile-end Old Town, 2 in Bow and Poplar, 3 in Lambeth, and 2 in Battersea. The fever

patients in the Metropolitan Asylum Hospitals and the London Fever Hospital rose last week from 92 to 114. The deaths from small-pox declined again from 14 to 8, all of which were recorded in the Metropolitan Asylum Hospitals; 4 of the fatal cases were certified as unvaccinated, and the other 4 (all adult cases) as vaccinated. The number of small-pox patients in the Metropolitan Asylum Hospitals, which had been 137 and 144 at the end of the two preceding weeks, rose to 153 last week; and the new cases admitted were 42, against 28 and 45 in the two preceding weeks. The deaths referred to diseases of the respiratory organs, which had steadily increased during the seven preceding weeks from 108 to 259, rose last week to 297, and exceeded the corrected weekly average by 45; 178 resulted from bronchitis, and 89 from pneumonia. The Registrar-General records, also, a death on the 13th inst., in Guy's Hospital, from hydrophobia; and remarks that "this is the thirteenth fatal case of hydrophobia which has been registered in London since the beginning of this year, whereas only six were recorded during the year 1876, and the corrected average annual number during the ten years 1866-75 was less than four."

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

The annual stated meeting of the College was held on the feast day of St. Luke the Evangelist, Thursday, October 18, 1877. The following officers for the ensuing year were appointed:—*President:* Samuel Gordon, M.D. Dub. (this being Dr. Gordon's third year of office). *Censors:* James Little, M.D. Edin. (*Vice-President*); Thomas Wrigley Grimshaw, A.M., M.D. Dub.; Wensley Bond Jennings, B.A. Dub.; George Frederick Duffey, M.D. Dub. *Registrar:* John Magee Finny, M.D. Dub. *Treasurer:* Aquilla Smith, M.D. Dub. *Examiners in Midwifery:* Edward B. Sinclair, M.D. Dub.; Fleetwood Churchill, jun. *Professor of Medical Jurisprudence:* Robert Travers, M.A., M.D. Dub. *Representative on the General Medical Council:* Aquilla Smith, M.D. Dub. *Agent to the Trust Estates:* Charles U. Townshend. *Law Agent:* Charles Woodward. *Librarian:* Hugh J. Fennell. The following Licentiates of the College were on the same occasion elected to the Fellowship:—Arthur Vernon Macan, M.B. and M.Ch. Dub., 1868, and M.A.O. Dub., 1877; Stephen Myles MacSwiney, M.D. St. And., 1847.

NEW SANATORIUM AT LUXOR.

We have received from Messrs. Cook notice of a very spirited venture which they are about to make in the shape of an hotel at Luxor. In so doing Messrs. Cook naturally seek the support of the medical profession. For certain cases of early phthisis and of bronchial catarrh, such a place, if well appointed and liberally managed, will be a great boon. We confess to considerable satisfaction that Messrs. Cook have secured the medical skill of Mr. J. E. Maclean. Mr. Maclean, besides having taken good degrees at the University of London, has, to our knowledge, held valuable resident posts at University Hospital, and appointments also at the Ophthalmic Hospitals at Moorfields and Westminster. The knowledge that a carefully educated and competent medical man is at the disposal of any invalids who may be sent to Luxor will greatly increase the confidence of doctors in the place. Mr. Maclean, we are informed, leaves England this week, and we heartily wish him success in treating a goodly number of patients at this new sanatorium.

MIDLAND MEDICAL SOCIETY.

At the annual meeting of this Society, held in Birmingham, October 19, the following officers were elected:—*President:* Dr. Sawyer. *New Members of Council:* Mr. Bartlect, Mr. Berry, Mr. Ross Jordan, Dr. Russell, and Mr. Watkin Williams. *Treasurer:* Mr. Harmar. *Secretaries:* Mr. Thomas and Dr. Savage.

ROYAL COLLEGE OF PHYSICIANS, LONDON.

The Lumleian Lectures, at the Royal College of Physicians, for the ensuing year, will be given by Dr. Bucknill; the Croonian, by Dr. Pavy; and the Gulstonian, by Dr. Ferrier; and Dr. Burdon-Sanderson has been appointed to deliver the Harveian Oration.

ELEPHANTIASIS IN CHINA.

The following interesting remarks and cases relating to elephantiasis in China are from the able pens of Drs. Jamieson of Shanghai, and Manson of Amoy, respectively. They were originally printed in a most heterogeneous publication called the *Customs Gazette*, circulating among the European inhabitants of the Chinese treaty ports. This little-known periodical often contains much valuable matter; and we propose from time to time to lay before our readers certain extracts of more than local importance. Dr. Jamieson writes:—

A-cho, a female, aged twenty, was admitted to the Gutzlaff Hospital on July 14. She was a native of a marshy district near Paoshan, but had never suffered from fever. Catamenia appeared at fifteen, and have continued regularly ever since. Eight years ago, elephantiasis attacked the right leg, invading first the foot and toes, and three years later the thigh. Her father states that the disease is very common in his neighbourhood, but that the leg only is attacked. His daughter's case is the only one he knows of where the entire lower extremity is affected.

On examination, the left side was found perfectly healthy. The right leg was enormously enlarged, the hypertrophy of the skin being clearly defined by the fold of the groin. There was a marked contraction above and below the knee; the leg in the region of the calf, and the foot, were elephantine, but the ankle and the base of the toes were contracted. The skin was of natural warmth (to the touch), but livid, hard, thick, and covered with scales formed by the drying of a serous fluid which exuded from the surface of the limb, mingled with cast epithelium. The skin could not be made to glide over the deeper structures. The entire limb constituted an enormous almost shapeless mass, in which it was impossible to discover the pulsation of any artery. The femoral could be faintly felt at the brim of the pelvis. At the level of the ankle, on the posterior surface, was situated an elliptical ulcer, four centimetres long by seven centimetres wide, from which there was a profuse discharge of a serous or lymphous fluid, mingled with pus cells, corpuscles, and epidermic scales. The discharge amounted on an average to a quarter of a litre in the twenty-four hours.

An attempt was made to carry out Hebra's treatment by warm baths, inunction of mercurial ointment, and an elevated position of the limb. The two former were done conscientiously, but it was impossible to get the patient to lie down with the leg raised, except during the period of the daily visit. The following were the measurements (in centimetres) taken on the day of entry and eighteen days later:—

Circumference round—	Left side.	Right side. July 21.	Right side. August 1.
Base of toes . . .	18	20	21·5
Ankle	20	31	31
Calf	28	55·5	56
Below knee . . .	26·5	40	41·5
Above „ . . .	31	52	52·5
Middle of thigh . .	57	85·5	86
Level of great trochanter	44·5	75	75

It will thus be seen that the limb was steadily enlarging in spite of the treatment. The girl was extremely anxious to have anything done short of amputation. The risk and uncertainty of the operation of tying the external iliac were explained to her, but she only stipulated that in the event of her dying her funeral expenses should be defrayed. Accordingly, at 3 p.m. on August 1, a purgative enema having previously been given, and the bladder emptied, I ligatured the right external iliac according to Liston's method. There was no difficulty encountered. Immediately upon knotting the ligature, the entire limb became of a marbly white colour. At the expiration of half an hour, the skin on the operated side was sensibly warmer than that on the left. The right leg was

enveloped in cotton, 2·5 centigrammes of morphia were injected into the arm, and the patient was laid on a fracture-bed. Next morning the patient said that she had slept well, but was made uncomfortable by the strips of adhesive plaster by which the wound was supported. The temperature in the mouth was 37·25° C. She had emptied her bladder twice. In the evening there was a rise of 1·4° C. The wound appeared about to unite by first intention. Morphia injection repeated.

On August 3, at 2 a.m. (thirty-four hours after the operation), the limb became painful, and the toes cold and livid. A similar dose of morphia was injected, and hot bottles laid round the leg. The temperature of the thigh had not fallen. By the afternoon the leg was warm again; there was no pain; the patient was calm, and satisfied with her condition. She had eaten a bowl of rice with mutton-broth. At 7.30 p.m. she suddenly became breathless and cyanosed, and died in less than five minutes.

It seems probable that the initial rise of temperature on the operated side, and the retention of at least a natural degree of heat for thirty-four hours after ligature of the artery, were due to molecular changes in the tissues of the leg—in fact, to the commencement of disintegration or decomposition. This, however, was not sufficient to maintain the skin heat for any longer time, and then the effect of interrupted blood-supply declared itself. The collateral circulation must have been established by the afternoon, when the limb was again warm; and one of its earliest effects was to wash a clot out of one of the veins and carry it on to the right heart. There was no post-mortem, but the history points clearly to this as the immediate cause of death.

In this case death must undoubtedly be attributed to the operation. The patient might have lived miserably for some years, but at all events she would probably have lived. On the other hand, she knew the risk and was willing to take it. However, this case once more raises the question whether ligature of the main vessel in elephantiasis is justifiable in itself. Carnochan, of New York, first suggested it in 1851, and announced a cure. It has since been practised with varying success by Butcher (of Dublin), Richard (of the Hôpital Cochin), Fayrer, Bryant, Bochard, Baum, Simon, and others. Up to 1872, twenty-eight cases were recorded, in the majority of which the result was negative, while in a few there was marked diminution of the hypertrophy, and in one or two cases there would seem to have been actual cure (Vanzetti, *Gaz. des Hôp.*, December, 1867, page 572). A summary of the history of the operation up to date will be found in the *Révue Médico-Photographique des Hôpitaux de Paris*, 6me année (1874), page 121. More recently Wernher (*Deutsche Zeitschr. f. Chir.*, 1875) cites thirty-two cases in which ligature gave variable results. Fayrer, Simon, and Demarquay pronounce decisively against it—the last, I think, on theoretical grounds; the two former in consequence of their failures. As the statistics stand, and without taking any account of the pathology of the disease, there seems no reason why each surgeon should not exercise his individual judgment. Obviously this is not the place for a discussion of the pathology of elephantiasis Arabum, which can be found in many books. The latest investigations are summarised in the *Archives Générales de Médecine*, 1876, vol. ii., page 100. But after carefully perusing this summary, in expectation of light to be thrown on the treatment, my impression is that the propriety of ligature is still an open question, only to be decided by its results.

Dr. Manson says, in reference to deaths occurring after operation for elephantiasis scroti :—

We regret to have to record two deaths after this operation. They are the first which have occurred in a long series of cases, now sixty-one in number.

The first death was attributable to pyæmia. The patient, from whom a tumour of some ten or fifteen pounds weight had been removed, did well for more than a week after operation, and a considerable portion of the wound had healed by adhesion, when sloughing of the tissues about the inguinal canals along the track of the spermatic cords, and symptoms of pyæmia, set in. The weather was very warm, and the hospital crowded at the time. In the same ward a man was dying from pyæmia following putrid suppuration in a chronic abscess, and we believe a careless dresser had carried contamination from this patient.

Pyæmia, erysipelas, and allied diseases, are fortunately very rare, notwithstanding the overcrowding, the great number of open suppurating wounds, and the imperfect sanitary condition in the native hospital. Another instance occurred this year. It followed on a very simple operation—tapping for hydrocele. The patient had a big spleen, and on that account should not have been operated on. Strangely enough, he occupied the same place in the ward as the fatal chronic abscess case. The bed, however, had been sunk in salt water for some days, and thoroughly cleansed.

The second fatal elephantiasis case had been operated on before. His first operation is recorded in the *Customs Medical Reports*, No. 3, page 32; case 8. At that time a tumour weighing 51 lbs., with very extensive attachments, was removed. Unfortunately the disease returned in the skin around the cicatrix, and when we saw him this autumn it had developed into two enormous masses extending from near the umbilicus far back on the gluteal region. Between the lobes was the healthy cicatrix of the previous operation, with the glans penis about its centre. The man was very thin, and had an intermittent pulse and other signs of heart disease. We were very averse to operating, but he was so urgent and anxious for something to be done to relieve him, that after preparatory treatment by tonics, quinine, and good feeding, we removed the whole mass, including both testicles. These latter could not be preserved, as there was no guide to their position in the tumours, and the fear of a heavy loss of blood forbade a prolonged search for them. The penis was not cut away. The combined weight of the two lobes amounted to twenty-seven pounds. As a necessary consequence of so extensive an operation, a very large raw surface, quite fifteen inches by ten inches, had to be left to heal by granulation. The patient rallied completely from the shock, his appetite became vigorous, his spirits rose, and granulation and contraction fairly began. On account of the amount of discharge and the great risk of contamination, he was removed after a week to a large airy verandah. The weather was warm at the time. In about ten days from the date of the operation, symptoms of tetanus set in, which, in spite of treatment, proved fatal after a fortnight. We can attribute the tetanus and fatal result in this case only to one of two things—either irritation of the spermatic nerve by a ligature which in the hurry of operation had been placed on the left cord, but which came away three or four days after its application; or to chilling of the wound by a squall of wind that came on suddenly one night after he had been removed to the verandah. We have as yet had no death immediately attributable to the operation itself.

Alcoholism in France.—In a paper on this subject, presented to the Académie de Médecine by M. Lunier, he observes—1. That wine is the true national drink, of which the mean annual quantity consumed during the last ten years has been 50,000,000 hectolitres—about 120 litres per inhabitant per annum. 2. The consumption of cider has diminished during the last twenty years from twenty-four to twenty litres per inhabitant. This is not to be regretted, as the ciders are of bad quality, leading to the taking of much brandy in order to digest them. 3. The consumption of beer has been constantly increasing, so that it has augmented from about 8·25 litres in 1825 to about twenty-two litres at the present time. 4. The consumption of alcohol has progressively increased during forty years: it was two litres per head in 1839, and is now nearly three litres. 5. The departments which consume most alcohol are those which do not consume wine. The contrast in this respect is most striking. Very little wine even is drunk in the departments where brandy is produced from wine. 6. The statistical facts confirm the opinion of M. Bergeron in 1870, that the alcohols of commerce are more mischievous in their action than those from wine. 7. As respects accidental deaths due to excess of drink, they are, for the most part, met with in the departments which consume most alcohol. They rarely occur in those in which most wine is drunk. 8. The results of the application of the law on drunkenness tend to the same conclusion. Prosecutions for drunkenness have been five times more numerous in departments which chiefly consume alcohol than in those which principally consume wine. 9. It is the same with cases of insanity due to alcohol, the proportion of these being almost everywhere in direct relation to the consumption of alcohol, and especially the alcohol of commerce. Almost the only exception is in La Vendée and Charente Inférieure, where white wines are almost exclusively consumed, these being as dangerous in this relation as eau-de-vie.—*Gaz. Hebd.*, October 19.

FROM ABROAD.

The University of Brussels.

It is gratifying to find that, notwithstanding all the efforts made and slanders circulated by the Ultramontane party (nowhere so rampant as in Belgium), this "free" University is pursuing a prosperous career. On the opening of the scholastic year 1877-78, M. Van Schoor, the Administrative Inspector, announced that the number of students registered during the academic year 1876-77 amounted to 877—viz., in the Faculty of Philosophy and Letters, 86; in the Faculty of Laws, 228; in the Faculty of Sciences, 178; in the Faculty of Medicine, 281; and for the Polytechnic School, 104. And this is no accidental success, for the number entering the University—in part in consequence of the great exertions made by the professors, and in part as a result of the war which the Ultramontanes have declared against lay teaching of any kind—is continually on the increase. Thus, in 1874 there were 537 students; in 1872, 583; in 1873, 594; in 1874, 686; in 1875, 715; and in 1876, 773. Besides these figures, which relate only to the four faculties, there have to be added since 1874, when the Polytechnic School was founded, 101 pupils for that year, 106 for 1875, and 104 for 1876, making a total for each of these years of 787, 821, and 877 students. This progress is in nowise due to laxity of the examinations, the proportion of rejections having sensibly increased this year, the professors being determined that the diplomas of the University shall not protect incapacity for fulfilling the functions of the State or undertaking the duties of the professions for which they are understood to offer solid guarantees.

Gonorrhœal Rheumatism.

From a clinical lecture by Prof. Gosselin on this subject, reported in *Gaz. des Hôp.*, No. 108, we take the following observations:—

A man, aged eighteen, was admitted to the Charité with acute pain in the right knee, accompanied by swelling and considerable effusion. The pain dated back five days, came on suddenly, without prior rheumatic history, and rapidly acquired its present intensity. Appetite and sleep had disappeared, and yet, in contrast with such an assemblage of symptoms, there was but little fever. The sudden appearance and rapid succession of these phenomena are to be noted as only occurring in two affections—ordinary rheumatic arthritis, and blenorrhagic arthritis. In the former of these it is rare to find such excessive pain and considerable swelling, and especially is it so for these to persist five days in one important joint without other joints being also affected. Even if other joints now become implicated, still the fact of this condition having persisted for five days shows that the case is not one of articular rheumatism. This localisation in one joint is a character of gonorrhœal arthritis; and on examining the man's urethra, obvious signs of inflammation were found. But in this man the gonorrhœa only dated a week back, while gonorrhœal arthritis usually appears only at about the fifteenth or twentieth day.

Much discussion has taken place in recent times as to whether such an affection as "gonorrhœal arthritis" really exists—that is, whether there is an articular affection having a special connexion with gonorrhœa, or whether the affection is not merely an attack of articular rheumatism coinciding with the urethral lesion. Lorain even maintained that there is a variety of rheumatism that coincides with a disease of the genito-urinary organs, and which he termed "uro-genital rheumatism." Both doctrines, in fact, are well founded, for it is indubitable that acute articular rheumatism may occur in the subjects of gonorrhœa, without our being able to say that the gonorrhœa has exerted on them the slightest influence, and which pursue their course just as do cases of ordinary acute rheumatism. Like in this, it may affect the heart and its membranes, and may terminate in the return of the parts affected to quite a normal condition. But there are excellent reasons for admitting that there is also an arthritis intimately connected with gonorrhœa, and due to a special intoxication proceeding from the urethra, the effects of which are manifested on an articulation. This is a theory not demonstrable, but it is a fact that there is a variety of arthritis proper to the subjects of gonorrhœa, and which differs essentially from other articular rheumatisms. It is characterised by its sudden onset, and the rapid appearance of the signs of severe inflammation, very great heat and swelling, the severest pain, and localisation in one joint, or, if several joints are affected, one of these (usually the knee) suffering with peculiar intensity. These inflammatory phenomena also present this peculiarity, that they are not in general complicated by cardiac lesions. Another characteristic of this special arthritis is that it is of much longer duration than acute rheumatism. While the latter may last for fifteen or twenty days, gonorrhœal arthritis will persist for ninety, one hundred, or one hundred and twenty days. The former terminates by resolution, leaving no traces of its presence in the joints; while the latter often ends in anchylosis. Congestive at first, it becomes plastic, giving rise to neo-membranous exudations, which become organised within the joint and in the substance of the synovial membrane, and are accompanied by destruction of the articular cartilages. Another characteristic is, especially when the knee is the seat of the arthritis, that it is very often accompanied by flexion of the joint, which, if not guarded against, leads to deformity of the limb. This vicious attitude, due to muscular contractions plays a very important part in the disease, disposed as it is to terminate in anchylosis. All these conditions existed markedly in the patient under consideration, except the muscular contraction, the absence of which was probably due to the recent occurrence of the affection. In him the pain especially was extremely severe, resisting all the various means employed for its relief. In many cases it thus resists the action of narcotics, and always returns very quickly after the operation of these has been exhausted.

It is of great importance that we should recognise this gonorrhœal form of arthritis, in order that it may be effectually treated. When, for example, it affects the hip-joint, it may lead to a spontaneous dislocation in consequence of enormous amount of effusion which accompanies it, and the which, unfortunately, it is impossible to ascertain. The researches of Petit, Bonnet, and Parise have sufficiently proved the possibility of this accident for our attention to be aroused in regard to it. What is of equal importance to be understood is that the pain may lead to a contraction of the muscles, which will give to the limb a vicious position; and, if we do not take care, it will remain fixed in such position, owing to the tendency of this variety of arthritis to terminate in complete or incomplete anchylosis, abolishing or diminishing the movements of the limb. What is to be done, then, in order to relieve the pain and prevent this termination? The first thing is to secure rest in a good position; and to this end the limb in this case has been rendered immovable on a splint, so as to prevent flexion. And it is perhaps because the limb has been placed in this forced extension that the patient complains of such excessive pain. It is certain, in fact, that flexion mitigates the pain; and it is in order to relieve this that patients instinctively adopt this vicious position. In these cases, also, Prof. Gosselin is in the habit of applying leeches, and would have resorted to them in the present one but for the fact that erysipelas was prevailing in the ward. He therefore substituted cupping, which is less often followed by this complication. The pain will be combated with narcotics, and especially morphia injections; and if the suffering is not abated, and seems to be connected with the enormous swelling due to the great effusion, puncture of the joint, as advised by some surgeons, may be tried. This is a procedure, however, which Prof. Gosselin has never yet had recourse to, fearing to add to the existing malady a traumatic lesion which might, in certain cases, favour the passage of a simple congestive to a purulent form of synovitis. Still, as this form of arthritis has very little disposition to terminate by resolution, the operation may be undertaken without much fear, care being taken to close the aperture and exert slight compression on the joint by means of a layer of cotton and a bandage. Moreover, copaiba, cubebs, and alum have been given to this patient, as to the ordinary subjects of gonorrhœa, in the hope that, by modifying the nature of the urethral discharge, the arthritis dependent on the urethra might also be at the same time modified. This, however, is a purely theoretical way of proceeding, and Prof. Gosselin is in possession of no fact which demonstrates in a positive manner its practical utility.

Discharge of Semen in Hanging.

In a paper published in the *Berliner Klinische Wochenschrift* (August 31), Dr. Müller-Benigna refers to a recent treatise by Dr. Huppert, which appeared in Eulenburg's *Vierteljahrschrift*, in which he comes to the conclusion, from his observations chiefly on epileptics, but also on persons hanged or who have died from suffocation from other causes, that the sudden and complete interruption of the access of air to the healthy respiratory and circulatory apparatus, occurring through the epileptic attack, in the process of hanging, or from other cause, may be attended with an effusion of semen into the urethra, although no ejaculation causes the expulsion of this. This he proves by an examination of the urine first passed after the epileptic paroxysm, and also from an examination of the contents of the urethra after death. Without expressing any opinion as to the regularity of this occurrence, Dr. Müller-Benigna reports a case which occurred a few years since confirmatory of the view.

A strong man, a prisoner, about forty years old, hung himself, and on inspection, about an hour after death, there was found neither turgescence of the genitals nor any moisture of the penis or surrounding part. At the autopsy, made twenty-four hours afterwards, at which all the signs of death from suffocation were very distinctly marked, there was also found under the urethral orifice about half a teaspoonful of seminal-looking fluid, which in the meantime had flowed out. Examined under the microscope, great numbers of spermatozoa in lively motion were observed, so that there could be no doubt as to the nature of the fluid. Had the first inspection of the body sufficed, or had the quantity of semen been so small as not to have issued from the urethra, then there would not have occurred any supposition that such effusion existed. This has probably been the case in many instances, and it certainly would be a matter of interest to examine the urethra in a great number of hanged persons, or of those who have died from other modes of rapid suffocation; and this may be very easily executed by making pressure along the course of the urethra from the perineum to its orifice, and examining by the microscope any fluid which issues.

There is nothing physiologically improbable in the position laid down by Huppert, that an effusion of semen takes place into the urethra in consequence of a sudden and complete interruption to the access of air. The semen, in consequence of the peristaltic movements of the vesiculæ seminales and vasa deferentia, is brought into the commencement of the urethra, whence it is carried on by the action of the bulbo-cavernosi and ischio-cavernosi muscles. Under the circumstances described, the peristaltic action of the vesiculæ is brought on by the suddenly induced venous condition of the blood—just as in suffocated animals the intestinal movements are accelerated—the muscular contraction not taking place.

A Sign of Hæmoptysis.—M. Constantine Paul observed at the Société de Thérapeutique that a sure prognostic sign of hæmoptysis is found in the recurrent pulse. If while the finger compresses the artery at the wrist, a pulsation is felt in the hand, we may feel certain that the patient will spit blood. During the last ten years that he has paid attention to the point, he has come to regard this sign as certain.—*Gaz. Hebd.*, October 19.

Paris Faculty of Medicine.—In addition to the regular courses of lectures at the Faculty for 1877-78, which we published last week, the following Professeurs-Agrégés have been appointed to undertake clinical courses:—M. E. Besnier, of the St. Louis, Diseases of the Skin; M. Archambault, of the Enfants Malades, Diseases of Children; M. Panas, of the Lariboisière, Diseases of the Eye; M. Tillaux, of the Lariboisière, Diseases of the Genito-Urinary Organs; M. Fournier, of the St. Louis, Secondary and Tertiary Syphilitic Diseases; M. Mauriac, of the Midi, Syphilitic and Venereal Diseases. It has been suggested that the two courses at the St. Louis ought to have been amalgamated, and a course on Diseases of Women given in lieu of one of them. The Director of the Assistant-Publique has also addressed a letter to the Director of the Salpétrière, requesting that two services of fifty or sixty beds each may be immediately provided at that Hospital, in order that Prof. Ball may commence his lectures on Insanity and on Diseases of the Nervous Centres. It is feared that these may somewhat interfere with the lectures delivered at that Hospital by Profs. Charcot and Voisin.

REVIEWS.

The Hair in Health and Disease. By E. Wyndham Cottle, M.A. Oxon., F.R.C.S. Eng., Senior Assistant-Surgeon to the Hospital for Diseases of the Skin, Blackfriars. London: J. and A. Churchill. 1877. Pp. 149.

This little volume is written "partly from notes by the late Mr. George Nayler." He had intended to produce a work of the kind, and had collected "much information" on the subject, when his death unfortunately stayed his labours. Mr. Wyndham Cottle, who had been a fellow-worker with him, has now completed alone what they had commenced together. A large portion of the volume is adapted, Mr. Cottle states, from the second edition of Mr. Nayler's work on Skin Diseases. The chapters of the volume treat of Alopecia, Canities, and Hirsuties, of the various forms of Tinea, of Pediculi, and of Hair Dyes. The book may be said, we suppose, to express the outcome of the observation and experience of Mr. George Nayler and Mr. Cottle, for scarce any notice is taken of other writers on the same subjects. A few foreign authorities are mentioned; but of living English writers Mr. Wilson alone, we believe, is even named, and that only in connexion with a case of canities exhibited by him at the Clinical Society.

Our Egyptian Obelisk: Cleopatra's Needle. By Erasmus Wilson, F.R.S. People's Edition. London: Brain and Co., Paternoster-row. 1877.

Mr. Erasmus Wilson, who never does anything by halves, is, *more suo*, not content with contributing with a magnificent generosity a few thousands sterling towards bringing "our Egyptian obelisk" to London, but he has also published this little pamphlet, to serve as an introduction of the obelisk, for the uses of the people. In the space of thirty-two pages he gives, with the aid of a few illustrations, a pleasantly readable and instructive description of Cleopatra's Needle, and a brief history of Egyptian monoliths in general. The *brochure* is extremely well and tastefully got up in every respect, and is a marvel of cheapness, its publishing price being only threepence. Mr. Wilson informs us that he has been led onwards, by an increasing interest in his subject, to write a fuller account of obelisks and their surroundings than he had at first contemplated; and that the publication of this only awaits the erection of Cleopatra's Needle in London. We trust that the public will soon be the happy possessors of both the famous Needle, and Mr. Wilson's "popular volume."

Archives of Dermatology. Vol. III., No. 3—April, 1877. L. Duncan Bulkley, A.M., M.D., Editor. New York: G. P. Putnam's Sons.

The April number of the *Archives* maintains the high standard of previous issues. It contains the details of a case of a bearded woman, by Dr. Duhring; a very good article on the nomenclature and classification of diseases of the skin, by Dr. Bulkley, "based on several modes of grouping diseases, etiological, clinical, pathological, and histological"; and, *inter alia*, an account of a method of tattooing small nævi, by Professor Sherwell, of Long Island Hospital Medical College, which may be useful in cases where the patients object to the radical cure by the galvanic cautery.

Under "Extracts and Translations" an excellent *résumé* of the present state of the doctrine of vegetable parasites of the skin, by Professor Moriz Kaposi, of Vienna, has been made available for English readers by Dr. Rohe, of Baltimore. The main argument of the article is that the idea of the identity of the fungi of favus, herpes tonsurans, and pityriasis versicolor is not supported by the scientific botany of the present day.

The digest of literature is, as usual, very complete, and we would especially direct attention to Section II., on Syphilis and Venereal Diseases, for valuable information on the hypodermic treatment of syphilis by mercuric albuminate and mercuric peptone, as proposed by Bamberger, of Vienna.

We hope the *Archives of Dermatology* will obtain in this country the support they well deserve.

Wyld's Famine Map of India.

We have received from Mr. James Wyld, Geographer to the Queen, of the Strand and Charing-cross, a map of India, showing the famine districts in the great famines of 1860-61,

1865-66, 1873-74, and 1877. The map does not show the limits of the provinces or the principal districts of the Indian peninsula, but it will be found very useful to all who desire to obtain quickly and easily a general idea of the relative positions of the districts affected by the famines mentioned. The existing railways are shown; and the population of each affected district, and its area in square miles, are given in round numbers, together with the average rainfall and some other meteorological data of importance and interest.

PROVINCIAL CORRESPONDENCE.

MANCHESTER.

October 24.

The New Infirmary Board—Opening of the Medical School—Meeting of the Medical Society—Alleged Death from Excessive Smoking.

The New Infirmary Board is the result of a compromise between the two opposing factions, the advocates and the opponents of removal. Though numerically equal, the parties are by no means evenly balanced as regards energy and business aptitude. The representatives of the outside party, or the non-removalists, are vastly more wideawake than the trustees who remain from the old Board to fight the battle of the removalists. The result of this is, that the Infirmary is forthwith to be enlarged and improved, and there is a danger lest the amount of money expended on these alterations should be so great as to afford a plausible excuse for delaying indefinitely the removal of the institution, which sooner or later is inevitable. The plain fact is that the present building cannot be enlarged sufficiently to meet the wants of the neighbourhood without completely occupying the Infirmary grounds, and building close up to the boundary-walls. This would be to deprive the city of a very large portion of the most valuable open space it possesses, and the merest tyro in sanitary science knows how important such air-purifying spaces are in the midst of a dense population. Our hopes rest, for the present, upon the restraining influence of the medical staff, with which, fortunately, the new Board shows every disposition to work harmoniously. Meantime, while the architects are preparing and presenting plans for the proposed improvements, and sub-committees are engaged in criticising and reporting upon them, the Board is resolutely setting to work to reduce the current expenditure. So thoroughly are these enthusiastic reformers bent upon this object, that even the supply of beer to the nurses has been made the subject of a special report, and the occasion of a somewhat amusing discussion. It is to be hoped that some of this newly found energy will be turned to account in speedily devising some plan for getting rid of the hideous wooden panic-sheds which were erected on three sides of the building in consequence of Mr. Netten Radcliffe's report. Originally intended to insure the immediate isolation of cases of erysipelas and allied affections, they are now used to a considerable extent as ordinary surgical wards—another proof of the utter inadequacy of the present accommodation.

The Medical School was opened this session without the usual introductory lecture. The predisposing causes of this innovation were, no doubt, the spreading conviction of the inutility of these addresses, and the example set by several of the metropolitan schools, and the exciting cause was the fearful uproar in which some of the students indulged during the "introductory" of last session. The registration for the winter session is highly encouraging, fifty-seven new students having entered their names.

The first meeting of the Medical Society for the present session was held on October 3, and several of the communications were of great interest. Dr. Dreschfeld showed two little boys, children of the same parents, suffering from sclerosis in patches, and gave a careful and concise account of the symptoms and pathology of that affection. Dr. Humphreys exhibited a younger child, in an earlier stage of the same disease, from the Sick Children's Hospital at Pendlebury. Dr. Ross showed a pathological preparation from a patient in whom a tumour of the cerebellum had been diagnosed during life. At the autopsy a glioma of the cerebellum was discovered, in the exact situation which had been predicted from the symptoms. Mr. Cullingworth briefly narrated two cases of abscess in both ovaries, and placed the preparations on the table. In one of the cases a large abscess of the right ovary had burst and discharged its contents between the peritoneal and muscular layers of the abdominal wall. The cavity thus formed extended above the level of the umbilicus, and from the anterior spine of one ilium to that of the other. During life it presented many of the signs of a suppurating ovarian cyst. The paper of the evening was read by Mr. Bishop, on the aid which may be derived, at the end of the first stage of labour, where the head has not yet descended, from irritation of the posterior vaginal wall by the fingers of the accoucheur. Vigorous uterine contractions are said to be capable of being thus induced by reflex action. It was pointed out by several subsequent speakers that the idea was not a new one, having been mentioned by Tyler Smith, Swayne, and others. Nevertheless, the Society congratulated Mr. Bishop on having re-investigated the subject, and tendered him a hearty vote of thanks for his paper.

An inquest, which has excited a good deal of interest, was held here four or five weeks ago (September 24), upon the body of a man, aged fifty-five, who had been found dead in bed. It was stated in evidence that the man had taken very little food, and had smoked to excess. A post-mortem examination showed absence of fat about the body, extensive disease of the heart and one lung, and corrugation (*sic*) of the stomach. The medical man who conducted the autopsy stated that the condition of the stomach was due to excessive smoking, and that death resulted from want of proper nourishment and poisoning by nicotine. The jury returned a verdict to that effect. Smokers became alarmed, and the agents of the Anti-Tobacco League were no doubt elated at the prospect of being able to add one more to their collection of deterrent anecdotes. In a few days, however, an able letter, pointing out the absurdity of the verdict, appeared in the *Manchester Guardian* from Dr. Dreschfeld, who some years ago was engaged in experiments on the physiological action of nicotine. He says, "None of these (specified post-mortem) changes have ever been traced to the inhalation of tobacco-smoke. . . . . Chronic nicotine poisoning from excessive smoking chiefly affects the nervous system, and produces symptoms which either leave no changes recognisable after death, or such changes as only a very minute examination can detect, such as alterations in the optic nerve and in the chemical reactions of the viscera. . . . . In this particular case there is no reason for attributing to nicotine any share whatever in causing death."

GENERAL CORRESPONDENCE.

"VIN DE BAUDON."

Letter from Messrs. Pagny, Wallace, and Co.

[To the Editor of the Medical Times and Gazette.]

Sir,—We regret that ignorance until to-day of the publication of Dr. Andrew Clark's letter in your issue of August 11 should have thus delayed the explanation due from us in respect to the use of his name in connexion with the "Vin de Baudon." Our advertisement is simply an abstract of the London Hospital Report published in your journal, and Dr. Clark's name being prominently connected with the case, and thereby made public, fully, we considered, justified us in appending it to our advertisement.

Had Dr. Clark made us acquainted with the facts of the case as stated in his letter, we should have rendered its publication unnecessary by having at once suppressed his name. We have apologised for having caused him unintentional annoyance; but as his letter as it stands is calculated to do us considerable injury, we beg you will favour us by publishing this explanation in your next issue. We are, &c.,

October 17, 1877. Pagny, Wallace, and Co.

CORRIGENDA.

Letter from Dr. Eugène Dupuy.

[To the Editor of the Medical Times and Gazette.]

Sir,—There are some clerical errors in my paper now in course of publication in the *Medical Times and Gazette*. It is through an inadvertence for which I am at a loss to account, and which I am glad to do amend for, for the sake of scientific accuracy, that the words beginning by "Portions of brain, etc.," lines 26, 27, and 28, column 2, page 85, have been incorporated in

the copy of my manuscript. They are to be considered "*non avenus*." Also page 86, the words "which had, etc.," to "knife, etc.," line 5, column 1, are "*non avenus*." Page 357, column 1, line 61, instead of "he begged," read "we beg." Page 358, column 2, line 11, after "brain" add "lesion." Page 358, line 15, after "influence" put a comma; instead of "C" put "c"; the sentence ends with "specifically," next line begins with "I," new sentence. I retain absolutely nothing of Dr. Bartholow's letter contained in your issue of September 29, except the notice of the errors above stated. I am always happy to rectify errors. The tirade contained in that letter of the Doctor on the humanitarian aspect of vivisection performed on feeble-minded people, and brutes of the lower species, I have no concern with. I believe that it is apparent for all that my meaning is to show that the Doctor's experiment could not be made to support the cerebral localisation theory, which I trust is now proved, and not to take him up as a very harsh man indeed.

I am, &c., EUGÈNE DUPUY, M.D.

37, West Thirty-third-street, New York, October 12.

REPORTS OF SOCIETIES.

THE PATHOLOGICAL SOCIETY.

TUESDAY, OCTOBER 16.

CHARLES MURCHISON, M.D., LL.D., F.R.S., President, in the Chair.

(*Concluded from page* 451.)

OBLITERATION OF THE AORTA.

DR. WICKHAM LEGG exhibited a specimen of obliteration of the aorta at the insertion of the ductus arteriosus. A man of twenty was brought dead into St. Bartholomew's Hospital. On examination the following condition was found:—The internal mammary arteries were as large as a goose-quill. The pericardium was full of blood from rupture of a dissecting aneurism of the aorta. The heart, which was of natural size, presented only two aortic valves. The aorta was much dilated, and highly atheromatous in its first portion; and gave off four branches above the point of obliteration, the last being the left subclavian, which took its origin from the constricted portion close above the obliteration. Below the seat of obliteration the aorta became of natural size almost immediately, large intercostal arteries springing from it. The ductus arteriosus was obliterated, but its attachment to the aorta would allow a fine bristle to be passed up for a line or two. The anastomosis between the internal mammaries and intercostals, and the mode of death, were usual in cases of obliteration of the aorta. Probably eighty cases of narrowing of the aorta were on record; but not more than fifteen of complete obliteration. With respect to the cause of this condition, some pathologists believed that the constriction arose in connexion with the closure of the ductus arteriosus post-partum; other pathologists believed that it was a congenital defect. In support of the former view there was the fact that in every case the constriction occurred at the insertion of the ductus arteriosus into the aorta, and also that in one instance the thrombus within the ductus was found spreading into the aorta. On the other hand, Rokitansky and Peacock contended that there was an original vice of constitution of the aortic arches in these cases. The ductus arteriosus was not always found closed, and probably did not close by thrombus, but by contraction. Dr. Peacock had further pointed out how frequently this contraction of the aorta was associated with some other congenital defect in the body, such as hare-lip, fissured-palate, and especially defects in the vascular system, such as imperfect septum ventriculorum, or defect in the number of the aortic valves—a defect present in Dr. Legg's case. The thymus gland was persistent in this case. Dr. Legg believed that both explanations might possibly apply in different cases.

DR. COUPLAND said that a similar case had been lately under observation at the Middlesex Hospital, and had been diagnosed multiple cirsoid aneurism in the back. The man died of fatty degeneration of the heart; and post-mortem a constriction of the aorta was found, not perfectly complete. Just below the ductus arteriosus it seemed as if a cord had been tied round the aorta. There was great enlargement of the aorta above and below. The first intercostal arteries were as large as the brachial, and the internal mammaries and other vessels were similarly enlarged.

MR. SYDNEY JONES said that he had shown a similar specimen at the Society twenty years ago, and briefly described it. In that case the transverse cervical artery was very large, on account of the anastomosis. The subject was a man of forty-five, and the aorta was completely blocked for a quarter of an inch.

MR. WAGSTAFFE was anxious to know whether there were any signs or symptoms which could be used *intra vitam* as diagnostic of contraction of the aorta.

DR. COUPLAND replied that, if there were none perfectly certain, he believed he could diagnose another case were it to come under his observation.

DR. LEGG said that Oppolzer diagnosed aortic contraction thirty years ago, and that the condition had frequently been diagnosed since, including once by Dr. Walshe.

CYSTINE CALCULI.

MR. CHRISTOPHER HEATH exhibited portions of cystine calculi, and reported the conclusion of the case, which he had previously brought before the Society, two years and a half ago. The present specimens consisted of two pieces of calculi removed post-mortem, and dust brought out by the lithotrite before death. The patient, a man of twenty-eight, had presented symptoms of calculus; and on lithotomy being performed, eighteen calculi had been removed. Two years afterwards the symptoms returned, and calculi were twice crushed. Some weeks later the man came in in a dying state. Post-mortem the bladder was found acutely inflamed, with masses of cystine in the bladder and ureters, and the kidneys were extremely diseased. The masses found post-mortem were much softer than those removed by operation.

THE PRESIDENT inquired whether there was any family history of cystine in the urine.

MR. HEATH replied in the negative.

DR. HARE asked whether cystine was always found in the urine. In several cases which he had himself observed, cystine never disappeared from the urine under any circumstances.

MR. HEATH replied that cystine was always present in the urine.

THE PRESIDENT said that he knew a case of a gentleman who had passed cystic oxide in his urine for five-and-twenty years, and had been operated on for calculus. He was still vigorous.

DESTRUCTIVE PNEUMONIA FROM PRESSURE ON BRONCHUS.

DR. PEARSON IRVINE exhibited a specimen of lung in this condition. A man of forty-three was admitted into Charing-cross Hospital in April, and died in July, of aneurism of the aorta. His illness dated from the previous Christmas, when it began with hoarseness. There was no history of disease of the chest, of syphilis, or of alcoholism. From Christmas till April he suffered from dyspnœa, hoarseness, and pains along the left side. On admission he presented the physical signs of aneurism of the ascending aorta. During his residence in the hospital there was gradually-developed dulness over the back, from apex to base of the left lung, with less extensive signs in front. The right lung was hyper-resonant. Death occurred rather suddenly. Post-mortem an aneurism was found as large as an orange on the ascending aorta. The left bronchus was compressed immediately below its origin; and the bronchial wall, including the cartilages, was ulcerated. The left lung was also compressed by the body of the aneurism, but was less diseased at this point than at any other. It occupied more of the thorax than normal, and was hard and dense. The pleura was greatly thickened, and the cut surface of the lung proved to be cribriform from apex to base. This appearance was due to the presence of cavities filled with grumous reddish fluid in immense quantities. The upper lobe presented less change than the rest, a portion of breathing-tissue remaining. The right lung was almost healthy. Dr. Irvine said that the point of interest in the case was the nature and cause of this condition of the left lung. Last year he showed a similar case, but more chronic; the present case was really acute. With respect to the cause, the nerves had been credited with an important share in its production. The explanation that Dr. Irvine would offer was that in the early stage of the disease there was an emphysema from greater impediment to exit than to entrance of air; that at last neither air nor secretions could escape; and that by the damming back of both air and secretions a destructive pneumonia was set up. The

aneurism in this case, as in his former case, was found empty post-mortem; and this seemed to him to be an important point—that an aneurism without clot might do more harm than an aneurism containing a clot. Dr. Pye-Smith showed a specimen of lung last session almost exactly like the present, as syphilitic in origin. Might not that specimen and others like it be due to disease of the bronchus, not to syphilis directly?

The President inquired what the nature of the fluid was that was found in the cavities.

Dr. Irvine replied that it contained a mixture of blood and pus-cells disintegrated.

Dr. Barlow said that he had lately seen a case, in a child, in which a pea had been impacted in a bronchus and led to ulceration. The secretions had gravitated and set up a condition of lung very similar to that of Dr. Irvine's specimen, only rather more chronic. He believed that Sir William Gull had first suggested that destructive pneumonia in cases of mediastinal tumour might be due to pressure upon the pneumogastric nerve. His own case supported Dr. Irvine's view.

Dr. Greenfield believed that this change on the lung was due to shutting up of the secretions and consequent ulceration. He had observed it with tumours pressing on the bronchus, in cases of foreign body in the air-passages, and in syphilitic disease of the same parts.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Thursday, October 23.

Charles West, M.D., President, in the Chair.

On Œdema (Myxœdema) in the Cretinoid Condition of Adult Women.

Dr. W. M. Ord described five cases of the above disease in which the symptom first apparent was general anasarca without albuminuria. The anasarca was, however, different from the anasarca of renal affection, in that while it was general the parts affected did not pit on pressure, and, as there was no gravitation of any fluid, remained equally swollen at all times. In all the cases there was remarkable thickening and broadening of the features, and slow articulation; there was marked slowness of perception, slowness of thought, and slowness of action, without any actual impairment of intellect. The cases all exhibited the pink tinge of the cheeks, and the spade-like state of the hands described by Sir William Gull in his paper on a cretinoid condition supervening in adult life in women; and it is remarked that all the cases seen by the author have been in women. The skin generally was harsh and dry, as well as swollen and semi-transparent. There was in all the cases an absence of natural perspiration. There were in none of the cases any indications, either in the urine or in the organs of circulation, of the existence of renal disease. But in two cases which ended fatally after several years of observation, renal symptoms appeared before death—that is to say, with the occurrence of fluid anasarca the urine became albuminous, the arteries became tense and thickened, and the heart overgrown. In one case a post-mortem examination was obtained. The kidneys were found to be of normal size, rather tough in consistence, and not notably discoloured. The cortical portion was a little wasted, but the capsule was not adherent. The arteries were everywhere greatly thickened, there was much atheroma in the larger vessels, and the heart was much hypertrophied on the left side, weighing sixteen ounces and a half. There were no other important naked-eye appearances excepting the thyroid gland, which was reduced to a third of the natural size, and was tough and fibrous-looking on section. Under the microscope a remarkable overgrowth of the fibrillar element of connective tissue was found in all parts of the body; the fibrils being separated from one another by much larger intervals than usual, and the interspace being filled by a transparent material yielding mucin, an excess of the normal cement, with excess of nuclei. Reviewing the cases, the singular train of nervous symptoms was attributed to failure of the action of the skin, and to general want of peripheric stimulation of the nerves. And this condition was traced again to the mucous œdema by which all nerve-ends were encased. It was argued that a steadily maintained stimulation of the central nervous system was a condition of the maintenance of health in the great nervous centres as in the body at large, and that in such cases as those described there was an isolation from external influences comparable in a less degree with what is effected by shaving and varnishing a rabbit. The symptoms observed in the cases under notice were compared one by one with the symptoms described by Sir William Gull in the paper referred to, and their identity was held to be established. They were then compared with those of cretinism, and again a remarkable agreement was demonstrated. Reference was also made to Mr. Curling's paper on two cases of absence of the thyroid in children suffering from mental infirmity, and to Dr. Hilton Fagge's paper on Sporadic Cretinism in England, where again, in conjunction with cretinoid symptoms in children, the thyroid gland was absent, or could not be felt. The thyroid gland in the case examined after death having been found to be practically annihilated, owing to the encroachment of the myxœdema upon its natural structure, this case was held to afford confirmation to Dr. Fagge's argument set forth in the above paper. In the last place, it was suggested that such a condition existing early in life, before the development of the intellect and of the organs related therewith, would cause arrest of development through failure of the guiding sensations and stimulations. It was held that the natural process of development of the central nervous organs is directly dependent upon exercise of these organs set going by impulses from the periphery, that the surroundings of the growing animal "lick it into shape" so to speak, and that the intrusion of an insulating medium will tend to arrest development in proportion to the completeness of insulation. Observation showed that many cretins were "œdematous," and that an œdematous state of the skin was often an indication in particular cases that the child so affected would become a cretin. The paper, therefore, suggested that more extended observation might possibly reveal some such connexion in cretinism as was there asserted of the cretinoid state of adult women. The ultimate course of the condition called myxœdema remained, the author said, unexplained.

OBSTETRICAL SOCIETY OF LONDON.

Wednesday, October 3.

Charles West, M.D., F.R.C.P., President, in the Chair.

Zwancke's Pessary.

Dr. Galabin showed a pessary (Zwancke) which had been worn for six years. The pessary was buried deeply in the vagina, amidst a large number of phosphatic calculi. The bladder, vagina, and rectum formed one cloaca.

Dr. Routh thought this form of pessary most convenient in practice. The injuries were due to abuse of the instrument.

Dr. Robert Barnes thought we should not trust women to remove and replace pessaries, so that it was our duty to select the least objectionable form. Zwancke's was a most objectionable instrument.

Dr. Hicks thought the Zwancke made of wire the most objectionable form.

The President had introduced Zwancke's pessary into England, and found it useful; it was before Hodge's was invented. He had not used it lately.

Dr. Wiltshire had seen nothing but harm from the instrument.

Dr. Hayes had seen evil results from other pessaries.

Dr. Godson had used Zwancke's pessary often, and had seen no harm result. He showed a boxwood disc pessary which had probably been worn for twenty-six years.

Dr. Ellis had seen ulceration and discharge following the introduction of a Hodge's pessary. A patient should be examined a week after introduction of pessary to see that it fits.

Obstetric Practice.

Dr. W. T. Green gave a synopsis of 1500 consecutive labours in his practice. Of the total number of cases attended, 300 were primiparæ, and 1200 multiparæ. Fourteen women gave birth to twins. There were 6 cases of placenta prævia: 3 of the mothers subsequently died; 2 children were born alive. There were 3 cases of hydatid mole. Of the twin births, in 4 the children were both males, in 6 both females, in 4 male and female. In every case where the twins were of the same sex there were 2 placentæ, and the membranes were distinct; while in cases where the infants were of different sexes there

was only 1 placenta, and the membranes were united. Forceps were used on 51 occasions, turning employed 12 times, and craniotomy had recourse to twice. The total deaths were 12 mothers and 73 infants. Of the latter 30 were cases in which the children were not of a viable age. The maternal deaths were due to post-partum hæmorrhage, placenta prævia, exhaustion, and puerperal fever. There were several cases of acute specific fevers during the puerperal period, which recovered. The author had not observed idiocy induced by complications during labour. He had used perchloride of iron to arrest hæmorrhage in placenta prævia, with good results.

Dr. Braxton Hicks would like to have had a fuller history of the cases which had recovered after puerperal illnesses, for more was to be learnt from them than from those that died.

Dr. Edis said that the maternal mortality was high, and required more explanation than was given in the paper. The number of still-born children was the usual percentage, but he thought that infant mortality throughout the country was too high, owing to want of employment of the forceps.

Dr. Barnes said the average of infant mortality in Dr. Green's practice was somewhat less than that in the Royal Maternity Charity, and could not be fairly referred to want of using the forceps.

Dr. Daly said he gave ergot in almost all cases. Dr. Green had not referred to external pressure as a means of helping delivery.

Dr. Heywood Smith asked if there was distinct proof that pelvic cellulitis results from hard labour and use of forceps oftener than from septic absorption.

Dr. Edis said he had no statistics in proof of it.

Dr. Chalmers had given ergot, but did not do so now, and does not think his cases last longer in consequence. It might be well for skilled accoucheurs to use the forceps frequently, but it would be bad in general practice.

The President said that the proportion of males to females (726 to 785) was the reverse of the usual proportion (105 to 100). Perhaps illegitimacy explained it. He had an impression that idiocy had a connexion with protracted, difficult, or instrumental labour.

Dr. Hayes thought that statistics could not decide the question of the frequency with which forceps or ergot should be used. Each case should be decided on its own merits. There are certain indications of the likelihood of the occurrence of post-partum hæmorrhage, and in such cases ergot may be given.

Dr. Galabin had examined the records of twin cases at Guy's Hospital during twelve years. He found all possible combinations of sex, etc., though, from the fact that double monsters are always of the same sex, it would be expected that twins, having a common amnial sac, would be of the same sex.

Dr. Green, in reply, said he had stated accurately the proportion of male and female children. There were only two illegitimate. He had observed a large proportion of the children for a long time, and he had not found reason to connect idiocy with any kind of labour. He had given ergot a fair trial; had never found it do good, but harm, giving rise to retention of contents of uterus. He had used the forceps in all the cases in which he thought them necessary.

The Forceps in certain Breech Presentations.

Dr. T. W. Agnew (Hobart Town, Tasmania) pointed out the great difficulty met with in delivering certain cases of breech presentation, and enumerated the objections raised to the use of the forceps in such cases, though other means failed. Though objections had been raised to their employment, the author thought that recourse might be had to them in some cases when other means had failed. Two such cases in which the instrument had been used with success were detailed.

Dr. Barnes said his experience on the point in question was abundant. He had tried the forceps, and had seen their inefficiency and their danger; they might compress the soft parts above the pelvis and the cord, thus causing asphyxia. Dr. Agnew used leverage—that was good. Breech presentations are of two kinds—that where the legs are bent is easy; the other, where the legs are straight, is very difficult. The breech is like a wedge, and the proper treatment is to decompose the wedge by bringing down a foot.

Dr. Poole suggested the propriety of dividing the symphysis pubes of the child when it is dead, in the difficult cases.

Dr. Hayes applied the forceps to the breech when the os was insufficiently dilated for the introduction of the hand. The instrument slipped, but the breech was dragged into the vagina. A foot was then seized, and delivery effected.

Dr. Barnes said anything might be done to diminish the size of the child when it was dead. He thought the lower the breech was, the more difficult it would be to seize a foot. He would not drag the breech lower down before seizing a foot.

ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.

Friday, October 19.

Dr. Stevenson, President, in the Chair.

The Secretary having read the minutes of the final meeting last session, and of the special meeting in July for the election of officers during the current session,

Mr. Liddle proceeded to remark upon some of the defects of the Building Acts, especially with regard to the foundations of houses—builders being, under the existing Acts, at liberty to take away sand and gravel, and substitute for them decomposing refuse from ashpits. He hoped that some practical measure would be devised for building houses in accordance with sanitary science.

Dr. Tripe remarked that the Society had asked Mr. Sclater-Booth last year to make the general law with regard to infectious diseases uniform throughout the country. London should be on the same footing as the provinces as respects sanitary supervision. The Metropolitan Board of Works should be empowered to make by-laws in accordance with the Public Health Act of 1875. As respects the Building Acts, the medical officer of health has at present no power to prevent builders erecting houses on dust-heaps, or to provide for subsoil drainage. The metropolis is twenty-five years behind the provinces respecting sanitary legislation.

On the motion of Mr. Liddle and Dr. Tripe, these two subjects were referred to the Council for consideration and report.

President's Inaugural Address.

After briefly considering the advantages of an Association of Health Officers, and the work to be done by such an Association, especially that of supervision of sanitary legislation, Dr. Stevenson proceeded to comment upon the alleged sloth of local sanitary authorities. Ardent sanitarians, he said, are never tired of declaiming against the ignorance, the apathy, and the obstructiveness of these bodies. Where ignorance and obstructiveness are found in a local authority, that ignorance and obstructiveness is the product of the ignorance of the public electing such a body, and could not exist were it not in accord with the wishes or the apathy of the people at large who elect such representatives. So long as (*e.g.* in the metropolis) the educated ratepayers take no interest whatever in local affairs, and do not know the differences between a vestry and a board of guardians, a medical officer of health and a Poor-law medical officer, so long will local representatives be apathetic in putting into force sanitary enactments, and asking for improved and more advanced legislation. Happily, there are abundant signs of greater and increasing interest in hygiene on the part of the educated public. That great reflex organ of public educated opinion, the *Times*, is constantly directing attention to sanitary matters. It is our duty, as medical officers of health, not only to educate our own local boards, but also the public at large, in sanitary matters. One of the greatest obstacles to the universal recognition of sanitary needs and shortcomings has been the small interest displayed in hygiene by medical men in general. Preventive medicine is still in great measure an unrecognised subject of medical study, and as a consequence medical students become qualified practitioners without ever having studied or passed an examination in preventive medicine. If an acquaintance with preventive medicine is not demanded of candidates for medical diplomas: if the teaching of hygiene is ignored, nay, even scouted as a subject of medical education, how can a student be expected to pay any attention to it? May the time be not far distant when no man will be allowed to go into medical practice without an adequate acquaintance with hygiene. The increased prominence which sanitary matters have recently obtained with the public has in no small measure been due to the great interest displayed in them by ladies. Women have become very ardent knights of sanitation, and much good

may be expected to result from their exertions. Let anyone compare the sanitary state of any city—say, for instance, this metropolis—now with what it was some dozen years ago: the result will show how great has been the progress made. In no respect has an advance in the recoguition of the value of sanitary work been more apparent than in the means provided for the isolation of infectious diseases. In the small-pox epidemic of 1871 local sanitary authorities in the metropolis were, as a rule, very averse from providing accommodation for the non-pauper classes. In my own parish the matter had to be persistently pressed; and it was only when the crest of the epidemic wave was already passed that such accommodation was provided. In the last epidemic, on the contrary, every step which I thought it nccessary to advise was unhesitatingly adopted; so that whereas in 1871 great numbers of the non-pauper class suffering from small-pox were obliged to be treated at home, iu this last epidemic we had at all times ample accommodation for all who were in need of it. Here, then, we have an instance where the action of a sanitary authority was not behind public and even professional opinion. Most of the parishes in London now make arrangements with the London Fever Hospital for the reception of non-paupers. The Bolton Corporation, taking advantage of the Bolton Improvement Act of last session, has ordered a compulsory registration of infectious disease, so that the occupier of a house in which any inmate is known to be suffering from any infectious disease is required to give notice to the Corporation of the existence of such disease. Medical practitioners are also required to transmit to the Corporation a certificate whenever they meet in their practice with a case of such disease; and to remove all semblance of hardship, the Corporation will pay a fee to the medical man for such certificate. All honour to the Bolton Corporation for boldly trying this experiment! The results will be anxiously looked for. The compulsory registration of infectious disease is a point about which great diversity of opinion prevails, and the greatest opposition to its adoption would perhaps come from a section of the medical profession itself. Medical men say that they cannot afford to offend their patients by giving information of the existence of cases of contagious disease which they may have met with in their private practice, even if paid for giving such information by a public body. They say, and say, I think, justly, that the obligation to give information should rest with the heads of households, and that the duty of the medical attendant would be discharged were he to advise the friends of the sick person that the case is an infectious one. But if the ouus of giving information were laid upon the medical practitioner, who may be regarded as a public official, a truthful statement might well be demanded of him. To this it might be retorted that a heavy premium would here be offered to dishonesty, since a medical man who stoutly refused to inform, spite of penalties, or even a man who lied as to the nature of a disease, would be in great demand with the public. The Bolton Corporation has endeavoured to cut this Gordian knot by requiring a double registration of infectious diseases: not only is the person in charge of the patient, but also the medical attendant, required to give notice to the Corporation of the nature and locality of a case of infectious disease. We, as medical and surgical practitioners, are licensed for certain work. But since every privilege has, or ought to have, a corresponding obligation attached to it, we, in return for the privileges of exclusive legal practice conferred upou us as practitioners of medicine, must not suppose that, should Imperial interests demand it, we can refuse either legally or morally to give information of infectious disease iu our practices, should it be found that the public weal demands the information. The only real ground for the registration of infectious diseases is the danger to others of infection. Were there any other urgent reason it would be equally applicable to all diseases. The occasion of a recent tragedy has served to revive the idea of a registration of all forms of disease, and it has been thought that the revolting circumstances which have been revealed in connexion with the illness and confinement of an unfortunate woman furnish an additional argument in favour of the compulsory registration of all diseases over and above that afforded by the facilities a registration of diseases would afford for the isolation of infectious diseases; and it has been argued that, in the interests of sanitary science, and for the protection of the health of the individual, it is absolutely necessary that the registration of all disease should be made compulsory. If the interests of sanitary science were alone involved, all that is here alleged might be granted; but there are other interests very important and dear to Englishmen which have to be considered, and the day is, I believe, immeasurably distant when we shall have compulsory registration of all diseases. It may now be accepted that the normal relation of a medical officer of health to the sanitary authority uuder whom he works, and whose officer he is, will eventually be, in all cases, like that of the Poor-law medical officer. He will be appointed by the local authority, but not be removable without the sanction of the central authority—*i.e.*, a Government department—and the central will control the action of the local authority. For its successful working it is requisite that there should be perfect harmony and accord between the central and the local authority. There is a very widespread opinion in our profession that the relations of the Local Government Board to local authorities and to sanitary officers are by no means satisfactory; and that sanitation does not receive that full and cordial recognition to which it is entitled at the hands of the Local Government Board. I trust that the members of this Society, notwithstanding that a majority of its most active members are perhaps in no way directly under the supervision of the central authority, will use their best endeavours to secure a happier and more satisfactory state of affairs than at present exists. A Bill for consolidating the sanitary laws relating to the metropolis was introduced at a hopelessly late period of the session. There is little doubt that the Bill will be re-introduced; but it is doubtful whether, if the Government do not display more zeal and earnestness in sanitary legislation than they have of late done, the Bill will become law during the course of next year. The recent outbreak of cattle plague, and the discovery of several outbreaks of typhoid fever from impure milk-supply, have directed increasing attention to the necessity of greater care in the keeping of milch cows, and the collecting and storage of milk. I cannot help expressing an earnest hope that ere long some means will be found of effectually supervising the dairies both in town and country. The Cattle Plague Committee of the Metropolitan Board of Works has been led by its inquiries into the state of the metropolitan cowsheds to advise the Board to declare the keeping of cows to be a noxious business, and to frame by-laws for the regulation of the business of a cowkeeper. If this be done the supervision of the sheds will practically pass into the hands of the Metropolitan Board. The enactment of good by-laws will be most beneficial; but the transfer of the supervision into the hands of men who have no medical head to advise them on matters having a vital bearing on the health of the people will, if effected, be, I believe, by no means a step in advance.

In the debate following the reading of Dr. Stevenson's address,

Dr. Tripe, in proposing a vote of thanks to the President, said that he much preferred listening to a paper on a practical than on a theoretical or somewhat abstruse subject. It was very useful to the members of the Society to trace back the past progress of sanitary legislation, and to lead them up to the work yet required to be done by officers of health in their respective districts. There was no doubt that a large proportion of fever cases taken to the district asylums belonged to the non-pauper class. He could not but think that much valuable time had often been lost by the parish officers going about from one to another to ascertain who is to take the case. One corporation should have the removal of all fever cases, the non-paupers being located in a separate part of the building. As regards the reporting the existence of infectious disease in the house, he thought the occupier in many instances would rather incur the penalty of £10 than give information which would certainly damage their trade—such as publicans, drapers, etc. The plan adopted by the Bolton Corporation was the only practical method—*i.e.*, the medical officer and the occupier jointly reporting the case. He hoped to see shortly framed fresh by-laws for the regulation of cow-sheds, which should be uniform for the whole metropolis. At present 350 cubic feet of space are allowed in Shoreditch, and 400 feet in Hackney.

Mr. Liddle, in seconding the vote of thanks, said that there was gcueral complaint among local boards at the obstacles to progress set in their way by the Local Government Board. He was informed that the members of that Board had never met since that department of the Government was first started. All the business was carried on by the President and clerks in a very routine way. The medical officers of health should in all cases be required to abstain from practice, and be remunerated

accordingly, so as to prevent the petty jealousies often existing between them and their brethren in the profession. The central authority ought to be in more direct communication with the local authority, as an adviser rather than as controlling the acts of the district boards.

OBITUARY.

FRANCIS AUGUSTUS BURDETT BONNEY.

This gentleman, who died on the 13th inst., at his residence, Elm House, Brompton, in the seventy-fourth year of his age, was the son of Mr. J. A. Bonney, a solicitor in London, of good family, who, as the friend of the celebrated Horne Tooke, became involved in the State prosecutions of 1794.

Having received a sound preliminary education at Ealing School, he turned his attention to the study of physic, but the unexpected death of his father stopped for a time this desire on his part; he therefore, like many other good men, had recourse to his pen, and became an acceptable contributor, both in prose and verse, to the literary journals of the day, especially to the *European Magazine*. He subsequently commenced the study of medicine in earnest in Edinburgh, finishing in Paris; he was admitted L.R.C.S. Edin. in 1829, and L.S.A. in 1833, when he commenced the practice of his profession at Brentford. Some years later he removed to Chichester, but returned to London after some years, on his marriage with Miss Elliott, the proprietress of Elm House Lunatic Asylum. He was the author of some valuable papers in the *Medical Times and Gazette* and some of our contemporaries. His widow, two daughters, and three sons (two of the latter being Members of the Royal College of Surgeons of England) survive him to mourn the loss of a most indulgent and affectionate husband and parent.

MEDICAL NEWS.

University of Dublin.—Michaelmas Term Commencements.—A meeting of the Senate of the University was held in the Examination Hall of Trinity College, on Saturday, October 20, for the conferring of degrees, under the Presidency of the College *Caput*—the Right Hon. Montifort Longfield, LL.D., *Pro*-Vice-Chancellor; the Rev. H. Lloyd, D.D., Provost; and the Rev. Joseph A. Galbraith, M.A., Senior Master non-regent. The following degrees in Medicine and Surgery were conferred:—

Baccalaureus in Medicinâ.—Ricardus Henricus D'Olier Duckworth.
Magister in Chirargiâ.—Samuel Warren.
Doctores in Medicinâ.—Georgius Goode (in coloniis), Carolus Fredericus Murray.

Apothecaries' Hall.—The following gentleman passed his examination in the Science and Practice of Medicine, and received a certificate to practise, on Thursday, October 11:—

Pain, Alfred, Coultings, Bridgwater.

The following gentlemen passed, and received their certificates, on the 18th inst.:—

Culhane, Fredk. William Slater, Cranfield-road, Brockley.
Dale, Henry Ridley, The Poplars, St. George's-square, N.W.
Hoole, Henry, Walthamstow, Essex.
Robey, Jesse William, Etruria, Staffordshire.

The following gentleman on October 11 passed his Primary Professional Examination:—

Jacob, Henry Garrard, Charing-cross Hospital.

The following gentlemen passed on the 18th inst.:—

Hatton, George Stokes, St. Thomas's Hospital.
Lavis, Henry James Johnston, University College.
Lynn, Edward, Guy's Hospital.
Richardson, Charles Boards, St. Thomas's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Bennett, Storer.—Medical Tutor to the Dental Hospital of London.
Bennett, William H., F.R.C.S.—Surgeon to the Belgrave Hospital for Sick Children.
Lowndes, Frederick W., M.R.C.S. Eng.—Surgeon to the South Division of the Liverpool Borough Police Force, *vice* Dr. Newton, deceased.
Peacock, T. B., M.D., F.R.C.P.—Consulting Physician to the Training Hospital, Tottenham.
Rogers, Claude.—Demonstrator of Fillings to the Dental Hospital of London.

BIRTHS.

Butcher.—On October 22, at 70, London-street, Reading, the wife of W. Deane Butcher, M.R.C.S., of a daughter.
Caldwell.—On October 23, at Kennington-park, the wife of W. T. D. Caldwell, M.D., of a daughter.
Clifton.—On September 26, at Kamptee, in the Madras Presidency, the wife of Surgeon-Major R. W. Clifton, M.R.C.S. Eng., of a son.
Debenham.—On October 17, at Heath House, Stepney, the wife of Robert Debenham, M.R.C.S., of a son.
Elliot.—On October 18, at Cliffe House, Ruyton-of-the-Eleven-Towns, near Shrewsbury, the wife of Henry F. Elliot, L.R.C.P. Edin., of a daughter.
Irvine.—On October 6, at 3, Mansfield-street, Cavendish-square, W., the wife of J. Pearson Irvine, M.D., of a son, who survived his birth a short time only.
Johnston.—On October 22, the wife of John Johnston, M.R.C.S. Eng., of 3, Albion-place, Maidstone, of a son.
Orange.—On October 22, at Broadmoor, Wokingham, Berks, the wife of William Orange, M.D., of a daughter.
Thomson.—On September 20, at Simla, N.W.P., India, the wife of Murray Thomson, M.D., of a daughter.
Westcott.—On October 13, at Martock, Somerset, the wife of W. Wynn Westcott, M.B., of a daughter.

MARRIAGES.

Barry—Clare.—On October 20, at St. Stephen's, South Lambeth, Edmond Joseph Barry, M.D., of Lenham, Kent, to Constance, second surviving daughter of the late Thomas Clare, Esq., of Heather, Leicestershire.
Bird—Hewitt.—On October 18, at St. Mark's, Notting-hill, George Vernon, eldest son of P. Hinckes Bird, F.R.C.S., of 1, Norfolk-square, Hyde-park, W., to Lizzie Hewitt, of Bradbury House, Cambridge-gardens, North Kensington.
Blackmore—Gore.—On October 23, at St. George's Church, Hanover-square, Humphrey P. Blackmore, M.D., of Salisbury, to Augusta Sophia, second daughter of the late Colonel Henry Ross Gore, C.B.
Buchanan—Paterson.—On October 17, at 10, Queen's-terrace, Glasgow, William Stevenson Buchanan, Dundee, to Jane Campbell, younger daughter of Joshua Paterson, M.D.
Clay—Frost.—On October 23, at St. Mark's, Hamilton-terrace, N.W., Robert Hogarth Clay, M.D., of Plymouth, to Mrs. Mary Alice Frost, second daughter of the late John Gildart Jackson, Esq., of Hull.
Falconer—Sheppard.—On October 24, at St. Andrew's Church, Bath, John Egerton Falconer, Esq., eldest son of Randle Wilbraham Falconer, M.D., F.R.C.P., of Bath, to Isabella Charlotte, daughter of Philip Charles Sheppard, Esq., of Royal Crescent, Bath.
Edger—Hutton.—On October 3, at St. Marylebone Church, London, Warren Edger, of Dukinfield, Cheshire, eldest son of John Warren Edger, M.D., of Kirkby Stephen, Westmoreland, to Jane Taylor, eldest surviving daughter of the late Richard Hutton, of Gilling Lodge, Watford.
Fouracre—Osbaldeston.—On October 17, at the parish church, Islington, Robert Perriman Fouracre, M.R.C.S. Eng., of Hornsey-road, to Hester Jane, second daughter of M. D. Osbaldeston, solicitor, of Lincoln's-inn-fields and Hornsey-rise.
Madeley—Barton.—On October 16, at St. Michael's, Coventry, George Henry Madeley, M.R.C.S. Eng., Surgeon Royal Marine Light Infantry, to Katharine Helen, only daughter of the late George S. Barton, of Coventry.

DEATHS.

Basham, W. R., M.D., for many years Physician to the Westminster Hospital, at 17, Chester-street, Belgrave-square, on October 16, aged 73.
Cotton, Theresa Caroline Amelia, wife of George Cotton, M.R.C.S. Eng., of Northampton, at 47, Abington-street, on October 14.
De la Cour, George Gerald Herbert, infant son of G. F. de la Cour, M.D., at 282, Camden-road, N.W., on October 21, aged three weeks.
Elam, Shrofield, L.S.A., M.R.C.S., late of Tipton, Staffordshire, and Clare, South Australia, at Collingwood, Australia, on August 24.
Freeman, Henry Lankester, M.R.C.S., late of Saxmundham, at Woodbridge, on October 17, in his 82nd year.
Jackson, Rosa, wife of T. Carr Jackson, F.R.C.S., and youngest daughter of the late Thos. Wakefield, Esq., at 91, Harley-street, Cavendish-square, on October 23.
Latham, Mima Burns McDiarmid, wife of P. W. Latham, M.D., Downing Professor of Medicine at Cambridge, on October 20.
Neale, W. M., M.D., at Worksop, on October 14, aged 64.
Silvester, T. H., M.R.C.P. Lond., formerly of Clapham, Surrey, at Broadwater Grange, Tunbridge Wells, on October 16, in his 79th year.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

East Sussex, Hastings, and St. Leonards Infirmary.—Third Assistant-Surgeon. Candidates for the office must be Fellows or Members of the Royal College of Surgeons of London, Dublin, or Edinburgh. Applications, with testimonials, to the Secretary, endorsed "Application for Assistant-Surgeon," on or before November 10.

Worksop Dispensary.—Resident Surgeon. Candidates must be unmarried and doubly qualified. Applications, with testimonials, to J. Wilson Hamil, M.D., The Dispensary, Worksop, on or before October 27.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Burton-upon-Trent Union.—Mr. Alfred E. Prockter has resigned the Barton-under-Needwood District; area 12,892; population 3117; salary £45 per annum.

Erpingham Union.—Mr. J. Cooper has resigned the Cromer District; area 8818; population 4119; salary £66 per annum.

Thetford Union.—Mr. R. Thompson has resigned the Brandon District; area 14,486; population 2888; salary £52 7s. per annum.

APPOINTMENTS.

Aysgarth Union.—Edward Allen, M.B. Edin., L.R.C.S. Edin., to the Hawes District.

Dursley Union.—Francis J. Joynes, M.R.C.S. Eng., L.S.A., to the Third District.

Foleshill Union.—Ernest J. Pritchard, M.B. and C.M. Glasg., L.S.A. Lond., to the Shilton District.

Horncastle Union.—James C. Gray, L.R.C.P. and L.R.C.S. Edin., to the Tetford District.

St. Asaph Union.—Humphrey Roberts, L.R.C.P. Edin., M.R.C.S. Eng., to the Llanfairtalhaiarn District.

St. Thomas Union.—Arthur B. Ewen, M.R.C.S., L.S.A., to the Exmouth District.

Weymouth Union.—James Bartlett, L.S.A. Lond., L.R.C.P. Edin., L.F.P.&S. Glasg., to the Owermoigne District.

Royal College of Surgeons.—The annual registration of medical students is now, and we hope permanently, brought to a close at this institution, and the gross number amounts to 1919, including eighty-two dental students. Of the latter number an addition of nine is to be made to the Middlesex Hospital, bringing up the number of new entries to forty-four, against thirty-eight last year.

Treatment of Pertussis by Pulverised Ether.—Dr. Lubelski, of the Warsaw Civil Hospitals, recommends in the first two stages of pertussis the application to the neck, along the course of the pneumogastric nerve, of ether pulverisations. The first trial, made on his own child, aged seven, was followed by almost immediate relief. These pulverisations are, of course, only to be regarded as palliatives, especially applicable to children harassed by violent and frequent paroxysms.—*Gaz. Hebd.*, October 19.

Danger of Hair-Colouring.—In No. 38 of the *Veröffentlichungen* of the German Sanitary Board, caution is given against the use of hair-colouring preparations containing lead, and the results of Hager and Wittstein's analyses republished for general circulation. According to these, Allen's World's Hair-Restorer and Rossetter's Hair-Regenerator consist of strong solutions of the acetate of lead in glycerine and perfumed water, in which finely divided sulphur is suspended. Both preparations are characterised as highly dangerous to health.

Animal Vaccination in Italy.—The Milan Animal Vaccination Committee publishes the following statistics of the results that have been ascertained at the various animal vaccine centres in Italy. The conjoined numbers amount to 100,546 vaccinations, and 82,020 revaccinations—a total of 182,566 inoculations. Of the 100,546 vaccinations, 91,427 (90·93 per cent.) produced genuine results, 344 (0·34 per cent.) spurious results, and 1487 (8·72 per cent.) no results at all. Of the 82,020 revaccinations, 35,335 (43·08 per cent.) produced genuine results, 8129 (9·91 per cent.) spurious results, and 38,556 (47 per cent.) no results.—*Gaz. Med. Lombardia*, October 6.

Population of the German Empire.—The Imperial Statistical Bureau has just published the statistics of the progress of population in the different states of Germany. In 1871 the entire population amounted to 41,058,792 souls, and at the end of 1875 it had increased to 42,727,360, or an augmentation of 9·78 per 1000. It is in Prussia, in the kingdom of Saxony, and in the free cities, Hamburg, Bremen, and Lubeck, that the greatest increase has taken place, and then follow Bavaria, Würtemburg, Baden, Hesse, etc. In Prussia the increase has been 10·42 per cent., in Bavaria 8·04, in Baden 7·68. On the other hand, in Alsace-Lorraine, in Mecklenburg, and in Waldeck it has only been 6·67.—*Progrès Méd.*, Oct. 6.

Something New to Westerns.—Gold-leaf poisoning appears to be seldom practised at Kiukiang as a method of committing suicide, as I have heard of only one case during my three years' residence. In March, 1877, I was asked if an antidote could be furnished for this aristocratic method of poisoning. Being anxious to meet such a case, a favourable opinion was advanced if the patient could be brought for treatment. This, however, was not done, and how the case ended is still unknown. Gold-leaf, where it does not suffocate, must act simply as an irritant, and therefore I should consider that the rational treatment would be the continuous exhibition of alkalies, with demulcent drinks and emetics; but how far they might succeed in practice remains to be proved.—*Dr. Jardine, in the Chinese Customs Gazette.*

Worms in the Heart of Dogs.—During the past year there has been an alarming mortality among foreign dogs (at Kiukiang) of all kinds, and in nearly every case where the dog has been dissected, death has been found due to worms in the heart. The left ventricle has in some instances been almost completely filled with them; but I believe that as long as these creatures remain in the cavities, they are comparatively harmless, and that it is only when they obstruct the passage of blood through the orifices, or impede the action of the cardiac valves, that they prove fatal. The whole circulatory system has been examined on two occasions, as well as the blood microscopically, but no clue can be got to their origin.—*Ibid.*

Of late years, investigations into the diseases of animals have been made to an extent never before attempted. Many obscure forms have been brought to light, and the possibility of the communication to man of disease hitherto believed to be confined to animals has been fully established. Thus, by experiments on himself and others, Hertwig has proved that the "foot and mouth disease" is conveyed to man by milk yielded by animals affected with that malady. Stomatitis, and a vesicular eruption on the mucous membrane of the mouth, are among the symptoms. Side by side, however, with such inquiries as Hertwig's, other investigations have been pursued into the effect of various conditions upon infected milk. It has been set beyond doubt that milk loses infectious properties on boiling. Now, as in Shanghai many foreign children are fed on milk derived from all sorts of questionable sources—baffaloes and Chinese cows—the rule should be faithfully observed to boil all milk before it is used as food. I have noticed that aphthous ulceration of the mouth is far more common among the families of people who, while taking every reasonable care of their children's health, cannot afford to pay the high prices charged at the farm for milk of guaranteed quality.—*Dr. Jamieson, in the Chinese Customs Gazette.*

A Defence of Opium-Eating.—Struck by the exaggerated and sensational statements that have from time to time been published concerning the ill-effects of opium-eating, Mr. Vincent Richards (*Indian Med. Gaz.*, August) instituted a statistical inquiry at Balasore, in Orissa, where the habit of opium-eating is very general, and has much increased since the famine of 1866. The following are the conclusions at which he arrived:—1. That opium is taken habitually by about 8 to 10 per cent. of the adult population of Balasore, and that the average daily allowance for a man is seven grains, and for a woman five grains. 2. That moderation is the rule. 3. That moderate doses include from two to sixteen grains per diem, according to circumstances. 4. That opium-eating is much more common in unhealthy than in healthy localities, even though they are situated in the same district. 5. That the drug is sometimes taken in very large doses—thirty grains and upwards—without producing any very serious ill-effects, much depending on the constitution of the individual, and his habituation to its use. 6. That whatever the effects of the excessive use of the drug may be, when taken in moderation it is positively beneficial, where such diseases as fever, elephantiasis, rheumatism, etc., are present, and when food is scarce. 7. That the effects of even the most excessive use of opium are harmless, both to the individual and to society, compared with the excessive use of alcohol.

A distinguished French physician has recently communicated with me with a view of obtaining information regarding the condition of foreigners, especially with respect to their condition of anæmia or otherwise, after long residence in the East. Now that a considerable number of persons make

China their home, information upon this point must be much more accessible than it would have been ten or fifteen years ago. No doubt valuable facts bearing upon the query will be adduced by practitioners at the ports. Experience in Shanghai is tolerably uniform as to the excellent condition of health preserved by old residents who take good care of themselves, who avoid excesses, and who have been lucky enough to escape malarious fevers. Even among those who in their earlier days suffered from periodic fevers there are many who appear to have outlived their susceptibility. There are few of us that have actually entered upon old age, but there are many in advanced middle age. Of these latter—men who have lived twenty years and above in China—the majority would compare favourably for strength and endurance with a like number of the same age taken at random from the desks of London offices. This fact, which every resident can verify for himself, ought to have an important bearing on the calculation of life assurance rates, but the subject of life assurance in China has been so fully discussed in previous numbers of these reports that I now merely allude to it.—*Dr. Jamieson, in the Chinese Customs Gazette.*

THE principal part of the population of Swatow is due to the shipping, and from it the list of diseases is principally made up. Intermittent fever is common among sailors who sleep on the decks of their ships with very little covering, and who swim under the hot sun. Whether partially protected or not by a hat, a man who swims at an unseasonable time is almost certain to be prostrated by fever within twenty-four hours. Apart from these causes fever is rare, and ague is almost unknown.—*Dr. E. I. Scott, in the "Chinese Customs Gazette."*

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Corrigendum.—Dr. Offenberg asks us to correct an error which crept into the article on "Hydrophobia Cured by Curare used Subcutaneously," which appeared in our number for October 6, 1877. At page 397, fourteen lines from bottom of left-hand column, in the sentence, "The action of a dose of curare only lasts from four to five *minutes*,"—for minutes, read *hours*.

"IDEATION IN UTERO."

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—Will you have the goodness to tell me whether the phenomenon of "ideation in utero" is a possible one. In what book or books can I find a complete *résumé* of this subject? I trust you will pardon my taking this liberty, as I am very interested on all subjects that are related to that of mind. I enclose my card and subscribe myself Yours, &c., J. F. E.
University College, Gower-street, W.C., October 20.

*** Can any of our readers help the writer? Unfortunately we cannot. Perhaps some gentleman's recollections extend as far back: ours do not.

Scotch.—Dr. Joseph Dalton Hooker, C.B., accompanied Sir James Ross on his antarctic voyage, 1839. He succeeded his father as Director of the Kew Gardens in 1865.

*** The following is a copy of the verse to which the chimes of "Big Ben" are set:—

"Lord, through this hour
Be Thou my guide;
Then, by Thy power,
No foot shall slide."

A Young Fellow.—Competitors for the prizes must be members of the College. The competition is not open to members of the Council, although several successful competitors subsequently obtained that honour, and also the President's chair, as you will see from the following list:—Birkett (now President), Callaway, Cooper, Curling, Earle, Hodgson, Lawrence, Stanley, Stafford, Swan. Write to the Secretary, or to Mr. Stone, who will send particulars of the Collegial and Jacksonian Prize subjects for the present and ensuing year.

W. L. F.—Dr. Ahrens died on August, 1874, aged sixty-six. He was for many years Professor of Political Economy and Sociology at Leipzig, and was well known at Brussels and Paris by the courses of lectures on psychology and philosophy which he gave during his residence there, when, in consequence of his participation in the Göttingen disturbances in 1831, he had found himself obliged to fly from Germany. It was during his temporary occupancy of a chair of philosophy at the University of Brussels in 1834 that he published his "Cours de Psychologie" and his "Cours du Droit Naturel." He was also the author of other works.

THE LITERATURE OF VIVISECTION.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—Supplementary to your reply to Dr. Mease's query regarding books on vivisection, I beg to say that, in 1842, a volume entitled "Vivisection Investigated and Vindicated, by George F. Etherington, M.D.," was published, the booksellers being Maclachlan, Stewart, and Co., Edinburgh, and Whittaker and Co., London. The volume consists of 197 pages divided into chapters, with an appendix of seventeen pages.
I am, &c., W. WHITELAW, M.D.
Wellington Place, Kirkintilloch, N.B., October 20.

M.D.—The recent report of the Board of Visitors of the Wisconsin University in the United States, referring to the co-education of the sexes, admits the intellectual proficiency of the young women studying in the University, but regrets their overworked appearance and ill-health, and concludes with the following observations:—"We are aware that the law organising the University provides that it shall be open for the education of men and women. It is not, therefore, necessary that both classes of students should be subjected to the same systematic course of training, mental drill being attained in a variety of ways, each leading to adequate results, and the thought impressed itself upon some of the members of the Board that the curriculum could be so ordered that both sexes might obtain university drill, adjusted in such a manner that each sex should be enabled to secure that form of education best fitted for his or her respective sphere, and that the system of compelling men and women to fare alike might be so modified as to preclude the possibility of causing disease. We are forced to the conviction that there is at present a marked disparity between the health of the men and women of the University, and that, as a class, the women present undoubted evidence of physical deterioration. If the Board of Referents, however, consider it expedient to alter the curriculum in any way, we would earnestly recommend that particular attention be paid to the physical well-being of the female students."

M. O. H.—A report in reference to the water-supply for Holmesfield and a number of the adjacent villages was presented to the Chesterfield Rural Sanitary Authority on Saturday. It recommended the construction of a reservoir near Fox-lane, Baslow, at a cost of £20,000, which would provide for 15,000,000 gallons, and supply 14,000 inhabitants.

Alexis.—The University of Pennsylvania (Philadelphia) added, about eighteen months ago, a scientific school to its other buildings. It was enabled to do this by a large bequest from a gentleman of Philadelphia. Scholarships have been established and thrown open to candidates educated at the free public schools. The Adriatic Society of the Natural Sciences was formed at Trieste in the early part of 1874, and amongst other sciences taught are chemistry, physics, meteorology, botany, and zoology. The Tuscan Society of the Natural Sciences was instituted in 1874 at Pisa.

Inquirer.—Mr. Cane, Poor-law Inspector, has contradicted, officially, the statements that there were people starving in Bolton. He attended a meeting of the Bolton Guardians for that purpose, and said that such statements tended to throw discredit on the Guardians of the Bolton Union, who are empowered to relieve all distress, even though caused by strikes.

Anti-Vaccination.—At the Leeds Police-court, on Saturday, Mr. J. Atkinson, Honorary Secretary of the Anti-Vaccination Society, was for the sixth time fined for refusing to have his children vaccinated. He did not appear, but sent the following letter to the authorities:—"To Mr. Thomas Holmes, Vaccination Spy, Guardians' Office, Leeds.—John Ewbank Atkinson is not going to be murdered to please you, or a thousand spies, tools, fools, guardians, Local Government Board, or anybody else. Take that for your answer, inform the *Mercury* of it, and take proceedings as soon as you like." At Ulverston, the Rev. John Postlethwaite, of Broughton-in-Furness, a member of the Ulverston Board of Guardians, was summoned for refusing compliance with an order of the magistrates to vaccinate his three children, and was fined 10s. and costs in each case. The defendant said he would sooner rot in prison than see his children rot from vaccination. The magistrates allowed him fourteen days.

Beneficence.—Mr. Harvie Farquhar, the Honorary Treasurer of the Victoria Hospital, Queen's-road, Chelsea, has made a donation of £1000 towards the £4000 required for the purchase of land adjoining the Gough House site.

J. J.—In connexion with the visit of the Prince of Wales to Ceylon, Mr. Rajapaksha has endowed a scholarship in the Colombo Academy, called the Prince of Wales Scholarship, with 10,000 rupees, and he has given a valuable plot of land opposite to the Borella Hospital as a site for the new Government Medical School.

Pro Bono Publico.—From the official report of the Local Government Board we find that the whole of the loans sanctioned by the General Board of Health during the ten years which followed the passing of the Public Health Act, 1848, amounted to £2,956,178; that those sanctioned by the Secretary of State during the next thirteen years reached a total of £7,363,366; and that those sanctioned by the Local Government Board during the five years which have elapsed from December 31, 1871, to December 31, 1876, have been no less than £7,770,348.

COMMUNICATIONS have been received from—

Dr. Offenberg; J. F. E., London; Dr. Byrom Bramwell, Newcastle; The Secretary of the Statistical Society, London; Dr. Althaus, London; Dr. Whitelaw, Kirkintilloch; Messrs. Cooper, London; The Registrar of the Royal College of Physicians, London; Mr. Beaver, Manchester; Dr. J. W. Moore, Dublin; The Secretary of the Obstetrical Society, London; Dr. Sawyer, Birmingham; Dr. Eugene Dupuy, New York; The Secretary of the Apothecaries' Hall, London; Mr. W. E. Poole, London; Dr. J. Mitchell Bruce, London; Dr. James Ross, Manchester; Dr. Herman, London; Mr. J. T. W. Bacot, Devon; Mr. C. J. Cullingworth, Manchester; Dr. Thomas Barlow, London; Mr. John Chatto, London; Mr. T. M. Stone, London; Dr. Cayley, London; Mr. B. R. Wheatley, London; Dr. Robert Lawson, Banstead Downs, Sutton, Surrey; Mr. Evan Marleit Boddy, Camberwell.

BOOKS AND PAMPHLETS RECEIVED—

Frederick James Gant, F.R.C.S., A Guide to the Examinations at the Royal College of Surgeons of England—Heywood Smith, M.A., M.D. Oxon., Practical Gynæcology—Charles Blaud Radcliffe, M.D., Proteus, or Unity in Nature—John Drysdale, M.D., Is Scientific Materialism Compatible with Dogmatic Theology?—Half-Yearly Report of the Medical Officer of Health for the Port of London to the Port Sanitary Committee—S. Dougan Bird, M.D., L.R.C.P., On Hydatids of the Lung—Edwin Cox, Practical Observations on the Degeneracy and Preservation of the Teeth—Albert H. Smith M.D., Retarded Dilatation of the Os Uteri in Labour.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Cincinnati Clinic—Dairyman—Chicago Medical Journal and Examiner—Medical Enquirer—Bicycling Times—La Province Médicale—Canada Lancet—Western Review of Science and Industry—American Journal of the Medical Sciences—Glasgow Medical Journal.

APPOINTMENTS FOR THE WEEK.

October 27. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

29. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Medical Society of London, 8½ p.m. Dr. Lee, "Maternal Impressions." Clinical Cases, and other Communications."

30. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

31. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

November 1. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

Harveian Society, 8 p.m. Dr. W. H. Day, "Hypertrophy of Heart, with Chronic Albuminuria, in a Child." Mr. Edmund Owen, "Imperforate Rectum and Littré's Operation." Mr. T. Carr Jackson, "Lithotomy in a Patient aged 70." Dr. Ashburton Thompson, "Case of Death four and a half hours after Delivery."

2. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, October 20, 1877.

BIRTHS.

Births of Boys, 1258; Girls, 1269; Total, 2527.
Average of 10 corresponding years 1867-76, 2255·6.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	741	662	1403
Average of the ten years 1867-76	702·4	653·6	1356
Average corrected to increased population ...	...	...	1451
Deaths of people aged 80 and upwards ...	...	...	46

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	1	6	7	...	2	2	3	—	3
North... ...	751729	4	10	29	3	3	1	12	2	4
Central ...	334369	...	2	8	...	1	1	6	...	2
East	639111	...	13	11	...	4	...	7	2	6
South	967692	3	5	13	6	11	1	8	2	10
Total	3254260	8	36	68	9	21	5	36	6	25

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·947 in.
Mean temperature	46·7°
Highest point of thermometer	68·8°
Lowest point of thermometer	28·2°
Mean dew-point temperature	37·9°
General direction of wind	S.W.
Whole amount of rain in the week...	0·13 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, October 20, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Oct. 20.	Deaths Registered during the week ending Oct. 20.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2527	1403	68·8	28·2	46·7	8·17	0·13	0·33
Brighton	102264	43·4	42	44	61·8	32·9	47·1	8·39	0·22	0·56
Portsmouth ...	127144	28·3	89	37	61·0	35·0	48·8	9·34	0·15	0·38
Norwich	84023	11·2	54	36	66·0	29·5	46·7	8·17	0·00	0·00
Plymouth	72911	52·3	43	36	65·2	31·5	48·9	9·39	0·14	0·36
Bristol	202950	45·6	136	95	68·1	26·0	46·2	7·89	0·84	2·13
Wolverhampton ...	73389	21·6	71	51	65·7	27·0	43·5	6·39	0·55	1·40
Birmingham ...	377436	44·9	301	152	...	...	...	...	...	...
Leicester	117461	36·7	91	51	68·5	31·8	46·4	8·00	0·16	0·41
Nottingham ...	95025	47·6	78	46	69·0	29·0	47·3	8·50	0·23	0·58
Liverpool	527083	101·2	366	273	68·8	38·4	47·1	8·39	1·04	2·64
Manchester ...	359213	83·7	244	197	...	...	...	...	...	...
Salford	141184	27·3	120	67	68·5	30·4	46·3	7·95	1·31	3·33
Oldham	89796	19·2	66	40	...	...	...	...	...	...
Bradford	179315	24·8	147	67	62·0	31·0	45·3	7·39	0·88	2·24
Leeds	298189	13·8	259	130	67·0	30·0	46·9	8·28	0·82	2·08
Sheffield	282130	14·4	226	96	64·0	32·7	48·5	9·17	0·44	1·12
Hull	140002	38·5	115	53	65·0	27·0	45·3	7·39	0·49	1·24
Sunderland ...	110382	33·4	107	33	62·0	34·0	47·6	8·67	0·63	1·60
Newcastle-on-Tyne	142231	26·5	94	55	...	...	...	...	...	...
Edinburgh	218729	52·2	141	90	62·3	29·4	44·4	6·89	0·61	1·55
Glasgow	555933	92·1	410	219	61·7	...	...	...	1·41	3·58
Dublin	314666	31·3	167	180	68·6	29·0	49·2	9·55	0·86	2·18
Total of 23 Towns in United Kingdm	8144940	38·3	5894	3451	69·0	26·0	46·8	8·23	0·57	1·45

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·95 in. The lowest reading was 29·32 in. on Monday morning, and the highest 30·22 in. on Wednesday evening.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

A CLINICAL LECTURE

ON THE RESULTS OF THE OPERATION OF EXCISION OF THE HIP.

By TIMOTHY HOLMES, M.A., F.R.C.S. Eng.,
Surgeon to, and Lecturer on Surgery at, St. George's Hospital.

In connexion with the subject of excision of the hip, a very interesting question is the utility of the limb when the cure has been long completed, in comparison with its state after the natural cure. I know of no work in which this point is more than just alluded to. I have given the details and drawings of a case, five years after recovery, in the "System of Surgery" (vol. v., pp. 688-691 of the second edition). A clinical lecture by Volkmann, on excision of the hip-joint, has recently been published by the New Sydenham Society, translated, or rather done into a kind of German-English, most painful to the reader, and not always intelligible. In this lecture the author does touch upon this point; but he appears not to have had any opportunity for actual measurement—at least, he gives no details of any observed cases. The conclusion to which he comes is, that growth will not be much checked; but this conclusion is made to rest on theoretical grounds only. He says, "It is a pity that only so very few cases are recorded in which children, who have undergone the operation of excision, have been under observation for years after healing has set in, and very seldom indeed up to the time when the growing process altogether has ceased; for hospital surgeons, to whom the cases often are sent from long distances, and, when cured, generally are lost sight of, are not well fitted for these continued observations. As far, however, as I can judge from a careful perusal of my cases, I may say, with regard to excision of the hip-joint, that the cessation of growth in the limb is not very considerable, certainly not more than we observe in cases of spontaneous cure." It is obvious that this opinion is of little value unless supported by the notes of cases in which the limbs were measured after they had attained their full growth.

As far as I am aware, no other writer has thought the matter worthy of notice; or, what is more probable, the difficulties in the way of finding hospital patients again, many years after their discharge, which Volkmann alludes to, has prevented other surgeons from investigating the point—for almost all cases of excision of the hip are performed in hospital practice.

The matter was suggested to me a short time since by my friend and late house-surgeon, Mr. Frost, at the suggestion of Mr. Folker, of Stoke-upon-Trent, who was desirous of discovering whether the femur, after excision of the hip, suffers any check to its growth, such as it often undergoes after excision of the knee.

In order, if possible, to resolve this question, I tried to procure the attendance of eight of my old patients at the Children's Hospital; but I only succeeded in finding three of them. I append short notes of the examination of these three patients. The exact dates of the operations could be procured, I believe, if necessary, but it seems to me hardly worth the trouble. They were all done before 1868, at which time I resigned my position at that Hospital:—

1. James T., aged twenty-three; operation about eleven years since. The entire limb is wasted, and the shortening, as measured from the anterior superior spine of the ilium to the sole of the foot, is over three inches; but the apparent shortening, when he stands up, as measured by a perpendicular from the anterior superior spine on either side to the ground, is not much over two inches, the pelvis being dropped on that side. Of the three inches of real shortening, only two inches belong to the femur, as measured from the ilium to the patella on either side; the other inch belongs to the leg, as measured from the patella to the internal malleolus. Not only the limb is wasted, but the whole of the affected (right) side of the trunk is smaller than the left side. Movement at the seat of the operation is free and painless, with a slight clicking sensation. The extent of each movement is shown by the figures in the "System of Surgery" above referred to, which were taken from this patient. He cannot stand on that leg alone, nor hop. He is a weakly young man, pale, and of sedentary habits, but can walk any ordinary distance, and do his day's work without inconvenience.

2. Louisa S., aged eighteen. The hip excised about twelve years ago. The limb is somewhat wasted. The shortening, as measured from the anterior superior spine to the patella, is three inches and a half, and measurement to the malleolus gives the same result. There is good union; free flexion and abduction; painless passive motion. She can just stand on the operated limb alone. Her general health is quite good, and she can walk as far as she likes, but her occupation is sedentary.

3. Lydia B., aged fifteen. The original operation was performed in early infancy, when she was about two years old, but some diseased bone was removed by a second operation some years afterwards. She wears a high-heeled boot, with a sole three inches thick; but the real shortening, as measured from the anterior superior spine to the patella and to the internal malleolus on either side, is rather less than two inches. She is a very fat girl, and the limb is well developed, though not so fat as the other. The union is close, so that in flexion the pelvis moves somewhat with the thigh; and this movement is not so extensive as abduction and extension are. Passive motion is quite painless. She can stand on the operated limb for about five minutes. Her work obliges her to walk at least four miles every day, which she does without fatigue. Her general health is perfect.

The above details show, as far as three cases can do so, that no check is given to the growth of the limb by the excision of the hip. The original notes of these cases are at the Hospital for Sick Children, and I have not taken the trouble to refer to them, since very probably the precise level at which the section of the femur was made in each case would not be found recorded. Nor does this seem to me a matter of any importance; for in every case of excision of the hip the level of the section must be below the epiphysial line. But the measurements of the above patients show that this is not followed by any progressive shortening of the limb, such as occurs after the excision of the knee, where it is not unusual to find six or eight inches of shortening in cases in which the diaphysis has been cut into. In the above instances no shortening was found beyond that which necessarily attends the operation, provided no reproduction of bone has occurred. The important point is involved in these last words. Dr. Sayre, of New York, has often written with regard to the subperiosteal method of excision as applied to the hip, and has affirmed that recovery takes place after this method of excision with little or no shortening. Mr. Croft, in the year 1873, showed at the Clinical Society a case in which this method of operation had been performed, and in which the real shortening appeared very small, although the limb was apparently shortened about two inches.(a) In that case, though the shortening was less than in any of the three above related, the movements of the new joint were not nearly so good as in those patients; in fact, it seemed that the limb was almost anchylosed to the pelvis. Mr. Barwell, however, stated in a debate at the same Society, that in a case in which Dr. Sayre had himself operated at Charing-cross by the subperiosteal method, the shortening was as great as usual.(b) This statement, joined (to speak quite frankly) to a certain amount of distrust of statements of the results of a grave operation so very favourable as Dr. Sayre's, and also to disappointment with the results of the subperiosteal method in other excisions, have led me to abstain hitherto from trying it in excision of the hip. The subperiosteal certainly involves more extensive incisions, and more free removal of bone than the ordinary operation; and the protracted manipulation necessary for the complete removal of the periosteum from a large extent of bone is, as I have found by experience, a frequent cause of inflammation and subsequent anchylosis. But I am quite open to conviction on this head, and if any evidence can be produced, which will bear examination, that the limb is left in a better state after the subperiosteal than after the ordinary excision, I shall be very glad to try it, though, if I waited till the operation could really be said to be necessary, I should certainly not expect to see thirty patients recover out of forty, and should be surprised if they all recovered without shortening. These are the results which Dr. Sayre (as quoted by Mr. Croft) claims for subperiosteal excision followed by extension of the limb; and, if I understand him rightly, the movements are also to be natural. We evidently, however, want more detailed notes of the condition of individual patients, as well as more exact accounts of the results of a long series of cases, including not merely the proportion of deaths, but also the state of the patient before operation, and the indications for the excision, before we can be in a position to judge how far the

(a) *Clinical Society's Transactions*, vol. vi., page 174.
(b) *Ibid.*, vol. viii., page 77.

results of the subperiosteal method are really superior, or otherwise, to those of the more common operation.

Another, and to my mind a still more interesting question, is whether the results of excision are superior to those of the natural cure. My own opinion is that they are not. It is quite true that the individual movements are more free. Extension and abduction are performed very freely, and over a considerable range, and flexion is usually also free—all which can hardly be the case after the natural cure,—but, if I may trust my own experience, the limb is hardly ever so firm or powerful in walking as we constantly see that it is after the natural cure by anchylosis, nor is the patient so active or so enduring.

From what I have myself seen of the operation, I should base its claims to adoption in suitable cases, not on its ultimate results being superior to the natural cure, but on its success in saving life in cases where the natural cure appears improbable.

And we cannot but admit that the question involved in the last few words is a very difficult one. We can never say that the natural cure is *impossible*, except in cases where recovery from the operation of excision is so also. And it must also be admitted that in cases of chronic disease, not only of the hip, but of other joints, many patients recover in whom a most unfavourable prognosis has been found. I cannot say that, in the numerous class of cases of hip disease, which appear to depend on injury rather than on any constitutional tendency, any case can be selected as incurable without operation, so long as the patient's general health is not greatly impaired. But we know the length of time and the amount of care which such cases require when carious bone has to be gradually removed by ulceration or necrosis, and deep-seated abscesses or long sinuses have to close up. Nor does our present hospital system enable us to meet the requirements of such cases at all adequately. Many patients require years, and some require many years, of the most sedulous care before they are well, or indeed out of danger of a fatal relapse. It is, I think, mainly because our general hospitals do not afford us opportunities for the prolonged treatment which such cases require, that we find ourselves obliged to resort occasionally to the operation of excision. In private practice, as far as I have seen, the operation is hardly ever practised, not because disease of the hip is rare—for it is, on the whole, tolerably common, both in town and country,—but because parents will not sanction an operation which cannot be represented as urgent or necessary; and because few surgeons in this country think so well of the operation as to recommend it in preference to the expectant treatment, when this can be carried out under the constant supervision of careful and intelligent parents or nurses, and with all the necessary appliances for prolonged rest, in proper hygienic conditions. I speak now of English practice, such as I have carried out myself and observed in the practice of others.

If our experience of the operation had led us to the same conclusions as Dr. Sayre, we should, no doubt, think it our duty to give different advice to the parents of our private patients.

In order that you may see how very differently this gentleman speaks of excision of the hip from the opinion I have just expressed, I will quote to you a few sentences from a "Lecture on Hip-Joint Disease" which formed the first of "A Series of American Clinical Lectures, edited by E. C. Seguin, M.D.," and published at New York in 1875. After describing the natural cure by the slow exfoliation of carious bone, Dr. Sayre proceeds, "In the most favourable cases healed by kind Nature in this way, they have been left with permanent deformity, and with a very much less useful limb than those which have been cured by exsection. I have now performed this operation over fifty times, and can therefore speak with positive assurance upon the subject. This operation is very simple indeed, and attended with no danger whatever." I need not quote the exact directions for the operation; it will be sufficient to say that Dr. Sayre prescribes an incision from four to six inches in length, according to circumstances, carried down to the bone, the periosteum of which is to be divided and raised in two triangular flaps, the joint completely opened, the femur forcibly thrown out from the joint, so as to tear it away from the periosteum on its internal aspect, the whole head, neck, trochanter and (if necessary) the shaft below the trochanter, removed with the saw, and the acetabulum dealt with as freely as its condition demands. The limb is then to be put on an extending splint in the straight position, to do which, if it have been long contracted, the adductors and tensor vaginæ femoris may require subcutaneous section, and dressed by filling the wound with Peruvian balsam applying a pad of oakum over it. Dr. Sayre adds—mediately after the patient is dressed in this way, an recovered from the anæsthetic, he is capable of being up (*sic*) against the wall, or riding out in a carria boat, and can take his daily exercise in this way. . . many of the cases which I have exsected, the motion has as perfect and complete as in the normal joint, and in on (Adolph Russell) the motion is greater in that joint than the opposite side, and the limb less than a quarter of an shorter than the other, although it was sawed three i below the top of the trochanter major, the head and having been entirely absorbed, and the acetabulum perfo Only one of my exsections has recovered by anchylosis that was from neglect in the after-treatment, I never h seen the patient after the operation for two years. . . the other cases that recovered have more or less good m and infinitely less deformity than those which have reco by Nature's process."

I am as little disposed to rude incredulity of the state of others as any man can be, but one cannot read this pa without seeing that it is chargeable with exaggeration a least. It is in the nature of things impossible that so severe an operation—one much more extensive, and invo more protracted and forcible manipulation than the ordi excision, such as you saw me perform the other day—ca volve "no danger whatever," especially when performe this operation always is, on a child weakened and exha by pain and suppuration. It is impossible that the pa can be ready to be placed in the erect position or taken carriage-airing as soon as he has recovered from the anæ tic.(c) So that, two of Dr. Sayre's general statements ap ing to me incredible, and the statements as to the compar results of the operation and natural cure being extre vague, I have hitherto left untried the sub-periosteal me in excision of the hip. I would remark that the reprodu of bone in isolated cases (such as the one of which alone Sayre gives anything like a precise account) happens excisions in which no care is taken to preserve the periost

A very different view of the prospects of the operation, with regard to its dangers and to its probable results, is g by Volkmann. He quotes a statistical paper by Herr Leis of Hamburg, who gives "the mortality after excisions on acc of caries at 63·6 per cent., deducting all uncertain cas well as those which had not been followed up to the he of the fistulæ." I have no doubt, however, that this i error—in fact, the method of computation is itself erron To exclude all the cases which were not followed up t healing of the fistulæ, in estimating the mortality of the o tion itself, evidently results in putting the death-rate too since in almost all these cases the patient had got ove direct results of the operation itself when the report was lished. In a large proportion of such cases the oper fails in consequence of the reappearance or persistence of ease in the bones; and in these, as a rule, the patient gradu succumbs from some of the complications of persistent supp tion. But it is quite erroneous to classify these deaths as d the operation; in fact, in estimating the immediate dang the operation itself, they ought to be reckoned as recov And of the 63 per cent. of deaths in the remaining cases, I no doubt that the majority were due to the disease, not t operation. But to say that so formidable a proceeding inv no danger whatever, is to bespeak distrust for any fu statements on the same subject. My own impression is the mortality from the direct and unquestionable results o operation is not great, but that many patients die from combined effect of the operation and disease, and that large number the operation fails to arrest the disease. I elsewhere given the proportion of real successes (that is, of in which a complete and permanent cure is obtained, as in three patients above referred to) conjecturally as abo quarter of the cases operated on. But this will, of co depend mainly upon the view which the surgeon takes of operation, and the period of the disease at which he justified in interfering. If the operation is performed ear the disease, doubtless the percentage of operative cures wi greater than if the excision be deferred until it is

(c) There is a sentence in Volkmann's lecture which may possib intended to describe some attempt to treat excision of the hip wit confinement to bed; but in consequence of the so-called translator's of familiarity with English, it is unintelligible. It runs thus—"Esm has lately actually raised these patients by applying a plaster-of- bandage to both legs, and which are then slung up, and only the trun far as the sacrum is supported by cushions."

rgently required. But whether the whole proportion of ures will be increased is a very different question. My own npression is that it will not. But figures are quite useless in olving this question—at least, figures without the notes of ne cases. It is more than probable, in my opinion, that by too arly operative interference lives might be sacrificed of children who would have recovered if left to Nature. Most people y this time are able to distinguish between the good statistics f an operation, and the good statistics of the surgical treatment f a given disease.

With regard to the utility of the limb Volkmann differs quite s much from Sayre as he does with regard to the danger of the peration. He says, "The result after excision of the hip-joint n cases of caries which have well healed, is, on the average, atisfactory with regard to its functions. Billroth's description of the same is painted too black, according to my opinion. Certainly half of the cases are afterwards able to walk without he assistance of a stick, and almost the second half will be nable to walk with the assistance of one: very seldom crutches re required for any length of time." This seems to me to ive a less favourable impression of the result than experience varrants. Almost all the cases of recovery after excision vhich I have seen—I think I might say all—have been able to valk quite nimbly and painlessly.

In conclusion let me say, with all due respect to the authors hat have written on this subject, that the statistics of excision f the hip which have been published by so many of them ppear to me worth nothing at all. They give no idea of he danger of the operation itself, and afford no assistance to he surgeon in making up his mind on the difficult question of ecommending or dissuading from the operation in any given case. And yet they are continually referred to by surgical writers, nore especially in Germany, as if they were of real value and mportance; and fresh collections are constantly made, at the xpense of much superfluous labour, as it seems to me, at least. The reason is, that these tables of figures are not accompanied by the notes of the cases upon which they are founded. For nstance, Leisrink (as above mentioned) estimates the mortality at more than 60 per cent.; and other authors have given estimates little less unfavourable. Sayre (as quoted by Croft) says that thirty cases out of forty recover, which would give a mortality of 25 per cent. Both statements may be true, if we assume that in Sayre's practice the operation was performed on many cases at an early stage of the disease, and when in everybody's judgment the natural cure was not improbable; while in Leisrink's series the operation had been put off till a much later period, when both the local and general conditions had become more unfavourable. But unless the necessary details are given, we have no right to assume that this is so, however probable it may appear; and if we are in ignorance of this essential particular, what is the use of the statistics? They are not only useless, but, far worse, they are misleading. A surgeon using Leisrink's might apply them as a proof of the great danger of the operation *per se;* and an argument for refusing to perform it in a case in which, nevertheless, it ought to have been employed. A surgeon using Sayre's might employ them as a motive for too hasty interference in a case where the patient might have obtained a better result by the natural process, without any danger at all. This is only one of the many departments of surgery in which the labours of so-called statisticians have retarded the growth of surgical knowledge instead of promoting it, because they will persist in using figures only, and ignoring facts.

THE authorities of the London Hospital have announced that the establishment at Woodford, in Essex, known as Mrs. Gladstone's Convalescent Home, will be closed from the 29th ult. until the 19th inst. The Home, which is occupied to a very large extent by convalescent patients from the London Hospital, is closed every year for a brief period for cleansing purposes.

GROWTH OF HAIR AFTER DEATH.—Dr. Caldwell, of Iowa, states that in 1862 he was present at the exhumation of a body which had been buried two years before. The coffin had sprung open at the joints, and the hair protruded through the openings. The hair of the head was found to measure eighteen inches, the whiskers eight inches, and the hair on the breast four to six inches. The man had been shaved before being buried. A similar circumstance occurred in 1847 in Mercer County, Pa., where a skeleton of a man who had been buried ten years exhibited hair as firm as in life, and eleven or twelve inches long.—*New York Med. Record*, August 18.

ORIGINAL COMMUNICATIONS.

ON THE DIAGNOSIS AND TREATMENT OF MISCARRIAGES.(a)

By A. E. AUST-LAWRENCE, M.D.,
Physician-Accoucheur to the Bristol General Hospital.

MR. PRESIDENT AND GENTLEMEN,—The subject which I intend bringing before your notice this evening is one the importance of which has been, I think, often much underrated; and when you hear the statistics which I will read to you, I believe you will agree with me that the "diagnosis and treatment of miscarriages" is not second in importance to any condition requiring our aid.

During the past two years I have had under my care at the Bristol General Hospital 450 women, of whom 390 were married, and out of this latter number 150 have had miscarriages, or nearly one-half: 59 miscarried once, 43 twice, 23 three times, 13 four times, 3 five times, 3 six times, 3 seven times, 1 nine times, 1 thirteen times, 1 fourteen times. Taking the whole number of married women, I found that the 390 gave birth to 1500 children, and had besides 356 miscarriages; giving a proportion of one miscarriage to about every four children born. You notice that each woman has an average of four children and one miscarriage.

Now, it is a serious thing in itself that there should be such a loss of fœtal life, but it is a far more serious thing when one considers the conditions which miscarriages often bring about,—conditions which follow miscarriages as surely as that they, if left unrelieved, will again produce abortion. These induced states are to a great extent capable of being removed, but as this applies to the preventive treatment, I shall not at present allude further to this part of the subject.

I ask your attention to the subject, then, on two chief grounds—one, the fœtal mortality; the other, the risks and dangers to the mother at the time of miscarriage, and the subsequent troubles she in many cases has to pass through.

Assuming, then, that you will agree with me that the subject is important, I will endeavour to lay it before you in as practical a manner as I can.

We will suppose that we are sent for to a case assumed to be a miscarriage. The very first question to settle is this—*Does or did pregnancy exist?* It may seem ridiculous to ask this, but those members here who have had to deal with many of these cases will agree with me that it is not sufficient to take the patient's own belief to be correct without running through our minds in all its bearings the question I have put. I have several times been asked to see women who were supposed to be on the verge of a miscarriage, or who had miscarried, and, meeting this question at the onset, have been enabled to save myself a great deal of trouble by being able to decide it in the negative. On the other hand, I have had cases where the reverse is the case.

I cannot possibly in this paper enter into the diagnosis of pregnancy; the points in reference to it are well known to you all. I will only say, do not rely on one symptom or sign, especially in those females of a doubtful age, who are so treacherous to doctors. I have seen cases where absence of catamenia (at the climacteric period), enlargement of the abdomen (due to flatulence), and escape of fluid from the uterus (in cases of catarrh of that organ), have been mistaken for *bonâ fide* miscarriage cases, and the embryo and placenta, etc., looked for in vain, whereas if my first question had been analysed the mistake would never have been made.

Having settled the first question in the affirmative—viz. that pregnancy exists—how are we to recognise that its course is about to be interrupted, or has already been brought to an untimely end? In this paper my remarks will refer to any interruption during the course of pregnancy, although they have more special reference to the earlier months.

I think that by paying attention to the following points we shall be aided in forming an opinion as to the nature of the case. The chief points to raise suspicion of miscarriage are *pain* and *hæmorrhage*. Now, if we can so isolate the kind of pain peculiar to miscarriage, and also the kind of hæmorrhage, we shall be in a position to form an opinion. We will discuss pain first of all, with a view of noting if there is anything

(a) A paper read at the meeting of the Bath and Bristol Branch of the British Medical Association, on April 12, 1877.

peculiar about it which may aid us in our diagnosis as to its cause and source.

Pain may be indicative of true uterine action accompanying the contractions of the uterus itself, and assuming a more or less rhythmical character, and intensified and increased in frequency by the application of the hand to the abdomen, or the finger examining the uterus per vaginam; the pain being felt in the back, thighs, and lower part of the abdomen.

Now, we must not expect to get this typical full-time pregnant-uterus pain if the miscarriage occurs in the early months of pregnancy, for the uterus is not so developed. The pain is more often a dull wearing ache in the loins, thighs, etc., than it is the true hypogastric and region-of-the-uterus pain. If I may state it in other words, it is more often that the reflected pains are most complained of, and not at the original seat. One gets a certain amount of uterine action *plus* the condition of congestion, and other conditions of the uterus, which are most probably bringing on the miscarriage.

Secondly, there is the spasmodic pain of the intestine, most frequently recognised by the condition of flatulence. There are the various intestinal pains due to the irritation of fæces. Then we might have peritoneal pain, especially where pregnancy is complicated with such conditions as ovarian disease, fibroids, etc. Then we frequently, in weak, irritable women, have, at what corresponds to a catamenial period, a neuralgic pain in the region of the ovaries; this, to a certain extent, is recognised by its situation. The pulse and temperature will help us in diagnosing pain of an inflammatory character; but do not be certain that because you have, say, a temperature of 101° and a pulse of 120, and general abdominal tenderness, that you are not going to have a miscarriage, for the condition I have here noted may so mask the uterine action as not to be recognised. I had a case with these conditions and no discharge from the uterus; the os uteri, being too high up to be reached by the finger, could not be examined without passing the hand into the vagina, which seemed hardly necessary in the absence of symptoms pointing to a miscarriage. I did not expect this woman to miscarry; yet she did, three hours after I left her; and, as it afterwards turned out, she was suffering from metritis, and had the placenta intimately connected with the uterus. Mind you, I did not expect her to miscarry simply from the constitutional disturbance, for we know what women will go through without miscarrying, and she had borne eight children, and never yet had a mishap.

I have only alluded to pain due to a few causes; others would suggest themselves to you, and would be referred to their proper causes. The ones I have alluded to are the most common one gets sent for about when people are pregnant and fear a miscarriage.

Another important sign is *hæmorrhage*. This, taken in conjunction with pain, is assumed by a good many to be tantamount to saying that there is a miscarriage about to occur, if it has not already taken place; but as we analysed the pain symptom, so we must the hæmorrhagic, which, according to its source, we will divide into intra-uterine and extra-uterine.

First we will consider the intra-uterine causes of hæmorrhage. During the first two or three months it is not uncommon for a little blood to escape at the menstrual period, especially in women of a lax fibre: this hæmorrhage is generally recognised by its corresponding to a period, and not being profuse or clotted. Then there is a form of hæmorrhage often due to a fibroid condition of the uterus, especially with interstitial fibroids. This does not necessarily correspond to a menstrual period, yet it often does; sometimes it is profuse, and yet the term of pregnancy goes on. I might say that sometimes, instead of getting a red discharge, we occasionally get an albuminous white one, which is the blood deprived of its coagulum, which is retained in utero, and frequently sets up uterine action, and so brings on miscarriage. This kind of discharge is a very dangerous one, as it is so often overlooked, and not recognised as a blood discharge, which to all intents and purposes it is. It is this kind of discharge that we see now and then in premature detachment of the placenta, the blood-stained serum draining down between the membranes and the uterus, leaving behind its coagulum. I have seen two cases where this was the case; the patients were anæmic to a degree, and on evacuating the uterus, enormous clots were turned out.

Another form of hæmorrhage is the one most commonly seen; it accompanies the separation of the fœtal structures from the uterus, it is more or less clotted, comes away in gu and often in it one recognises signs of membrane, etc.; however, this is a sero-sanguineous discharge lasting some and then becoming true blood. This in some cases las weeks.

I now come to the extra-uterine sources of hæmorrhag very common one is due to a granular condition of the o cervix uteri—a state of epithelial denudation, with hypertr of the papillæ, often erroneously called ulceration. Thi common cause of hæmorrhage, especially in pregnant wo The great vascularity of the uterus finds relief by an o from the vessels of the cervix. Sometimes the hæmorrh very great from this source, sufficient to produce well-m anæmia, and, as a result of this, miscarriages Yet I seen several cases where women had supposed they had carried, on account of the hæmorrhage from this source, at the time of my seeing them they were still pregnant. condition can be recognised by the finger or speculum minute; as also can another state, viz., cancer, the hæmor from which is so often mistaken for catamenial flow or carriage. Of course, recognising products of conceptio the discharges will aid in the diagnosis.

The next question is *treatment*. And here, at the onse are met with the important consideration, Is it to be palli or radical?

Having fully analysed the conditions of pain and hæ rhage, and come to the conclusion that the pain is indic in this case of uterine action, and not due to any of the causes mentioned; that the bleeding, if any, is not d either of the extra-uterine conditions, but is, in all p bility, from the decidua, we are justified in attempti palliative treatment—provided that the hæmorrhage is slight, and we do not recognise in the discharge any pro of conception. Keep the patient perfectly quiet; the supine, with the pelvis raised above the level of the tr the room cool, etc. Give a full dose of opium or ch bromide of potassium, or Indian hemp. Gallic aci valuable, as also is ergot in small doses. If this has desired effect in warding off the miscarriage (which occa ally it has), then well and good; but if the hæmor increases, either with or without pain; if the woman is ciently far gone that you can be sure of the death of the fo or if it is in the early stage, and the hæmorrhage is g then the question of radical treatment must be met.

I consider the main element in treating miscarriages palliative proceeding consists in recognising the cause of mishap, and treating that when possible. I have averted carriages in cases where there has been retroflexion and displacements of the uterus, as well as uterine disease treating that cause, even when the pain has been decid uterine and the hæmorrhage decidual.

The *radical treatment* divides into three chief stages, vi (1) Stopping the hæmorrhage; (2) dilating the cervix; (3) emptying the uterus.

We will take the first. How are we to stop the hæmor when medicines have failed to do so? The answer undoub to this is, by plugging the cervix uteri—not the vagina it can possibly plug the cervix—and I cannot realise the c tion where this is impossible. If you have a speculum, of lint, and a probe, you can do it. However, the best wa plug the cervix is by means of a sponge-tent, which effe double purpose—it stops the bleeding and dilates the ce If you cannot get in a sponge-tent, pass a sea-ta tent, which you can make as small as you like. also fulfils two purposes. If you fail in plugging cervix uteri, then you must plug the vagina, either sponge, pieces of lint, or a silk handkerchief; but, as a avoid plugging the vagina if you can possibly help it cervix is the canal you want expanding; if you plug that can effect this object, and at the same time restrain hæmorrhage with far greater certainty than you can plugging the vagina. One frequently sees it recommend pass the tent over night, and go in the morning to remov this generally means twelve hours, but six hours is sufficient time to allow. A well-made tent will do all it in that time, and it is not wise to keep a tent in too long.

By plugging the cervix we fulfil two of our indicat The third is to empty the uterus, and this is done by uterus contracting in a good many cases, detaching the em its placenta and membranes, and saving us any further tro But frequently our trouble begins here. Either the gr part or a portion of the embryo remains inside, and will

expelled by the uterine contractions, and we must remove —which I can say, from my experience, is far easier said an done.

The process of removing divides itself into two parts—) detachment, and (2) removal of the detached portion.

Now, for the first part, I say decidedly, do not use instruents to detach portions of fœtal structure from the uterine alls. Use only the fingers; they will do the work when inruments fail, and by the bi-manual process we are cognisant what we are doing. The only instrument I think we are stified in using for detaching any portion of fœtal structres (I allude especially to the placenta) is the wire écraseur, d in certain cases it is a very valuable aid, especially where e connexion between the placenta and the uterus is so intiate that one cannot peel it off, and the portion projects. Then e plan of Dr. Barnes and others, of applying the écraseur d shaving off the projecting portion, is accompanied with od results: it breaks up the connexion; and in those cases here you are only able to remove a portion, the hæmorrhage equently ceases.

Now as to the way of using our hands in these cases when e are about to attempt detachment. Some cases are so mple that by passing one finger into the uterus we can ach the fundus and sweep out the contents, at once effecting tachment and expulsion, but I am sorry to say these cases ve been few and far between in my practice, and I am sure hers will say the same.

Failing this simple plan, I think the best mode of proceedg is as follows:—Place the patient in the ordinary obstetric sition on the left side; flex the thighs well to relax the dominal walls; give chloroform just to insensibility to pain; en with the left or right hand press down the uterus, and ith the index finger of the other hand passed into the uterine vity, try and detach the fœtal structures. Often it is ecessary, in order to reach the fundus of the uterus, to pass e hand into the vagina.

It is a question now of the very greatest patience in a large mber of our cases. Do not as you detach a bit be in a hurry pull that bit away—let it be a guide for you; keep the finger ose to the uterine wall, then you are not so likely to dig into e uterine structure. If you can manage it, work from ove down, as it is often the easiest way; but each case must e treated on its own merits. Having fully dilated the cervical nal, and being able to reach the fundus uteri, we ought to e able to complete the process of detaching and removing the mbryo, unless there is very intimate adhesion to the uterus. n this case we must be content to detach and remove what e can, and use disinfectant injections, when in a few days e portions generally become detached and expelled. We e cases now and then where it is impossible to push the erus down so that the finger can reach the fundus: this ndition is often met with in women where the cervix uteri long, and here it is necessary to pull down the cervix with a naculum; this straightens the canal, and gives us a good deal control over the uterus. In using the tenaculum, mind and et a good hold and take charge of it yourself, and get some ne else to push down the uterus.

The tenaculum is often a very valuable aid in introducing nts, especially when the uterus is malposed, and if you tempt to pass a tent through a speculum it is in most cases necessity. We will suppose that we now have detached hat we can—frequently the removal is easy; but sometimes, wing to the feeble uterine action, and the possibility of only eing able to get one finger into the uterus, the removal is oublesome. We now can, with advantage, use an ordinary air of long speculum forceps, or small ovum forceps, bearing mind we use them simply for removal, and not to detach ortions from the uterine cavity.

Having either partially, or in most cases entirely, emptied the erus, frequently the hæmorrhage ceases. Should it not, at nce use the hypodermic injection of ergotin; and I might say ere that in giving ergot to check uterine hæmorrhage the ypodermic injection is most valuable. The formula I use is ne given by Professor Simpson, of Edinburgh, which is made y mixing one part of ergotin and three parts of water gether, and adding ten or twelve grains of chloral to each halfnce of the mixture. The quantity to be used for an injection ten drops. I have used this several times, and with the very est result. So highly do I value this method of giving ergot nd other drugs, that I always carry the hypodermic syringe nd suitable preparations with me to every midwifery case nd miscarriage case I go to, and on several occasions I have been very thankful of having them with me—notably in a case of post-partum hæmorrhage, where the action of the ergotin was well marked in less than five minutes from the time of administration. If this does not answer, we must wipe out the uterine cavity with liq. ferri perchlor., or inject slowly a solution consisting of two drachms of liq. ferri perchlor. in two ounces of water. I generally use a No. 12 gum-elastic catheter, and connect this with a glass syringe by means of a piece of indiarubber tubing. If you maintain a free opening from the uterus—which you can do by passing alongside your catheter another one of the same size (so that as you inject through one it runs out through the other),—and inject very slowly, I do not think you run much risk.

If you swab out the cavity with the iron solution you are frequently bound to use some means to keep open the cervix uteri. The various intra-cervical specula will effect this, but what is very serviceable is the following plan:—Pass right through the cervical canal a pair of narrow-bladed forceps, expand them, and then the cervical canal cannot close, and you can pass the cotton-wool soaked in the solution without any difficulty.

Having emptied the uterus and stopped the hæmorrhage, we must then consider the immediate after-treatment.

In those cases where we have been obliged to leave portions of the embryo in the uterus, it is an excellent plan to inject daily, until the uterus is clear, a weak solution of iodine, about one drachm of tincture to ten ounces of water. This must be sent right into the cavity of the uterus by means of a catheter, as before described. This should always be done in every case if the discharge is offensive. I generally, in addition, order the nurse to wash out the vagina two or three times a day with Condy's fluid and water. The intra-uterine iodine injection I always do myself.

The other treatment is pretty much the same as after confinement, bearing in mind that we intend, if possible, to prevent our patient having the same trouble again.

This brings me to the *preventive* treatment, upon which I cannot do more than very lightly touch, as it involves questions ranging through almost the whole of uterine pathology.

One common cause of trouble is the condition known as sub-involution, characterised by a more or less continuous discharge of sometimes blood, but more often of muco-purulent matter, with the uterus enlarged. This is often complicated with metritis, endometritis, etc. In fact, the treatment of sub-involution frequently resolves itself into the treatment of various and distinct uterine diseases which have arisen as complications of that state.

The condition of endometritis itself is one often mistaken for miscarriages, as there is frequently more or less constant hæmorrhage. I have frequently dilated the cervix uteri in these cases, and passed the finger into the uterus, and found nothing but a rough granular state of the mucous membrane, which the local application of nitric acid or liquor ferri perchlor. has cured. This condition is often due to syphilis, and it is necessary when it is so to give the specific treatment for that condition.

In cases of pregnancy with interstitial fibroids it is useful to give small doses of ergot and bromide of potassium, and to maintain as much as possible the recumbent position. Avoid constipation of the bowels. A few leeches now and then to the perineum or groins will be useful in some cases, as also drawing blood from the cervix uteri by puncturing; this determining an extra- rather than an intra-uterine hæmorrhage.

In uterine displacement we must adopt the appropriate treatment, having special reference to position.

To sum up, the preventive treatment involves that, in most cases, of some lesion of the pelvic organs or blood dyscrasia, which can be found if looked for, and treated successfully. It is because this condition is allowed to remain unrelieved that we hear of women so frequently miscarrying. I feel sure that by attending to this part of the treatment, and carrying out the other indications laid down in this paper, we shall not hear of so many miscarriages, nor, when they do occur, shall we hear of women "flooding for weeks," which at present is not an uncommon occurrence.

The following brief notes of cases will serve to recapitulate the chief points of my paper:—

Case 1.—I was asked by a gentleman to see, with him, Mrs. H., who had been losing blood for six weeks slightly, but rather profusely on the morning I was called in. The history was, that previous to the loss of blood she had missed three periods, and believed herself pregnant. An examination

revealed an enlarged uterus with a patent external os; but the finger could not be passed into the uterus. I passed a sponge-tent, and in six hours removed it, and was able to pass my finger into the uterus and remove a dead and partially decomposed three-months fœtus. The hæmorrhage ceased, and the woman did well.

Case 2.—Mrs. B. had passed a fœtus of about three months some eight weeks previous to my seeing her; during the whole of this interval hæmorrhage had been going on, in spite of all medicinal treatment. The cervix was dilated, and I removed, after detaching with some difficulty, a piece of placenta. The hæmorrhage ceased, and the patient did well.

Case 3 refers to one where it was impossible to remove the placenta, as Dr. Swayne can vouch for, as he saw the case with me. I allude to it as showing the great value of intra-uterine injection of iodine, for by following out the plan I have detailed the placenta was discharged without fetor or symptoms of septicæmia.

I must apologise for taking up so much of the time of the meeting, but I feel, even now, that I have but imperfectly stated the case, considering its very great importance.

A CRITICAL REVIEW OF THE

PREVAILING THEORIES CONCERNING THE PHYSIOLOGY AND THE PATHOLOGY OF THE BRAIN:

LOCALISATION OF FUNCTIONS, AND MODE OF PRODUCTION OF SYMPTOMS.

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Part II.

(*Concluded from page* 358.)

It is impossible for me to examine in detail all the various subjects comprised in the study of cerebral physiology, and chiefly those which Dr. Ferrier has examined in his work, without writing a volume. I have no inclination and no aptitude for that work, but I must, however, say something on the chapter of Dr. Ferrier's volume, "The Hemispheres considered Psychologically." First, any candid reader will readily perceive that those metaphysical deductions do not spring from the author's experiments, nor even from the deductions or theories which might legitimately be derived from them even if they were accepted to prove what their author claims. Secondly, it appears to me that he has given one illustration—a capital one—which destroys from the very foundation the theory of localisation of functions: I allude to the case of Laura Bridgman, quoted several times by Dr. Ferrier himself.

That person, deaf, dumb, and blind, communicates with the outer world by means of digital language. It has been observed that, just as some persons when deeply thinking allow their lips unconsciously to move as if they were speaking, and indeed that some others when thinking whisper audibly, and in some instances speak aloud, so Laura Bridgman likewise is seen to have unconscious movements of the fingers, just as if she were communicating with somebody, when she is in reality only thinking. The same thing happens when she is dreaming.

Now, it is clear to everyone that by an educational process of long duration the would-be motor centres in the convolutions (to please localisers) must have acquired also the faculties inherent to the speech-centre which in her case were deficient; or if it be said that the speech-centre was intact, that there was no aphasia, but trouble of the external organs of speech, then it must be conceded again that a channel has been established between the speech-centre and the finger-centres for the conveyance of the translation of thought into digital language. It can even be argued that in her, if a larynx could be constructed at the end of her fingers, she would actually speak phonetic language just as an educated parrot. The conclusion to draw from this is that there is no part of the cortex specially or specifically endowed with a certain function, but that any such part can become endowed. I know the experiments of Carville and Duret, which, according to them, enable them to establish the theory of "*suppléance*"—*i.e.*, vicarious, supplementary functions established in the neighbourhood. But it is known also to all those who have made experiments on the brain such as Carville and Duret have published,(a) that in dog they have "taken away the *centre* for the legs in the *rig* hemisphere; the voluntary motor paralysis showed itself usual. After six or eight days the animal had entirely recover power in its *left* leg. They (we) then took away the centre f the legs in the left hemisphere. Evidently, if the '*suppléanc* (supplementary function) of the two hemispheres existed, par lysis of the *left* leg ought to have appeared. It did not. T dog was paralysed on the right side just as if he had had lesion of the left hemisphere before." It is evident in th case that the *left* leg must have derived its nerve-impulse fro some centre not situated in the *left* hemisphere, nor, certainl from a regeneration of its own *right* centre. Therefore so portion of the cortex in the neighbourhood must have acquir *that* function which it had not before, according to the theo of those who teach that the cortex contains centres.

I believe that I have said enough on this subject to sho that there are other facts in science besides those taken noti of by Dr. Ferrier in his treatise, and that even the fac analysed by him can be shown to prove the contrary of t theory which he has established. I will observe here, agai that unless one starts with the idea that there are motor centr in the cortex cerebri, it is impossible to succeed in establishi their existence in that tissue, which, after all, may be as w endowed with a sensory function as with any other.(b)

I shall now proceed to state very briefly what I consider be the explanation of the experimental results of Hitzi Ferrier, and others.

First. I must state that it has not yet been proved by a means that the cortex cerebri in any portion of its extent c be irritated by any means, mechanical, physical, or chemic and that even if we were to suppose that the electricity us by experimenters excites the fibres which are in communic tion with the cortical cells, and which unite them with low centres, we could gain no knowledge as to the nature of t function of those cortical cells, because a nerve-fibre w conduct in either sense, afferently or efferently.(c)

Second. An experiment which shows that when both centr for the two anterior legs are destroyed, the animal very so uses its limbs as well as before the experiment, sugges the idea that the transient paresis which resulted immediate after the experiment, instead of being a withdrawal influence of a centre, is, on the contrary, an irritative influen exerted by the lesion. The subsequent disappearance of paresis, and the cicatrisation of the brain-tissue, show that fa plainly.

Third. When, an animal being deeply narcotised, an ir tation of the exposed sciatic nerve gives rise to most viole contractions in the muscles of the leg, whilst all reflex actio have disappeared, if the cortex cerebri then does not respo to electricity it is wrong to say that it is because it has fi lost excitability, as Drs. Ferrier, Carville, and Duret preten after Flourens. There are many experiments which go again this. Here is one very striking, which I have had occasion make several times, and which Onimus has specially noted one of his papers. If from a large healthy frog the rig hemisphere is taken away, the animal presents this well-know appearance, that its left side takes the position usual to a brai less frog; the tonicity of all its muscles is increased on that o side, the anterior and the posterior legs are held closer a firmer against the body, which is itself inclined on that sid If now chloroform is administered, all changes. The left si becomes weaker than the right side, which its tonic contra tion made it overpower; that effect becomes more and mo apparent as the narcotic effect advances, until both sides the body are equally influenced by the anæsthetic; the frog c then no longer rest on its anterior limbs, and its posterior on are in a state of revolution. At the same time that the effec of the narcosis pass away, the leg of the sound side in corr spondence with the existing hemisphere assumes by degre its normal position, and comes near the body; whilst those the right side, which are deprived of their cortical centres, a yet in extension and revolution. A little later, that one al resumes its former position as before the narcosis, and one time the position of all four limbs is identical; bu when the narcotic effect has entirely passed away, t limbs which are in relation with the side of the hemisphe

(a) Carville and Duret. *Archives de Physiologie*, 1875, page 446.
(b) Eugène Dupuy, "Examen," etc.: Thèse Inaugurale, 1873, page
(c) See specially the most ingenious experiments of Professor Paul Be in *C. R. Soc. de Biol.*, 1877, in *Gazette Méd. de Paris*, and also in *Le Prog Médical*.

operated upon are again in a state of stronger *tonus*, and the body of the animal is again more inclined towards the side opposite to the destroyed hemisphere. That experiment also shows that the cephalic centres are the first to recover their excitability. In the cat and the rat the effect *is exactly identical, mutatis mutandis;* so that, in the experiment for the elucidation of the problem of localisation of functions, if there is any one part of the cerebrum which does not react when electricity is used (the animal being absolutely narcotised), it must be the lower centres, *i.e.*, the corpora striata and thalami optici. But this last fact is not proved; on the contrary, if in an animal so deeply chloroformed the electrodes are applied directly on those ganglia, we do have general contractions. If the cortex cerebri has any influence on motion, it must be in the sense of a sensitive centre, and not as a motor, because from the foregoing we see a radical difference between it and the other ganglia.

Fourth. The objection that the movements which arise from electrical stimulation of the cortex (which the foregoing experiments and arguments would enable us to consider sensitive, and which are thus of a reflex nature) cannot be reflex,(d) because a reflex "movement is rarely limited to the same group of muscles," is worthless, as everybody knows that no movements are more limited than reflex movements. Indeed, let those who pretend that all actions performed by a brainless frog are purely reflex and have nothing intelligent or psychic, study the beautiful harmony of movements of a frog so prepared. After the ablation of the medulla oblongata, reflex movements are still very localised.

Fifth. The argument derived from this fact, that it can be foretold that on irritating such a point of one convolution in a brain, or in the brains of all animals of one species, or in any convoluted brain, care being taken to ascertain homologous points in all, such a movement will arise in one limb,(e) does not prove the irritated cortical area to be motor at all. It must be kept in mind that no other agent but electricity will produce the phenomena under consideration, and that electricity, as I have experimentally proved, travels and diffuses. Now, when making use of a physical agent, every time that we shall have identical circumstances we shall also have identical results; and allowing that the electricity diffuses to the base of the brain,(f) to different ganglia, etc., it is natural that in all convoluted brains we should have the same results, and be able to foretell them; but the mere fact that when the sulci in different brains (species) assume a different direction, the point to be irritated to produce one given movement also varies—showing that always a constant relation of the area of the cortex of the brain with the base of the brain or the ganglia must be an element for obtaining the sought-for result—destroys the only objection, as shown by the different situations of some centres in the brain of the cat, the ape, the dog, etc.

Sixth. The fact that irritation of the same area(g) of dura mater will give rise to localised movement in a certain group of muscles identical with that following irritation of the cortex,(h) and that even mechanical irritation will give the same results, is contrary to the theory of Hitzig, Ferrier, Carville, and Duret.

Seventh. The fact that irritation of the cortex after the manner of the forenamed experimenters has given rise, when the leg centres only were acted upon, to peristaltic movements of the intestines, to hyper-secretion of saliva, to increase in the blood-pressure, to contraction of the spleen,(i) etc., tends to show that if the opinion of Hitzig and Ferrier and others is to be maintained, that the cortex is a motor centre, we must *ipso facto* admit that those *same* centres of motion are centres also for the different functions just enumerated.

Moreover, within the last year Dr. Brown-Séquard has shown that burning of the cortex in a large area will bring on paresis—in some instances on the same side, in others on the opposite,—and always vaso-motor paralysis.(k) Bochefontaine has also given some reasons for believing that the elements acted upon are not those which make up the cortex; and Eulenburg and Landois(l) have shown that in irritation of the cortex the so-called motor areas act very much like vaso-motor centres.

(d) Carville and Duret, *loc. cit.*, p. 437.
(e) Ferrier, *loc. cit.* (f) Dupuy, *loc. cit.* (g) Dupuy, *loc. cit.*
(h) Bochefontaine, *C. R. Soc. de Biol.*, 1875, December.
(i) Bochefontaine, and Bochefontaine and Lepine, *C. R. Soc. de Biol.*, ann. 1875-76, *Gazette Méd. de Paris*, 1875, pages 575, 643; and 1876, last quarter.
(k) Brown-Séquard, *Archives de Physiologie*, 1875, No. 6.
(l) Eulenburg and Landois, *V. Archiv*, Bd. lxvi., Heft 4, s. 489.

I had already in 1875 advanced the view (which appeared to me to be well substantiated by experiments) that the phenomena which we saw in those experiments were reflex, being the results of vaso-motor influences.

The facts and arguments detailed above had satisfied me that the cortex cerebri was no part in the process which produced the phenomena of contraction of groups of muscles after irritation of certain areas with electricity; and I discovered that those points of the cortex which are called "ideo-motor" are those to which a comparatively larger artery from the pia mater penetrates, not into the cortex, but deeper, into the white strands beneath; also that the only spot in the homologue of the angular gyrus of man in the dog which does similarly give rise to movement and to hypersecretion of saliva, is also the one at which there is such an arterial arrangement. I have given details on that subject elsewhere.(m) Those vessels are provided with nerve-fibres, which go along with them, or singly, into the brain-tissue. The arteries also send smaller twigs, which ramify like roots of trees into the cortex alone, but everywhere in it; whilst those with which I am concerned have no office with the cortex.

I had found by my former experiments(n) that substances which diminish or increase reflex action by acting through the vascular system, also increase or diminish the intensity of the phenomena observed in the experiments under consideration; and taking notice that the cerebral pia mater contains a very great number of ganglion cells and fibres which are those of which I have just spoken above, and which are in relation with other cells found in the tissues under the convolutions, I came to the conclusion that the movements observed after irritation of the cortex cerebri are of the same nature as those which are seen when the four main arteries of the brain are simultaneously tied. That, in fact, we had in one limb what Kussmaul and Tenner have observed in the whole animal in their experiment.

I have noted that the time, from the instant of applying the electrodes to the cortex to the actual production of the movement, is sensibly the same as that which is required to stop the bleeding of a small artery in the spinal cord laid bare, when a branch of a communicating nerve is irritated with electricity, and that this is fifteen or seventeen times longer than the period required for the performance of a voluntary action, and nearly once longer than for the performance of an ordinary reflex action, which, according to Professor Schiff,(o) is between eleven and thirteen times longer than for a voluntary one.

Against this view some objections have been raised. Dr. Brown-Séquard(p) has stated that the elements arising from the pia mater have certainly nothing to do with the process, because he has seen the same vaso-motor effects follow the burning, by the actual cautery, of the cortex after peeling off the pia mater as before. To this argument I have found this answer: that the mere peeling off of that membrane induces vaso-motor phenomena, so that the subsequent application of the cautery to the denuded cortex adds nothing to the results.

Those strands of fibres with which the bloodvessels have some office are in connexion with the spinal cord, the medulla, the pons, and the basal ganglia (apparently), if I am to judge by the direction of their course.

One word more before ending, about consciousness. I am not prepared to deal with that huge subject metaphysically. I will only say a few words about it because I have undertaken to review the subject of the functions of the brain in the same manner as Dr. Ferrier has done it. If I do not accept his views, I wish it to be understood that the hypothesis which I will give is a mere hypothesis, and nothing more. I must say in the beginning, however, that I agree with Dr. Ferrier and with many others that "we may succeed in determining the exact nature of the molecular changes which occur in the brain-cells when a sensation is experienced; but this will not bring us one whit nearer the explanation of the ultimate nature of that which constitutes the sensation." Montaigne has written long ago—"Cette apparence de verisimilitude qui les faict prendre plutôt à gauche qu'a droicte, augmentez la; cette once de verisimilitude qui incline la balance, multipliez la de cent, de mille onces; il en adviendra enfin que la balance prendra parti tout a faict, et arrestera un chois et une vérité

(m) Dupuy, *C. R. Soc. de Biologie*, in *Gaz. Méd. de Paris*, 1875, pages 376 and 600.
(n) Dupuy, Thèse Inaugurale, "De l'Examen," etc., 1873, page 23.
(o) Schiff, "Lezion, di Fissologia," etc., second edition; Firenze, 1873.
(p) Brown-Séquard, *loc cit., passim.*

entière. Mais comment se laissent ils plier à la vraysemblance, s'ils ne connaissent le vray? Comment connaissent ils la semblance de ce de quoi ils ne connaissent pas l'essence?"(q)

This being the case, I beg leave to state that in the beginning of this review I have said that instead of stating that "the brain is the organ of the mind, and that mental operations are possible only in and through the brain, is now so thoroughly well established and recognised, that we may without further question start from this as an ultimate fact;"(r) but that there is good reason, on the contrary, for believing that the lower centres so called, the spinal centres, also are the organs of mind to some degree. Vulpian, when commenting on reflex actions in a frog deprived of its brain, keeping in his mind the beautiful adaptations of purposiveness of its movements, says—"What would an animal still possessing its cerebrum do more?" Yet he has concluded that there was no will in the actions of that frog! How do we know? What is will? Professor Dugès, of Montpellier, as I have already said, found, after experimenting on the *Mantis religiosa*, that when the head and prothorax have been taken away, the posterior portion, retaining its four limbs, resisted all efforts made to overthrow it, and manifested anger by trepidations of wings. On the anterior portion of the animal he removed the head, so that the animal consisted of nothing more but the prothorax. That portion of the body lived for more than one hour, agitated its limbs, and sometimes caught the fingers of the experimenter, and inserted its fins in the flesh.

I have seen a salamander deprived of what represents its cerebrum, and kept in a cool and dark place during summer, and placed in a dish covered with a plate, for several days change its place without being excited to do so by any circumstances that I could appreciate.

Those facts, and the reasonings which can be deduced from them, authorise me, I believe, to state that Dr. Ferrier is not right when he says "that it must follow from (? his) experimental data that mental operations in the last analysis must be merely the subjective side of sensory and motor substrata."(s)

We must not accept either this other proposition of his, that the physiological activity of the brain is not, however, altogether co-extensive with its psychological functions.(t) It is through the obligation he has been all through his work to beg the question that he has written the postulate which is followed by this, that the "brain as an organ of motion and sensation, or presentative consciousness, is a single organ composed of two halves; the braiu as an organ of ideation, or representative consciousness, is a dual organ, each hemisphere complete in itself." He has been bound to make that distinction, although there is no ground for it, because, as he says himself, "when one hemisphere is removed or destroyed by disease, motion and sensation are abolished unilaterally, but mental operations are still capable of being carried on in their completeness through the agency of one hemisphere." If the view is taken that diseases of the brain do not arise from the fact that a centre has been destroyed, but that the diseased portion of nerve-matter does start the symptoms, in the same manner that washing the pleural sac in the operation of empyema, in some instances brings on an attack of paralysis of the arm on the corresponding side, which passes away to recur again after every washing—as shown by Leudet aud others—of course this view of Ferrier's is still more unacceptable. I will state first that it so happens that when gross lesions of the brain do give rise to psychic alterations, it is in the lower centres that the lesion exists, aud not only in the cortex. Trousseau repeatedly asked himself why the patient suffering from hæmorrhage on the brain always cried, whilst when only aphasia, only lesion of the convolution existed, no crying was observed. Lesions of the upper part of the pons, chiefly of the anterior right part, are very prolific of emotional symptoms. The emotional state is a psychic one; and Dr. Brown-Séquard aud Professor Charcot have noted that fact so often noticed by Trousseau. Dr. E. C. Seguin has two years ago written a good paper on that subject. Dr. Fleury(u) has shown that there is a difference as to frequency of emotional symptoms, according as the right or the left hemisphere is diseased. It is necessary that Dr. Ferrier should prove that consciousness and ideation are two such different things—that is to say, that one can exist without the other—as if the mere fact of ideating does not prove consciousness of the ideating process, which is equivalent to saying that a thing can be without being, before we can adopt the distinction he has drawn.

I believe that sensation being a factor of consciousness, it is not unreasonable to suppose that we can conceive consciousness to be that which is at work, or rather which is developed from anatomical elements, when the brainless frog executes all the movements so well observed by Pflüger; the *Mantis religiosa*, without head and without posterior segment, reduced to its prothorax alone, and the salamander without cerebral ganglion, execute purposive actions.

(q) That appearance of verisimilitude which impels them to incline to the right rather than to the left—augment it; that ounce of verisimilitude which bends the scale—multiply it by a hundred, by a thousand more ounces: it will come to pass at last that the scale will incline altogether, and will thus fix upon a choice, and a whole truth. But how do they allow themselves to believe in a similitude of a truth if they know not the truth itself? How can they know the like of that of which they know not the essence?—Michel Montaigne, "Essais," liv. ii. chap. xii.

(r) Ferrier, *loc. cit.*, page 255.

(s) Ferrier, *loc. cit.*, page 256; also Hughlings-Jackson quoted by Ferrier.

(t) Ferrier, *loc. cit.*, page 257.

(u) De Fleury, "Dynamisme comparé des Hémispheres Cérébraux chez l'Homme." Paris, 1873.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

CASES OF NERVOUS DISEASE.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

Case 1.—*Local Cerebral Anæmia—Bilateral Symmetry in Neuro-vascular Diseases.*

Remarks by Dr. Gowers.—A bilateral character of symptoms in central disease of the nervous system suggests, first, and rightly if the symptoms came on at once, an affection of some part of the cerebro-spinal axis in which the conducting tracts or the centres arc in such close contiguity that a single lesion might produce the symptoms. Thus, bilateral affection of the limbs suggests the idea of disease in the spinal cord or pons Varolii. But it is important to remember that a similar distribution of symptoms occasionally results from disease of identical regions in the cerebral hemispheres or central ganglia. Such bilateral disease may result in one or two different ways. The identical relation of certain regions of nerve-tissue in the hemispheres to general morbid influences may cause a symmetrical affection of the two sides. We see an illustration of this effect in albuminuric retinitis, which, except in its slighter forms, is rarely unilateral. In cerebral atrophy, and in some forms of spinal and medulla diseases, the same thing may be observed. But there is a second and more frequent cause of this bilateral symmetry of cerebral disease. Many of the gravest cerebral affections are primarily diseases of the blood-vessels—neuro-vascular diseases, as they may be called. Such are cerebral softening and cerebral hæmorrhage. Bilateral symmetry of these diseases may be determined by the similarity of the distribution of the vessels of the two sides. This correspondence of vascular distribution is often very close; it may be noticed in the resemblauce of the arraugement of the retinal vessels in the two eyes. The effect of this bilateral vascular symmetry is, that any general cause of vascular disease acts in an identical way on the vessels of each side, and gives rise to symmetrical changes. This may be seen, rarely, in cases of embolism. Emboli of similar size entering the two middle cerebral arteries may be arrested at a similar position on each side, and thus may cause disease of functionally identical regions in each hemisphere. This was the case in an observation published by Dr. Barlow, in which such a mechanism gave rise to a bilateral paralysis of the tongue. A similar effect is seen with greater frequency in degeneration of the cerebral vessels. We are able to understand its mechanism better now that we know to how large an extent vascular degeneration is determined by mechanical strain—that it is the high intravascular pressure and imperfect support which determines the occurrence of degeneratiou in the arteries at the basc of the brain. Symmetry of vascular arrangement means symmetry of strain, and frequeutly causes symmetry in the resulting degeneration, and ultimate cerebral disease. This is seen sometimes in the branches of the internal carotid, but more frequently in those of the basilar artery. The pressure in the two internal carotids is often not quite equal, but that in the branches of the basilar on each side is

often very nearly equal, and its effect is correspondingly symmetrical. It was so in the case which suggested these remarks. By this mechanism a bilateral affection of functionally identical regions results from the operation of the simplest mechanical conditions. It is probable that the hereditary transmission of a tendency to cerebral softening and cerebral hæmorrhage is in part at least, the effect of the transmission of a similar vascular arrangement. The fact that certain peculiarities in the distribution of vessels in internal organs is transmitted is often observable with the ophthalmoscope. A parent, for instance, has a certain peculiar arrangement of the branches of the central artery of the retina, and precisely the same peculiarity may be observed in that parent's child. Thus, a similarity in cerebral vascular supply may determine undue pressure at certain localities, with the result that "atheroma" or "endarteritis deformans" occur there, and produce similar effects on the cerebral tissue.

The case which suggested these remarks was that of a man aged sixty-five, who came to the hospital complaining of some right-sided weakness and disordered sensations in the leg—numbness, coldness. On examination with the dynamometer, it was found that both arms were weak, and equally so, and no difference in the sensibility of the two sides could be made out. There was no evidence of cardiac or renal disease. A few weeks later, word was brought that he had become gradually weaker, and had died. A partial post-mortem examination was obtained by Mr. Sankey. There was no hæmorrhage or softening to be discovered in the brain. The large arteries presented a moderate amount of atheroma, not interfering with their branches except in one situation. On each posterior cerebral artery, at the spot at which the vessel passes over the crus and supplies branches to the optic thalamus, was an area of extreme atheroma, about an inch in length, and involving the whole circumference of the vessel. On examination of the optic thalami, it was found that each presented in the central region an area, about the size of a nut, of very marked pallor, and that this region was limited on every side by a narrow zone of hyperæmia. It was unsoftened, but under the microscope the nerve-elements were beginning to degenerate, and a few granule corpuscles were seen. The area affected corresponded exactly to the distribution of the arterial branches from the diseased portion of the posterior cerebrals.

The case illustrates several of the points above mentioned, especially the way in which disease of vessels (probably largely determined by mechanical conditions) resulted in symmetrical disease of the cerebral tissue. It affords, also, an interesting example of the effects of local cerebral anæmia in the production of symptoms. It is not often that this can be observed, since the obstruction is usually so complete that necrobiotic softening occurs. It is such local cerebral anæmia which causes the well-known "prodromata" of acute softening.

GREAT NORTHERN HOSPITAL.

Case 2.—Delirium Tremens treated by Chloral, Hypodermically and by Mouth—Ulcers following the Hypodermic Injections.

(Under the care of Dr. CHOLMELEY.)

[From notes supplied by T. H. GILLAM, House-Surgeon.]

N. B., a master carpet-beater, aged about forty, was admitted into this hospital on September 18, suffering from premonitory symptoms of delirium tremens. From his history it was learnt that he had delirium tremens two years ago, that he was a great drinker, chiefly of spirits, and that he had been suffering for some months from melæna and hæmatemesis. When admitted, his trembling hands and general confusion of ideas and manner indicated that he was going to have another attack. He was a spare, thin man. The capillaries of his face were much congested. Ordered milk diet, with beef-tea, and no stimulants.

September 19.—No sleep. Had twenty grains of chloral in night. Now very refractory, sitting up, and it is with difficulty he can be kept in bed; very excited, and is determined to leave the hospital if he can manage it. Bowels have acted; motion nearly all blood. 10 p.m.: Has been in strait-jacket since 3 p.m., at which time he tried to get out of the window. High delirium, and extremely violent, sweating profusely. Has passed no water; will take no nourishment. Ordered twenty grains of chloral at once, and twenty grains more if not asleep at 4 a.m.

20th.—10 a.m.: Has not had any sleep; talking and calling out incessantly throughout the night; eyes very bloodshot; face crimson and suffused; pulse 126, running. Water drawn off by catheter, highly coloured, very albuminous. Bowels not open. Will take neither food nor medicine. A beef-tea enema with brandy (two ounces) administered, but returned immediately; twenty-four minims of a saturated solution (gr. j. ad ℥ j.) of chloral hydrate hypodermically injected into legs. 2 p.m.: Certainly worse; has had no sleep; pulse feeble and running; bathed in sweat. Thirty-two minims of the same solution of chloral injected hypodermically, as before. As the patient was evidently becoming exhausted by the violence of the delirium and want of sleep, and would now swallow, it was determined to give full doses of chloral every hour until sleep was produced. He was therefore ordered forty grains of chloral the first hour, and twenty grains every hour afterwards until sleep should be procured.

21st.—1 a.m.: Still the same busy delirium; no sleep since the 18th inst. Bowels constipated; sweating profusely; voice husky; pulse very feeble, about 136. Has taken nourishment since 4 p.m. yesterday. 6 a.m.: after taking (in a space of five hours) 120 grains of chloral, the patient fell into a profound sleep, from which he awoke at 2 p.m., much refreshed, and at times almost rational. He now rapidly recovered from this very severe attack, and on the 27th was discharged, cured.

Remarks.—Two or three points are especially worthy of note in this case. In the height of delirium the urine was, as has been stated, highly albuminous. When the patient had nearly recovered, the urine was examined more than once, and no albumen was detected; and on two or three occasions later on it was carefully tested, but not a trace of albumen was found. The condition of the patient seemed to make it imperatively necessary to induce sleep by means of drugs, but the amount of albumen in the urine rendered it at the least very desirable to avoid the exhibition of opium in any form, and chloral hydrate was therefore selected as the hypnotic; and a concentrated solution of this was given hypodermically, by seven injections, three in one leg, and four in the other, each injection containing six or eight grains. No local evil consequences followed during the patient's stay in hospital, and though sleep was not induced by the injections, yet after them the man could be persuaded to take both medicine and food by the mouth, so that probably they had that good effect. About ten days after the patient went out the points of injection began to be irritable and painful; and a week later still, he, on being seen at the hospital, complained of severe pain and discomfort. On examination it was found that each spot was covered by a dark red, dry, thin scab, formed apparently of hardened epidermis. This was easily rubbed off, and discovered a circular spot of cutis of a perfectly dead-white colour, slightly moist, and entirely devoid of sensibility. Each white spot was encircled by a narrow line of vividly red, slightly swollen, and highly sensitive and painful skin. There being at that time no vacant bed in the hospital, the man could not be readmitted, but he was enjoined to take to his bed at home, or at any rate to keep the legs up, and to apply poultices or water-dressing. A few days later the dead-white cutis at each place of injection had sloughed away, leaving very inflamed and irritable-looking ulcers, varying in size from a florin to a fourpenny-piece, having clean, circular, punched-out looking borders, with greyish sloughs at the bases, and very painful. The patient was then taken into hospital, and with rest in bed and the simplest local treatment—vasiline and moist warmth—the ulcers cleaned; the edges became undermined a little, but healthy granulations formed, the sores began to contract, and healing has gone on steadily, though rather slowly. The appearance of the ulcers at one time was strongly suggestive of a syphilitic taint; but there is no history of syphilis, and no specific treatment has been required. The sodden and unhealthy condition of the tissues generally in this alcohol-saturated patient had probably some share in causing the ulcers, but the solution of chloral used for injection was no doubt too highly concentrated It is remarkable, however, that so many days intervened before the appearance of any local mischief.

CHILDREN'S HOSPITAL, PENDLEBURY, MANCHESTER.

Case 3.—Disseminated Selerosis of Brain and Spinal Cord in a Child.

(Under the care of Dr. H. HUMPHREYS.)

Annie J. S., aged three years and six months, was admitted into the Children's Hospital, Pendlebury, on September 1, 1877.

Family History.—Parents both healthy; their first child was stillborn; one child died, aged thirteen months, of measles; one, aged five months, is quite healthy. Patient was quite healthy until ten months before admission. She is said to have been an intelligent child, and often used to be sent on

errands. About ten months ago she was knocked down by a horse. She did not lose her senses at the time, but she bled at the mouth. She appeared to recover completely from the accident. Two months afterwards, however, she had a fit lasting about half an hour. In this she turned black, and was convulsed. On the day following it was noticed that her limbs shook when she attempted to use them either to feed herself or to walk. The limbs continued to shake for two months, when she was taken to the dispensary and galvanised; after this the limbs became steadier. There was no impairment of speech at this time. Five months after the first one, she had a series of fits lasting three hours and a half. After these her intelligence appears to have been much impaired. She would say very little, and take very little notice of things. She would, however, ask for things she wanted. The shaking of her limbs did not increase much after these fits. The last fit occurred fourteen days before admission, and lasted a quarter of an hour. Her bowels are generally costive. She does not vomit unless she has had something to disagree with her.

On Admission.—She is a large child for her age, and weighs thirty-five pounds; her bones are massive, and muscles well developed; her head is of moderate size, the forehead perhaps a little deficient in breadth. She has a dazed look; her lower lip hangs down. She can sit up steadily in bed, but directly she attempts any voluntary movement her limbs and head begin to shake. She cannot stand, but begins to shake very much when she is raised into the upright position. When she is supported she makes an attempt to walk, but the movements of the muscles of the lower limbs are incoördinate, and so she flounders about. Her tongue is protruded with great difficulty, with much shaking, and generally with a slight deviation of the tip to the left. She has the greatest difficulty in getting anything up to her mouth—her arm shakes very much in the attempt. She swallows fairly well; occasionally a little milk runs back out of her mouth. She is clean in her habits. She does not seem to understand much of what is said to her. She speaks in a drawling, plaintive voice. She can look steadily with her eyes; there is no nystagmus; her sight appears to be fairly good. An ophthalmoscopic examination, made under chloroform, showed that the optic discs are well defined; the colour is pale grey, the arteries are perfectly thread-like, and the veins small. The muscles react well to faradism. Treatment: Five grains of iodide of potassium to be administered three times a day.

October 1.—There appears to be some improvement in her condition. She does not shake so much as she used to do when raised up. When supported she manages to walk a little more steadily. Her toes always touch the ground before the heel in this movement. Her tendency is to fall forward. When seated on the floor she manages to shuffle along in a very dexterous way, pushing out first one leg and then the other. She never answers any question. She is always asking the same question, viz., "Is daddy coming?" Sometimes she shouts out "T-t-t-ics," meaning toys. When a watch is held to her ear she gives a look of great satisfaction, and says, "T-t-tick-er." The above words are about the only ones she ever uses. She is an amiable child, very lively, and at times boisterous.

6th.—Had a fit yesterday evening, which is thus described by the nurse who witnessed the attack:—First her eyes turned to the left, then the left arm was drawn up, and next the left leg; then she stiffened out all over, and then became convulsed. At this stage the Lady Superintendent saw the patient. She says that the legs were kept wide apart and stiffened out, but that the feet were moving upon the ankles; that the right arm was kept up against the head, and the left down against the body, and that both hands were moving upon the wrists; that she kept her eyes turned to the left; that her mouth went to the left side, and her face twitched; and that after this state of things had continued a few seconds, she passed into a deep sleep.

Remarks by Dr. Humphreys.—Most of the symptoms of disseminated sclerosis are well marked in this child. As to her age, out of forty-one cases collected by Jaccoud the youngest age was two years. The age of the patient under consideration appears to be the second youngest on record, as far as I can ascertain. In this case there have been well-marked epileptiform attacks, one of which occurred in the hospital under the observation of the nurses. Such attacks, according to Charcot's article, have not as yet been described in the disease in question. Nystagmus is absent, although there is well-marked atrophy of the optic discs. Lastly, the muscular development of the child is very fine.

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Medical Times and Gazette.

SATURDAY, NOVEMBER 3, 1877.

THE ARTISANS' DWELLINGS COMPANY FRAUDS.

The recent action against certain late officers of the Artisans' Dwellings Company for conspiring to defraud the Company, must have been watched with special interest by members of the medical profession. At the least, as well acquainted as any other class of men with the overcrowded, wretchedly unhealthy, and in every essential ill-appointed dwellings in which the lower ranks of our population are driven to herd together, medical men know better than any other class can know of what vital importance room-space, fresh air, pure water in plenty, cleanliness, and light—all the physical surroundings, in short, that can help to make a dwelling into a home—are to the physical, moral, and mental development of mankind. They have consequently noted with great delight and satisfaction every step taken by the Legislature or by private enterprise towards supplying our artisans and labourers of all kinds with improved dwellings; and it may be fairly supposed that they felt some special degree of interest in the success of the Artisans' Dwellings Company, as its late chairman, Dr. Baxter Langley, is a legally qualified and registered medical man, though not a medical practitioner. The primary object of the Company was, as is well known, a philanthropic one, and its supporters and shareholders did not look for more, at the first, than a moderate rate of interest on the capital employed. Profit on the operations of the Company was, in fact, rather a secondary consideration; but that it should pay its way, and return a reasonable rate of interest as an investment, was a matter of great importance for the encouragement of similar undertakings. The Company was formed in 1866 for the purposes of purchasing land in the neighbourhood of London, and erecting upon it model residences for artisans; and special faith was probably placed in its soundness and trustworthiness

by artisans and others, because, while many highly influential persons belonged to it, its Chairman, Dr. Baxter Langley, and its Secretary and Manager, Mr. Swindlehurst, were widely known as men who were identified with the movement for improving the condition of the working-classes. All went apparently well till the present year, when circumstances led to an investigation by some independent gentlemen into the affairs of tho Company, and as one of the results of that investigation the recent prosecution was instituted. It is sufficient here to say that it was proved to the satisfaction of the jury and the presiding judge that estates bought in 1874 and 1876 by Mr. Saffery, an estate agent, at one price, were sold to the Company at a much higher price, and that the profits were shared in by the Chairman and the Secretary, and by at least one other officer of the Company, a Mr. John Shawe Lowe, one of the directors, who did not surrender to take his trial. The profit on the resale of one estate to the Company seems to have been over £9000, and on another £13,000. The defendants were found guilty, and, on the count of a conspiracy to defraud the Company, Dr. Langley and Mr. Swindlehurst have been sentenced to eighteen months' imprisonment with hard labour, and Mr. Saffery to twelve months'. It was urged in defence of the prisoners that similar transactions are of everyday occurrence in the City of London, and that, nevertheless, this was the first case of the kind that had ever come before the law courts; and that therefore the defendants had no reason to suppose that they were doing anything illegal. But it is very difficult to believe that, at any rate, a man of Dr. Langley's education and position could have believed that he had any right, moral or legal, to line his own pockets at the expense of a company in which he held a position—a highly responsible position—of trust. We must be thankful that the prosecution was successful, for had it failed the failure must have had a most disastrous effect on all enterprises like that of the Artisans' Dwellings Company, to say nothing of the effect on commercial morality in general. The fraud committed was a most heinous breach of trust, and to some it may seem that the sentence is comparatively a light one. But no one will so deem it who considers the effects of it, for it entails absolute ruin of character and prospects. As regards two of the prisoners we have no special interest, but Dr. Langley is a man widely known to the profession as a medical agent, carrying on a large business for the sale of practices, the arrangement of partnerships, and so on. He was educated at King's College, and is a Member of the Royal College of Surgeons of England; he received some years ago a degree in Laws from America; he is author of several works in professional and general literature; and he was a busy politician, so well known and so far trusted in, that not very long ago some 5000 of the Liberal electors of Greenwich supported with their votes his pretension to represent them in Parliament. And he has now forfeited everything an ambitious man can care for, and is hopelessly disgraced in the eyes of all honest men. Considering all this, it will be allowed that his punishment is terribly heavy. That it is, however, in any measure too heavy, we cannot feel; and we must hope that it will act, as all punishment is intended to do, as an effective deterrent to all placed in similar positions of trust and confidence. If it is, as may be feared and has been said, true that offences like his are of common occurrence, that deplorable fact could not in any degree justify or excuse him; while the lesson taught by his detection and punishment was all the more needed for the vindication and the refining of commercial morality.

THE RADCLIFFE INFIRMARY, OXFORD.

The relations between the Committee of Management and the Governors of the Radcliffe Infirmary, and their Senior Surgeon, Mr. E. L. Hussey, are unhappily at present severely strained on more than one point. The matters on which the differences between them have arisen were discussed at the Quarterly General Court of Governors, held at tho Infirmary on October 24, and one of these is a subject of more than local interest. On the part of the Committee of Management it was stated to the Court of Governors that some months ago the Senior Surgeon to the Infirmary, Mr. Hussey, was elected to the office of City Coroner, and in that capacity has already had "to sit" upon one of his own patients. A man suffering from a wound inflicted by his wife was taken to the Infirmary, and there died, having been one of Mr. Hussey's own patients. An inquest was held by Mr. Hussey, as City Coroner, the jury returning a verdict of wilful murder against the wife. The woman was acquitted at the Assizes; but the Judge (Baron Huddleston), to quote the statement of the Committee of Management, "pointed out to Mr. Hussey the indecency of uniting in his own person the two offices of Coroner and Surgeon to the Infirmary." "One would have thought," continues the statement, "that an opinion pronounced on such an occasion, by a person of such eminence and authority, would have had an immediate effect on Mr. Hussey's mind; but such, unfortunately, was not the case." Unfortunately, too, for him, a short time after, another patient died in the Infirmary, during an operation. Again we quote the words of the statement of the Committee, read by the Treasurer at the Quarterly Court:—"After three months more we had another illustration [of the anomalous position in which Mr. Hussey was placed]. The patient of one of his colleagues died whilst under the influence of an anæsthetic. In such cases it has been the custom in this Infirmary to hold an inquest, as it is in all the London hospitals. Mr. Hussey, who was cognisant of all the circumstances, held no inquest, but he took the opportunity to inform the Committee, in writing, of his opinion that the way in which anæsthetics were administered in the Infirmary was dangerous to life. Thus the indecency of sitting in judgment on his colleague was avoided, but at the sacrifice of the rights of the patient and his friends, the public, and the institution." The Committee having in vain called upon Mr. Hussey to explain why he considered "the manner of giving an anæsthetic to be attended with great dangers to life," as well as to suggest a remedy for the evil complained of, now asked the Governors to take the matter into their own hands. With Mr. Hussey as Coroner they had of course nothing they could do, but with him as Surgeon to the Infirmary they had some power; and the Treasurer therefore proposed the following resolution:—"That it is the opinion of this Committee that Mr. Hussey should be requested to make his option as to his retaining the one or the other of the offices of the City Coroner and Surgeon to the Infirmary within a period of one month from the date of the Quarterly Court. And that the Court do at its rising adjourn till November 21, to receive Mr. Hussey's answer." A long discussion on the matter followed, and it was proposed as an amendment—"That Mr. Hussey be requested to appoint a Deputy Coroner in all cases connected with the Infirmary"; but this was rejected, and in the end the original resolution was carried by a majority of ten, thirteen voting for the motion and three against it. It was unfortunate that the question about the way in which chloroform is given at the Infirmary was mixed up with the Coronership question, as it seems that the way in which Mr. Hussey has acted with regard to the giving of anæsthetics has excited not a little dissatisfaction. But there can be no real difference of opinion as to the impropriety of one of the professional staff of the Infirmary being in the position of having to hold inquests on Infirmary patients. The appointment of City Coroner is an honour, as showing that the holder of it has won the favour and confidence of a large part, at any rate, of his fellow-citizens, and Mr. Hussey may well have felt strongly tempted to accept it. But his doing so was surely a

most unfortunate mistake, though it no doubt never occurred to him that he would very probably be placing himself in a highly undesirable and difficult position. We do not find it anywhere stated, however, that anyone objected, on this score, to Mr. Hussey's election at the time. And it is a fact that another of the Surgeons to the Infirmary, Mr. Symonds, is University Coroner. But, though it is improbable that the University Coroner will have to hold an inquest on an Infirmary patient, yet it would seem that such a possibility did present itself, for a solicitor was appointed co-Coroner with Mr. Symonds; and the duties of University Coroner are certainly not heavy enough to explain the double appointment. Perhaps, however, the University only desired to express in that way their opinion that a Coroner ought to be both a medical man and a lawyer?—though we are not aware that the co-Coroners sit together. It does appear strange, however, that Mr. Hussey did not, at any rate, after Baron Huddlestone's severe comment, either resign the Coronership, or avail himself of the power of appointing a deputy. It was stated during the discussion that Mr. Hussey holds that he can only appoint a deputy to act for him in case of illness or unavoidable accident; but in correction of this it was asserted that, at the Assizes, the Clerk of the Peace declared that the Act of Parliament gives the Coroner full power to appoint a deputy, and, it was added, Mr. Hussey had shown no inclination to do so; and this, no doubt, caused the rejection of the amendment to the resolution on the matter. The resolution was seconded and strongly supported by Professor Rolleston, and we agree with him in thinking that the position in which Mr. Hussey has placed himself is wholly wrong, though we think he rather strained the point when he spoke of it as an "immoral arrangement," meaning thereby that it is immoral "to put a man into an office, the very essence of which is to bring him into a position that puts a strain upon his conscience"; and we cannot but think that the way in which the learned Professor dragged in Prince Leopold's name was an offence against good taste. In the other matter spoken of, Mr. Hussey seems, from his own letters which were read to the Court, to have dealt rather hardly with the Committee of Management, and with the officer who administers anæsthetics in the Infirmary. He wrote to the Committee, calling their attention "to the manner in which an anæsthetic is given" in the Infirmary, and saying, "I think the manner of giving it is attended with great danger to life." The Committee asked for an explanation of the manner in which the mode of administration is dangerous, and requested Mr. Hussey to enlighten them either by letter or by his personal attendance and advice; but, so far as we gather from the correspondence, all they have obtained from Mr. Hussey is the information, in writing, that "the use of the instrument with which an anæsthetic is given is attended with danger to life"; and that "the remedy is obvious—to have another instrument, and to direct the officer appointed to the duty to look to the medical officers for his instructions." Mr. Hussey has not complied with the request of the Committee, that he would give them his personal assistance, and would tell them what instrument he would recommend for use. The Committee, and the rest of the medical staff of the Infirmary, apparently feel, not unnaturally, that when their Senior Surgeon, who holds also the office of Coroner, makes such an observation as he has done on the way in which an anæsthetic is given, they have some right to an explanation from him; and we think that most people will be apt to agree with them. The consideration of the matter was adjourned, we believe, till the next meeting of the Court. Mr. Hussey has for many years held a position in Oxford, and at the Radcliffe Infirmary, of which any man might be proud; and we trust he will find the way to put himself right with his colleagues and the Governors of this institution.

THE WEEK.

TOPICS OF THE DAY.

At a meeting of the Willesden Local Board held last week, Dr. Danford Thomas submitted a special report, showing that in a stable with a loft over it, situated in a mews out of Denmark-road, four children were lying ill with scarlet fever, occupying the loft with their parents. The loft contained scarcely any furniture—only a chair and a mattress. Upon the latter, which was on the floor, and unsupplied with bedclothes, lay the four children, covered only by their own garments. Dr. Ring had attended them as paupers, and he considered that the condition they were in was highly dangerous to life. The father accounted for the state of poverty in which the family was placed by the fact of his having had a distress warrant for rent recently served upon him. Dr. Ring thought that the children ought to be removed for hospital treatment, and therefore applied to the relieving officer, who stated that the Guardians had no place to which to remove them. He then applied to the sanitary officer, who communicated with Dr. Thomas on the subject, and the latter gentleman immediately wrote to the Guardians, asking if they had made any provision for the isolation and hospital treatment of their infectious poor. In his report Dr. Thomas reminded the Board that the London Fever Hospital has refused to receive patients who are paupers, and he specially urged upon them the necessity of their making provision for contagious cases, as has already been done by several of the metropolitan parishes. Mr. Wood said that such a shocking state of things reflected most unsatisfactorily upon the parties concerned, and he thought the Guardians should at once, without a single moment's delay, have the report before them and act upon it. Taking into consideration the time which has elapsed since the notice from the Local Government Board on the subject of erecting hospitals for infectious diseases in each parish was issued, it is to be regretted that any of the metropolitan districts should still be found to be unprovided with these buildings.

An inquest held by Dr. Hardwicke last week, at the "Buffalo's Head," Marylebone, on the body of James Dooley, aged two years and a half, of Westmoreland-street, elicited a charge of carelessness in dispensing medicines which should not be allowed to exist at the present day. Deceased had been under treatment for nine weeks for ophthalmia, medicine and a belladonna lotion for the eyes being prescribed. The lotion was put in a large bottle by the dispenser at the Marylebone General Dispensary, Welbeck-street, but, according to the mother's statement, it was not labelled as "poison." On Saturday morning last the mother administered to deceased a dose from the lotion bottle, believing it to be the medicine bottle, there being a similarity in the two bottles. She presently saw a great change come over the child, and finding out her mistake, ran with it to the dispensary, where it was seen by the medical officer, who at once gave it an emetic. Deceased, however, got worse, and died at ten the same evening, having been delirious nearly all day. The cause of death was pronounced to be poisoning by atropine. The dispenser of the eye-lotion would not admit that the word "poison" was not on the bottle; and, singularly enough, no effort seems to have been made to produce the bottle in court. The jury eventually returned the following special verdict:—"That the deceased was poisoned by atropine, contained in an eye-lotion, which lotion was given by the mother in mistake for medicine, and the death was from misadventure. The jury are further of opinion that carelessness was shown by the dispenser of the eye-lotion in not affixing a label with 'poison' written or printed on the bottle, and that the bottle was not a proper one for a small quantity of lotion as prescribed."

The ship *Gauntlet*, Captain Lucas, which, as we announced last week, arrived at Plymouth, on her voyage from London to Plymouth, with scarlet fever on board, is now free from her emigrants, the people having been transferred to the Government hulk *Pique*, which has been lent by the Admiralty for the purpose, and is moored in Plymouth Sound. The ship will now be fumigated and thoroughly disinfected. No fresh cases have occurred on board since the landing of the two previously reported, and if all goes well the emigrants will return to the ship, which will be allowed to proceed on her voyage at the expiration of fourteen days from the last case having made its appearance.

In a special report to the Uxbridge Rural Sanitary Authority, Mr. C. Roberts, the Medical Officer of Health, states that seventy cases of scarlet fever have been treated in the hospital opened at Southall last Christmas. Of these only four proved fatal. He denies that the continued spread of the disease in Southall —the principal seat of it—is attributable to the patients' clothing not being properly disinfected before their discharge, as has been rumoured. There have been about 300 cases in the neighbourhood since the first outbreak, the majority of the sufferers having been treated at their own homes. Twenty-nine cases have occurred at the St. Marylebone Workhouse Schools, the sanitary arrangements of which Mr. Roberts describes as in every way perfect.

It is stated that Marlborough House has recently been so thoroughly inspected that all anxiety on the score of its bad or defective drainage may now be dismissed. At Sandringham, since the illness of the Prince of Wales, a special supply of pure water is furnished for the Royal table from two springs on the estate, which, though small, produce very pure water. The house has also been thoroughly ventilated, and the drains examined by Mr. Rawlinson, under whose direction all the cesspools have been removed.

We understand that the following points have been suggested by the Grand Committee of St. Thomas's Hospital as a basis on which the Governors of the institution should remodel the control portion of the establishment:—1. That a House Committee be appointed, to consist of the treasurer, almoners, and six governors, two of whom shall be gentlemen who have filled the posts of Physician or Surgeon to the Hospital. The House Committee to have full power to make all regulations necessary for its proceedings, and for the attendance on the Committee of the officers of the Hospital, and of a representative of the medical and surgical staff and school. 2. That the treasurer be appointed for the term of five years, but to be then eligible for re-election. 3. To adopt the principle of paying a salary to the treasurer, who should reside in the house provided and furnished for him in the Hospital, and who would be enabled to devote more time and personal attention to the Hospital than can be expected if he is not paid, and who, being able to exercise a thorough supervision of the Hospital, may thus obviate the necessity of appointing a superintendent.

At their sitting at Canterbury, on Saturday last, the county magistrates made an order upon the South-Eastern Railway Company to abate a nuisance which they allowed to exist in their harbour at Whitstable. The proceedings were instituted by the Local Sanitary Authority, who alleged that the harbour was used by about 200 ships, that the whole of the sewage from them went into the harbour, and that no means were taken by the Company to cleanse the harbour. It was stated that three was an outbreak of typhoid fever at Whitstable in August, and it was considered attributable to the nuisance in question. The sewage from the town also runs into the harbour, and the company defended the action on the ground that the Commissioners of Sewers, who superintended the drainage, were the parties really liable.

We have received a copy of the Report of the Inspector of Lunatic Asylums on the Hospitals for the Insane in the Colony of Victoria for the year ended December 31 last, by which it appears that the total number of registered lunatic patients in the colony at that date was 2635, which is an increase of 78 upon the preceding year. This increase, however, is stated to be less than that of the two preceding years, the number added to the registers in both 1874 and 1875 having been 99. This may be regarded as a satisfactory result, especially when the increased population of the colony is taken into account. Moreover, the mortality in Victorian asylums is shown to be lower than that in similar establishments in England, and has remained so during the last ten years. The colony, it would seem, has adopted the arrangement of having lunacy wards attached to hospitals, which, according to the Report, has been found to work satisfactorily. The aggregate admissions to all the wards during the past year were 98; of these 36 were discharged cured, 2 improved, 56 were eventually transferred to public asylums, and 2 died, leaving 3 under treatment at the end of the year. The Report points out that owing to this arrangement thirty-six persons were enabled to reach recovery, who would otherwise have been unavoidably subjected to the annoyance of being sent to an asylum for treatment; further, much expense was spared, and the asylum space was relieved to the extent of accommodation which would have been needed for these thirty-six patients. It is intended, if found practicable, to extend the usefulness of these lunacy wards in hospitals in the future.

Last Sunday, in Birmingham, the annual collection was made in the various churches and chapels in aid of the local medical charities fund, which is this year to be appropriated to the needs of the General Hospital. The returns received up to the present time show a total of nearly £2800, which is about £200 below the corresponding total last year, the falling off being generally attributed to the depression of trade, and the collection recently made for the Indian Famine Fund.

A serious outbreak of scarlet fever is reported to have taken place at the Albert Memorial College, Framlingham, forty pupils being confined in the sanatorium. It is expected that the College will be temporarily closed. Another serious outbreak is recorded at Witham, in Essex, where thirty children are now suffering, and six have died. All the schools in the neighbourhood have been closed, and operations are in progress to disinfect the houses.

ROYAL COLLEGE OF PHYSICIANS, LONDON.

At a meeting of the Royal College of Physicians, held on October 25, besides various matters of ordinary business, a letter was received from the Chairman of the Conference of Representatives of the Medical Authorities engaged in the formation of a Conjoint Scheme for Examination in England requesting the College to appoint two members of the Committee of Reference, in order that the Committee may at once proceed with the duties assigned to them by the Scheme. The College ordered the letter to be referred to the Council, that they may nominate two Fellows for appointment on the Committee, and consider the question of an honorarium.

THE INDIAN FAMINE.

The Mansion House Indian Famine Relief Fund now amounts to more than £430,000. The latest returns from Madras state that from January last the increased death-rate in the famine-affected district has more than averaged 50,000 monthly. This is exclusive of the great mortality in Mysore. In July, with the beginning of the last half-year, mortality took a sudden spring upwards, 113,494 deaths being registered, as against 33,442, the average for the same month during the last five years. This shows an increase of 80,052, all famine victims.

In the week ended October 2, 628,259 persons were on the relief works, and 1,603,721 were being fed gratuitously by the Government. In nearly all the districts, cholera, fever, and small-pox prevailed. This did not take into account the terrible suffering caused by high prices—300 and 400 per cent. above normal rates. About 2,131,482 are on the hands of the Government, being 13·27 per cent. of the population of the distressed district. Children had very largely benefited by the funds from England. Children in very great numbers had suffered, and were suffering, from the usual consequences of chronic starvation, and unless means can be devised to supply the children of the industrious poor with food in excess of the means of the parents, many must die before food supplies return to their normal value. Those who had visited relief camps and had noticed the wasted appearance of the children would never be able to shake off the saddening impressions excited. Dr. Cornish, the Sanitary Commissioner, says:—"Big boys will bring little boys, and, though lank and hungry, and casting longing eyes on the food, are only intent on seeing their charges get their allotted ration. For six weeks past, a little girl of ten or eleven has been bringing up two sickly children twice a day, nursing them with the tenderest care, and never asking for bite or sip on her own account. She showed no signs of starvation until the last few days, when I noticed that she was beginning to go down, and I have asked the lady in charge of the nursery to bring her on the list of those to whom one good meal a day may mean the salvation of life. I hold the view that there is a great and wide field for the exercise of private charity in the part of feeding such children as these." Our readers will be interested also in the passage which we give below from a letter written on September 29, by the Duke of Buckingham, the Governor of Madras, to a relative in England. It was quoted at a meeting of the Committee of the Manchester and Salford Indian Relief Fund, and points out the special need and value of private charitable assistance. The Duke says:—"We here are very grateful for the response England has made to the appeal, and Government can find work for the able and can give food to the weak and sick, but Government cannot pry into the homes of those who do not seek for aid, but are fading away in a vain attempt to feed a dozen on the scanty pay of one, and still wish to keep out of the abyss of pauperism; and to keep, then, these on the brink from falling, or to keep together the household goods, few enough, but still valuable in their eyes, of the small cottar farmer and the fairly well-to-do labourer is what charity can and Government cannot do; yet by doing it one of the greatest helps will be given towards meeting the remaining period of the famine year. The people are patience exemplified in life and in death."

THE PENGE CASE.

Most of our readers will have learned by this time the ultimate decision of the Home Secretary in this miserable affair. Alice Rhodes has received, according to the laws which govern British justice, a "free pardon" for a crime it is now allowed she never committed—a free pardon for having done nothing unlawful! The three Stauntons have been sent into penal servitude for life; but this, it is hardly probable, will be carried out in its entirety—at all events, in the case of Mrs. Staunton. Of this part of the decision we see little to complain. The negligence displayed by these people was so gross as to deserve ample punishment; but the taking away of life is a serious matter. Have these results been brought about by the intensity of public feeling that a great wrong was likely to be done, and by the determination of the medical profession that, though certain of their brethren had erred in skill and judgment, people who might be innocent should not lose their lives? But the terrible thing is this, that no new fact has been brought out since the trial which was not attainable before. We have on the trial a judge acting as an advocate, certainly not as *advocatus diaboli*, and a jury in hot haste to get home to bed, rushing to a conclusion which one of them afterwards admits was wrong. There has seldom been a trial which has more signally betrayed the imperfections of our law, or more forcibly impressed men's minds that law and justice are not always commensurable.

AN ILLEGAL USE OF METHYLATED SPIRIT.

The Law and Parliamentary Committee of the Pharmaceutical Society have recently brought under the notice of the Council the fact that some chemists used methylated spirit in the preparation of certain tinctures, such as that of opium; and the question was raised as to whether such chemists should be prosecuted. Some doubt was felt as to the possibility of obtaining a conviction under the Pharmacy Act in such cases, and it was suggested that the Council should bring the matter officially before the Inland Revenue authorities. It was eventually decided not to take any steps with regard to the subject. It was felt that the honest tradesman was placed in an unfair position if an unscrupulous neighbour used methylated spirit in the manufacture of tinctures for internal use, but some members of the Council expressed the hope that "no occasion might arise for vexatious interference by revenue officers." Some complaints appear, however, to have been made to the Board of Inland Revenue, and an order has been issued notifying to manufacturing chemists "that the use of methylated spirit in the preparation of 'absolute alcohol' is clearly illegal, as involving the purification of the spirit"; and that any person discovered in future to be carrying on any such process will be proceeded against.

GLASGOW AND ABERDEEN MEDICAL GRADUATES' DINNER.

The second annual dinner of the medical graduates of Glasgow and Aberdeen was held on Thursday, October 25, at the Pall-mall Restaurant, under the presidency of Dr. Allen Thomson. Professor Lister was among the guests, and Dr. Matthews Duncan was present in the capacity of an Aberdeen medical graduate. Professor Lister and Dr. Matthews Duncan were specially toasted and welcomed to London, and each acknowledged in warm terms the cordial reception he had met with, not only from fellow-graduates and Scotchmen, but from all circles in London. Dr. Andrew Clark, who occupied the vice-chair, proposed the health of the chairman. He paid a most eloquent tribute to the learning and sincerity which characterised Professor Allen Thomson as a teacher, and expressed his own sense of gratitude, which an interval of thirty years had only served to deepen, for the instruction he himself had gained when a student in his class. In the name of the Glasgow and Aberdeen medical graduates he warmly welcomed him to London, and hoped he might be spared for many years to enjoy the repose he had so justly earned, and to add a lustre to scientific London society. We fear somewhat that, though all is here *couleur de rose*, the second annual dinner of the Glasgow and Aberdeen graduates may be fraught with evil. The following is an extract from the circular sent out convening the dinner meeting:—"We may state that this dinner is not in connexion with, nor is it in any sense in antagonism or opposition to, a proposed Association of the Universities, but is of a purely social and friendly character." It is signed as follows:—"John Couper, F.R.C.S., 80, Grosvenor-street, Grosvenor-square, W.; John Brunton, M.D., 21, Euston-road, N.W.—(Glasgow). Fancourt Barnes, M.D., 39, Weymouth-street, Portland-place, W.; Stephen Mackenzie, M.D., 26, Finsbury-square, E.C.—(Aberdeen)." We believe that it is strongly desired by many graduates to form a general association of all *alumni* and graduates of one or both Universities, as may be determined. We have been told that matters had been arranged thus: a

meeting of graduates was to be called some time in November, to decide whether the proposed Association was to consist of Aberdeen and Glasgow graduates of all kinds, of Glasgow and Aberdeen medical graduates only, or whether the Universities should each have an association of its own. There are two bonds between certain members of the two Universities—first of all, the members of the General Council of either University unite in electing a member of Parliament; secondly, as a certain number of both Universities belong to the medical profession, it has been proposed to make a purely medical association, made up of medical graduates belonging to the two—this, we have been told, partly at least with the view of returning a medical member of Parliament for the two Universities. These are matters with which, upon the whole, we have not much to do—they are, so to speak, household; but at the same time this second *annual* dinner seems very much like forcing the hand, not of opponents, but of men who would be allies. Of course there is another way of explaining it.

THE TREASURERSHIP OF ST. THOMAS'S HOSPITAL.

Elsewhere in our columns will be found the recommendations of the Grand Committee of St. Thomas's Hospital with reference especially to the office of Treasurer. They are of a character to command attention, and the most careful consideration and discussion. No single office is of equal importance, as regards the future prosperity and well-being of the Hospital, to that of Treasurer, and we can hardly imagine that anyone can seriously dispute the principle, formulated by the Grand Committee, that the Treasurer ought to be a paid, resident officer, who shall be able to devote ample time and attention to the Hospital, and to exercise a thorough supervision of it. When this shall have been agreed to by a General Court of the Governors, the next step to be taken—and one the importance of which cannot easily be exaggerated—will be the selection of a man to fill the post of Treasurer. Three men have been already spoken of, though we do not know whether they are all actually candidates for the appointment—viz., Mr. Alderman Stone, Captain Galton, and Mr. Simon, C.B. They are all able men, and distinguished in their chosen walks in life, but we are not aware that, with the exception perhaps of Mr. Simon, any one of them has any practical knowledge of hospital administration and management, though of the great ability he has shown throughout his long official life it would be difficult indeed to speak too highly. Captain Douglas Galton has made for himself a high reputation as an architect, and by his knowledge of all the details of scientific hospital construction; and Mr. Alderman Stone is, we believe, or rather was, a successful solicitor. But we hear that a fourth gentleman has presented himself for the appointment, than whom it would not be easy to find a more fitting candidate. Dr. Norman Chevers has had large and great experience in very similar work in India; for many years he managed, with marked success, the Medical School and Hospital in Calcutta; he was secretary to the Medical Board; he had large official work in serving other appointments; and he has won, as we hardly need note, high reputation as a physician and an author. He has retired from Indian service, and in full health and vigour can devote himself entirely to the service of St Thomas's Hospital. If Mr. Simon really desires the vacant appointment, it will, perhaps, hardly be possible for the Governors to pass over his great claims and eminent qualifications; but they are, at any rate, fortunate in having before them such a candidate as Dr. Chevers. We are speaking of the qualifications of Mr. Simon and Dr. Chevers for the Treasurership without any very definite knowledge of what the Treasurer's duties are to be; but if he is to undertake all that seems to be laid on him by the speeches and resolutions passed at the meeting of Governors on the 31st ult., we doubt if any one man can be found equal to the office.

COMPRESSED OXYGEN AS A TEST OF CELLULAR POTENCY.

Professor Paul Bert, of Paris, has lately utilised a former discovery of his, that compressed oxygen destroys organised (cellular) ferments, as well as living cells in general; whereas it has no effect on chemical (liquid) ferments, to determine whether certain poisonous animal ferments owe their properties to the presence of cells, or not. He found (*Comptes-Rendus*, lxxxiv., p. 1130), that the poison of the scorpion, fresh, dried, or redissolved in water, resisted the action of compressed oxygen, and that vaccine lymph could be exposed for a week to oxygen at a pressure of fifty atmospheres, without losing its peculiar influence. In the same way, the virus of glanders, and that of malignant pustule, remained unaffected. Hence Bert concludes that all these poisons are independent of living cells; and that even if the corpuscular elements which their liquids contain appear, as Chauveau maintains, to be the seat of the fermentative material, this is only because the latter adheres to them by simple attraction—just as, for example, hæmoglobin is retained by the blood corpuscles.

THE EDINBURGH INFIRMARY STAFF.

By the transfer of Mr. Annandale to the Chair of Clinical Surgery, a vacancy occurs in the surgical staff of the Edinburgh Infirmary. It is not the least of the privileges attached to this chair, that its occupant becomes, *ipso facto*, a Surgeon to the Royal Infirmary—a post which he holds whilst he holds the chair—with special wards and service of his own. The other Surgeons, except the Professor of Surgery, hold office only for a limited period. It was partly on this account that the friends of Mr. Heron Watson made such efforts to secure his appointment. For the vacancy thus occurring we hear of Dr. John Bishop as a likely candidate. This gentleman has long enjoyed exceptional opportunities of acquiring experience, both under Syme and Lister, and is an out-and-out advocate of the antiseptic system.

At a recent meeting of the managers of the Infirmary, Dr James Affleck was appointed an Assistant-Physician. The report of Mr. Charles Barry, of London, on the works of the new Infirmary was laid on the table, and it was resolved by the meeting to abide by it.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.

A general meeting of the Society was held, by kind permission of the Royal Medical and Chirurgical Society, in their rooms, Berners-street, on Friday last, October 26, at half-past eight o'clock. The chair was taken punctually by the President, Sir George Burrows, Bart. From the half-yearly statement read, it appeared that a sum of £1298 10s. had been distributed amongst fifty-eight widows, twelve orphans, and four orphans on the Copeland Fund. The expenses of the half-year had been £109 14s. 9d. It was announced that the directors, having a sufficient sum in hand, had determined to give a present at Christmas to the widows and orphans now receiving grants; the total amount of the present would be £326. During the half-year fresh applications had been received from four widows and two orphans; thirteen members had died, and seven new members had been elected. Dr. Harvey Kimpton Owen was elected a Vice-President, in the place of George Cooper, Esq., deceased. A legacy of of £500 from Mrs. Mary Davis Parker was reported, and also £250 from the executors of the late James Graham, Esq. A vote of thanks to the chairman closed the meeting.

A Productive Collecting-Box.—Since the collecting-box for donations to the Indian Famine Fund was placed outside the Mansion House no less a sum than £958 has been contributed to it, anonymously, by passers-by. The largest sum collected in one day was £33 15s. 8d., and the smallest £6 8s. 4d.

THE SICK AND WOUNDED IN THE RUSSO-TURKISH WAR.

The following extracts from reports furnished to the Stafford House Committee have been obligingly sent to us for publication; and as they may be of much interest to some of our readers, we are glad to be able to find space for them:—

Extract of a Letter from Mr. Barrington Kennett; dated Pera, September 19, 1877.

The reports speak for themselves. I need not comment upon the awful misery and distress among the wounded in every district. It is with feelings of the greatest reluctance that, for want of funds, I find myself unable to extend or even strengthen our different sections. Please make every exertion to secure further subscriptions at this critical moment.

All our sections are working extremely well, and Neylan, at Philippopolis, and Moore at Adrianople, have secured for themselves high and responsible positions.

I regret to have to report that Neylan is returning temporarily invalided with dysentery, as also Drs. Beresford and Lake, but I hope they will be able to return to their positions.

An excellent position having been offered to the last batch of our doctors sent out, involving the condition that the Red Crescent defray all expenses of their pay and passage, etc., I have accepted the conditions. I will send you details by next mail.

I leave to-morrow with large ambulance destined for Plevna.

I have attached Stoney permanently to our staff as assistant-commissioner. He will represent the Stafford House Committee at Constantinople during my absence.

Mr. Pratt is working well and energetically in the Varna and Shumla district.

Our soup-kitchens are still working well; over 4000 wounded have been received and attended to at each of them.

The ranks of the Red Crescent have recently received a great addition in the person of Baron Mundy.

Letter.	Section.	Service.	Attached to	Written from	Date.	Surgeons, etc.
W . .	Pratt's	Field Ambulance	Mehemet Ali Pasha's Army	Shumla	Sept. 12	Mr. Pratt, Dr. McQuean, Dr. Beresford.
X . .	Busby's	Ambulance and Transport	Nedjib Pasha, Rasgrade	Varna	„ 13	Dr. Busby, Dr. Lake, Dr. Wattie, Dr. Boyd.
Y . .	Pratt's	Field Ambulanee	..	Choumla	„ 13	Dr. McQuean.
Z . .	Hayes'	Railway Transport	Rustchuk and Varna Line	Varna	„ 13	Dr. Hayes.
A . .	Cullen's	Varna Hospital	Varna	Do.	„ 16	Dr. Konvaros, Dr. Cullen.
B . .	Cullen's	Transport	Suleiman Pasha's Army	Sarenby	„ 15	Mr. Cullen, jun., Dr. Sketchley.
C . .	Do.	Do.	Do.	Philippopolis	„ 18	Do.
D . .	Neylan's	Philippopolis Hospital	Philippopolis	Do.	„ 17	Dr. Neylan, Dr. Minassian,
E . .	Do.	Do.	Do.	Do.	„ 16	Dr. Stewart, Dr. Manvury.
F . .	Moore's	Adrianople Hospital	Adrianople	Kesanlik	„ 17	Dr. Moore.
G . .	V. B. Kennett's	..	..	..	..	..
H . .	Do.	Distribution of soup, etc., to soldiers arriving	Constantinople	Constantinople	Sept. 17	Dr. McIvor. Dr. Kirke. Dr. Woods. Mr. Scudamore, *Volunteer.*

No. 1.—*Report of Ambulances with Mehemet Ali Pasha's Army.*

Shumla, September 12, 1877.

(W.) Pratt's Section, Mehemet Ali's Head-Quarters.
(To the Stafford House Committee.)

In accordance with Mr. Kennett's instructions, I beg to inform you that I left Shumla on the date of my last report (September 2) for Varna, by a train in which there were eighty severely wounded men. There were no Turkish surgeons to meet them on their arrival at Varna, and Dr. Hayes and myself had, with the aid of his transport drivers, with our own hands carried out of the trucks and placed on the transport waggons more than two-thirds of their number before the Turkish surgeons and their carriages arrived.

The Red Crescent Hospital under Drs. Konvaros and Cullen (Stafford House) is full and working well.

On September 4 I left Varna for Rasgrad, and thence on horseback to the front with Drs. Cheyne and Jolly (National Aid Society). We arrived late—the fighting at Atlava and Rasilovo was just over; we had time, however, to collect some twelve severely wounded men, and place them in a transport out of the rain for the night. The next morning their wounds were dressed by Dr. Wattie. We on the same morning found a large number of slightly wounded men at Chevasa; we dressed some of their wounds, the remainder were attended to by Drs. Wattie, Busby, and Lake, after their severer cases had been disposed of.

The same day I rode to Yeni-Kieni, and brought back with me Drs. McQuean and Beresford and their transport to Chevasa.

We found Messrs. Wattie and Busby. Before night the lighter cases remaining were dressed and transported to the Turkish Hospital, and the severer ones not admitting removal remain at present under the care of Drs. McQuean and Beresford, an empty house having been prepared as a temporary hospital.

During the few days that Drs. McQuean and Beresford were at Yeni-Kieni they were not allowed to perform any operations by the Turkish surgeons there; men with undressed wounds being sent to Shumla and Eski-Djuma. Dr. McQuean will report, however, to Mr. Kennett with regard to this.

I visited Dr. Wattie's ambulance in camp opposite Atlava. Dr. Lake was suffering severely from dysentery. [I ordered him back.—V.B.K.] He was very anxious to remain, in expectation of more work, but as Drs. Wattie and Busby both agreed that it was advisable that he should do so, at my suggestion he left the next morning for Varna with a convoy of sick. He has since written to offer his services at the Imperial Hospital at Varna, where help is very much required. He has stipulated for the care of wounded men only, and for independent action with regard to treatment in his own wards.

Dr. Wattie will report to Mr. Kennett as to the large number of wounded that have passed through their hands lately.

I have appropriated an empty house at Yeni-Kieni as a store for Dr. Cruikshank (National Aid Society) and Stafford House Ambulances. As this village is protected by a very strong and fortified position, it is not likely to be again in possession of the Russians.

As Dr. Barker is now engaged elsewhere, I have sent the stores destined for Eski-Djuma to Yeni-Kieni. I visited the Government Hospital yesterday, and as several very bad cases had disappeared, it did not appear to be in such an offensive condition as I described in my last report. They are still without disinfectants. On the two chief doctors writing me that they were in great need of certain medicines, which they could not procure immediately, I gave them a small quantity,

and some hospital requisites that they were obviously in need of. I have done the same at Yeni-Kieni.

The voluntary aid given to Mehemet Ali Pasha's army may be thus described :—Drs. Cruikshank, Cheyne, and Jolly (National Aid Society), in camp with south wing ; Drs. Wattie, Busby, and Boyd (Lord Blantyre), with their transport, in camp with north wing ; Drs. Beresford and McQuean, with transport, in village in rear of centre, with orders to move forward in whatever direction the fighting next takes place ; Dr. Hayes, in charge of railway transport from Rustchuk to Varna, which is doing excellent service. The Varna and Rustchuk hospitals are both now full. I proceed to the latter to-morrow.

(Signed) E. R. Pratt, S. H. Assistant-Commissioner.

(X.) *Extract from Letter from Dr. Lake; dated Varna, September* 13, 1877.

I find that there are so many hundred wounded—some of their cases we dressed at the front, others so interesting surgically, and all left to the careless and indifferent treatment of the uneducated Turkish surgeons here—that Mr. Pratt, Dr. Hayes, Dr. Schofield, and myself, have all deemed it a wise and prudent step that I should take over a ward of, say, twenty-five or thirty, or more, under my own care and treatment, assisted by Hayes, independently of the Turkish surgeons. By this arrangement Hayes and myself would be able to work into one another's hands, and would form an important, useful, rear permanent hospital. The other three men would still remain at the front.

(*To be continued.*)

FROM ABROAD.

Prof. Billroth on a Case of Gasteroraphia.

In the *Wiener Med. Wochenschrift* for September 22, Prof. Billroth relates the following interesting case :—

"In the twentieth volume of the *Archiv für Klinische Chirurgie*, Dr. Wölfler described the case of a young woman, aged twenty-five, in whom I had closed a fistulous opening in the stomach of the size of a florin (*Silbergulden*), by means of a granulating flap. I was in hope that this flap would resist the digesting power of the gastric juice, if the granulating, highly vascular surface of the flap, becoming covered in the course of time with epithelium, assumed the condition of a cicatrix, and consequently became much less vascular. In this hope I was encouraged by the fact that we sometimes meet with pretty considerable cicatrices as residua of former ulcers of the stomach, which lie depressed below the level of the mucous membrane, and possess much fewer and smaller bloodvessels than the latter. Unfortunately, my expectation was not confirmed, for at the end of three months the fistula reopened, and so completely had the flap of skin become digested that it was as large as ever. Thus I had not been able to effect a durable closure of this large fistulous opening, but the ease with which union was accomplished showed that the physiological principle upon which I proceeded was correct.

"Referring to the former account of the case for the details, it may be stated that following a cold abscess which had formed in front of the lower ribs, and after adhesion had occurred between the stomach and the diaphragm and the wall of the abdomen, perforation took place at the same time into the stomach and externally. When the patient was again admitted to my clinic, the fistula was closed by a plug, kept on by a broad bandage, but the closure was only exact when she lay on her back, the contents of the stomach continually escaping when she was erect. Her nutrition had been excellent while the fistula was closed, but she had now become again very thin. The edges of this large fistula were always red and sensitive, and her condition upon the whole was so unsupportable that she ardently desired an attempt to be made for its definitive closure, even if this were attended with some danger. . . . After further meditation on the case, I resolved to attempt the closure, or at all events the diminution of the fistula, by means of the actual cautery or powerful caustic, applying this around the fistulous orifice, so as to give rise to a circular cicatrix. By producing a second and smaller cicatricial ring under the first, and another still smaller under this, and so on, until the mucous membrane and muscular layer were reached, a funnel-cicatrix might be formed by the contraction so produced, the terminal end of which might be afterwards obliterated. Between November 10, 1876, and February 7, 1877, six such cauterisations were made by means of Paquelin's thermo-cautery ; and although these were very intense, they were followed by very insignificent reaction, and never by any peritoneal irritation. The eschars always separated very rapidly ; the shreds, in place of being discharged, undergoing digestion. Unfortunately, however, the cicatricial contraction was so slight that the attempt to effect the closure in this manner had to be abandoned. At a later period it became evident that the prevention of contraction was caused by the enormous and firm adhesions of the stomach to the wall of the abdomen."

Prof. Billroth goes on to relate other procedures which he employed. One of these, which was resorted to on February 22 and March 9, consisted in detaching a portion of the mucous and serous membranes, and attempting to effect a union with the subjacent tissues and the skin. This having failed, on March 16 he performed Middeldorff's operation of forming a large flap, which, while retaining its union with the surrounding skin, was brought so as to cover the fistula, except at a slight aperture, which was easily closed by compression. The lower edge of this flap united easily, but the upper one underwent digestion, so that the fistula was soon again exposed, and, notwithstanding all endeavours, things were brought to a state pretty much as before any operation had been attempted.

"I have thus minutely detailed all these unsuccessful attempts to close the fistula in order to show that I did not proceed to gasteroraphy until I had exhausted all other relatively dangerless methods with which I am acquainted. The patient was a most sensible person, and submitted to all that was done for her with inexhaustible patience. Notwithstanding the best hospital diet, however, she was becoming emaciated ; and partly on account of this, and partly because long after the last operation the circumference of the fistula remained in an irritable condition, further attempts were called for. In the meantime I had listened at the last Surgical Congress to the communications of Schönborn and Trendelenburg upon the successful formation of a gastric fistula in cases of stricture of the œsophagus, which, together with a similar case of Verneuil's, showed that with our present operative procedures it is possible to bring a plastic healing process in the stomach to a successful issue, although the flow of the gastric fluid over the fresh surfaces could not be entirely prevented. I cannot conceal that, among the many interesting occurrences at this Congress, these operations produced the greatest effect upon me, and encouraged me to undertake gasteroraphy in my case.

"This I performed on June 13, in the following manner :—After the stomach had been repeatedly washed out with water, I began, after incision of the mucous membrane, to separate, by means of the finger and a raspatorium, the stomach with all its membranes from its adhesions to the abdominal wall. So excessively firm were these that considerable force was required to effect this ; but the bleeding was insignificant. This separation around the edges of the fistula, in order that they might be brought together without any tension, had to be carried farther and farther, until at last it amounted on all sides to six or seven centimetres. I found myself at the upper, outer, and inner portions still within the region of the adhesions ; and it was only below that I reached the peritoneal cavity. Finally, I was enabled to draw the stomach so far forward that it became possible to sew up the fistula by means of twelve deep and three superficial silk sutures, which penetrated through the serous and muscular coats, so that serous membrane laid almost applied to serous membrane. A simple flap was formed from some healthy skin below the lower edge of the fistula, and applied over the external opening, and united by sutures, some drainage-tubes being inserted. The wound was dressed by Lister's procedure, and for the first three days the patient took only water. During the next week she took milk, after which some meat diet and wine—at first sparingly, and then more abundantly—were allowed. A fortnight after the operation she had the full hospital diet, with any extra articles she wished for. The patient, who at first was very hungry and felt feeble, soon regained her strength.

"From the time of the completion of the operation not a drop of fluid or a morsel of food ever issued from the fistula. Not only did the wound of the stomach heal by primary intention (so that I have nothing to say concerning the sutures, which were cut close), but the flap of skin did so almost

completely also, pus being discharged for some time through the drainage-tubes. There were never any peritoneal symptoms. A month after the operation the wound had completely closed, the wound caused by the removal of the flap not yet being quite healed. On July 27 the patient was dismissed completely recovered, in the best health, and in a good condition as regards nutrition. It is not probable that the fistula will re-open again; but, at all events, I shall after some time make inquiries concerning the patient, and, if her condition undergoes any change, I will make it public. This rare case may, with respect to the various operative procedures connected with it, serve as a type for similar cases. Excision of a portion of a carcinomatous stomach would only be to take a bolder step in the same direction—just as, recently, Czerny has proceeded from œsophagotomy to the removal of a cancerous portion of the œsophagus, with the happiest success. Gussenbauer and Winiwarter (*Archiv für Klin. Chir.*, Band. ix.) have already executed the necessary preliminary work."

The American Dermatological Association.

The New World is as prolific as the Old in the generation of new Congresses and Associations; and the *Boston Medical and Surgical Journal* of September 13 contains a report of the first annual meeting of the American Dermatological Association, which took place at Niagara on September 4 to 6, under the presidency of Dr. White of Boston. The first object of the introductory address which he delivered was the justification of the existence of the Association; for there are many persons in the United States, as well as in Europe, who seriously doubt the propriety of this process of splitting-up of medical science into so many divisions, and treating each as an entity of paramount importance. A stand against it has been made recently at Munich, where the project of holding what was called a Gynæcological Congress or Conference was defeated on the ground that gynæcologists surely ought to rest content with forming one of the already too numerous twenty-five sections of the German Association for Naturalists and Physicians. A kind of congress-epidemic is just now prevailing; and certainly the recent jubilee meeting of the German Association, held at Munich, was a proper occasion to call to mind, as Professor v. Pettenkofer and other speakers did, the original idea which animated Oken, when, amid so many difficultics and obstacles, he succeeded in founding this parent of migratory congresses. He sought to develope the bond of union which ought to prevail amongst those who were pursuing the various departments of science, which, if lost sight of, risks the production of the one-sidedness and limited scope consequent on excessive division of labour.

However, we must let Dr. White state his own case. The objects of this new Association are, he says—"1. The affording opportunities for a more intimate personal acquaintance among American dermatologists, thus obviating the tendency to harsh judgments upon necessary differences through ignorance of personalities. 2. To average the varying views upon etiology and treatment by oral discussion in each other's presence, and thus to elaborate a common basis for work. 3. To ascertain by observant study, and by the collection of statistical data, the peculiarities of cutaneous diseases at present existing in our own country, the establishment of a standing committee for this purpose being desirable; and to investigate the new diseases, leprosy, etc., which, though now rare, are yet to be expected here in time. 4. The establishment of a common nomenclature in dermatology. 5. To foster the interests of dermatology in its general relations with the medical profession and with the public. The objects of the Association show the need of its existence. There are peculiar difficulties and very inappropriate rewards in this speciality of medicine. The medical profession has yet to learn that diseases of the skin are like other diseases, all being subject to the same laws, and all affecting organs composed of similar tissues. Physicians either lack interest in these maladies, or, regarding them as incurable, leave them to chance; or, again, pandering to popular prejudice, will talk of 'humours' and of diseases 'coming out' or 'striking in,' thus frightening patients into resignation; or will undertake unjustifiably the treatment of maladies of which they are ignorant, merely because they anticipate less evil from mismanagement than they would in the case of maladies of the eye or ear, for instance. Even physicians who consult a specialist seem surprised that these diseases subsequently remain apparently as intractable as before, forgetting that the pathological conditions may vary from day to day in an organ so exposed, thus calling for a coincident change, perhaps temporary only, in the plan of treatment. There is a necessity for special teachers in the medical schools. There exists the need of better opportunities of instruction by means of special clinics, either in special hospitals or in special wards in established institutions. The neglect of existing institutions to do common justice to patients suffering from these diseases is an outrage against reason and humanity. On the other hand, relatively speaking, there has been great progress during the last twenty-five years in the proper teaching of this speciality, and the present condition of dermatology in America is flourishing."

REVIEWS.

On the Prognosis in Cases of Valvular Disease of the Heart. By Thomas B. Peacock, M.D., F.R.C.P., Hon. Consulting Physician to St. Thomas's Hospital. London: J. and A. Churchill. 1877. Pp. 55.

This handsomely got-up monogram is a revised reprint of a paper in the *St. Thomas's Hospital Reports* for 1871, and will be very gladly welcomed by the profession in its new and separate form. The day has long gone by since there was any need to commend to the profession a work on diseases of the heart by Dr. Peacock. He is an accepted authority on the subject; and this short essay is characterised by all his usual learning, accuracy and minuteness of observation, and practical skill. The work does not treat only, or chiefly, of prognosis. The different forms of valvular disease are described, and illustrated by cases and engravings, the sources of danger are noted and classified, and some consideration is bestowed on treatment. Dr. Peacock considers that the order in which valvular diseases should be placed, as indicating their relative danger, is as follows—the first placed being the more serious affections:—Aortic regurgitant disease, mitral regurgitant, mitral obstructive, and aortic obstructive, disease. The other elements for the formation of prognosis are:—1st. The cause of the disease, its duration, and the rapidity with which the symptoms have advanced, as indicating its probable nature or its active or passive character. 2nd. The degree of impediment to the circulation which it occasions, and the power of the heart to overcome such obstruction, as indicated by the force and regularity of its beat, and by the relation which it bears to the pulse at the wrist, and the amount of congestion in the lungs and other organs and in the general system. 3rd. The presence or absence of serious complications, as of the lungs, liver, brain, kidneys, etc., and the existence of dropsical symptoms, or of a gouty or rheumatic condition. 4th. The circumstances in which the individual is placed, as affording the means of obtaining rest of body and mind, and protection against atmospheric changes, together with the proper regulation of diet and facilities for medical treatment. The work is a valuable and clearly written outcome of Dr. Peacock's experience in the subject treated of.

An Immense Dose of Chloral.—Dr. Bishop relates a case of delirium tremens, in which the patient, a man thirty-two years of age, after sixty hours of absence of sleep, took *one hundred and sixty-five grains* of chloral (found by trial in other cases to possess its full efficacy), and slept for thirty-six hours, without any alarming symptoms—such as diminished temperature, sighing respiration, slow or feeble pulse, or pallor of the countenance.—*Boston Med. and Surg. Jour.*, September 6.

Case of Anosmia from a Blow on the Occiput.—In the *Boston Medical and Surgical Journal* for September 13 Dr. Knight relates the case of a man, forty-two years old who, three weeks after having been thrown out of a gig striking the back of his head, found the sense of smell was completely gone; the perception of flavour was also gone,—which was of great consequence to the patient, he having to taste tea as a teadealer. He was unconscious for twelve hours after the accident (which occurred three years before); and blood flowed from the nose and one ear, in which he also had great pain. Since then he has had no pain or cerebral symptoms, and his hearing is good. On testing the sense of smell, it was found to be insensible to the strongest odours, such as assafœtida or peppermint introduced into the nostril. Dr. Knight cites twenty-one other similar cases of anosmia from injury of the head which are on record.

PROVINCIAL CORRESPONDENCE.

IRELAND.

Dublin, October 30.

THE OPENING OF THE SESSION 1877-78: ROYAL COLLEGE OF SURGEONS; ST. VINCENT'S HOSPITAL.

THE Introductory Lecture of the present winter session was delivered in the Lecture Theatre of the School of Surgery, Royal College of Surgeons, on Monday, October 29. The lecturer was Dr. Charles A. Cameron, Diplomate in Sanitary Science, University of Cambridge, Professor of Chemistry and of Hygiene to the College. The subject of his address was "The Pathology and Propagation of Contagion." The chair was taken by Dr. Robert McDonnell, F.R.S., President of the College, who was supported on the right hand by Dr. Gordon, President of the King and Queen's College of Physicians; and on the left by Dr. Philip C. Smyly, Vice-President of the College of Surgeons. Having referred to the recent losses sustained by the School of Surgery in the lamented deaths of Dr. John Cronyn, the Professor of Midwifery, and of Mr. Henry Wilson, the Professor of Ophthalmic Surgery, Dr. Cameron proceeded to treat of the lower forms of life and their relations to disease. He discussed the question of spontaneous generation at considerable length, alluding to the opinions of Van Helmont, and to the experiments of Needham, Spallanzani, Appert, Schwann, Schultz, and Pasteur. He went on to say, "Quite recently, Dr. Bastian, of London, had with great pertinacity sought to demonstrate experimentally not only that living things spring into existence out of putrid matter, but that they are actually formed out of certain mineral substances containing nitrogen; as, for example, mixtures of tartrate of ammonia and phosphate of soda. There are, therefore, three doctrines entertained in reference to the beginnings of life. First, there is *Archebiosis*, according to which the lower forms of animal and vegetable life spontaneously arise from mineral substances placed under favourable conditions; *Heterogenesis*, which holds that low forms of life arise during the decay of organised matter, such as flesh or vegetable albumen; and *Panspermism*, which maintains that the most lowly forms of life are derived by direct descent from ancestors of the same, or nearly the same, nature." Dr. Cameron criticised the details of Dr. Bastian's experiments, and pointed out not only possible, but also highly probable sources of fallacy. The controversy with respect to spontaneous generation had, by encouraging experimental researches, led to the discovery of many of those forms of life which existed upon the borders of the invisible world. Some of these tiny objects were termed bacteria, which were by many believed to be the cause of fermentation, and even to constitute the contagium of such diseases as scarlatina and typhoid fever. The lecturer next described the diseases which were propagated directly from the sick to the healthy, and those which were indirectly propagated. Dr. Grimshaw's investigations as to the prevalence of cholera over the gravelly subsoil and along the dried-up or diverted watercourses of Dublin and its environs, were detailed, and beautiful experiments were shown to prove that, as Pettenkofer maintained, foul air may enter dwelling-houses from the soil by mere pressure of wind upon the surface of the ground outside the houses. The contagious nature of tuberculosis could now scarcely be doubted. There were two forms of phthisis, one of which, and that the most common, was contagious, though perhaps not very actively so. It was, therefore, injudicious to place phthisical patients next patients affected with other diseases, and, above all, it was desirable to afford to the former a very large amount of cubic space and ample ventilating openings. The experiments of Gerlach, Director of the Berlin Veterinary School, Leisering, of the Dresden Veterinary School, Klebs, and other pathologists, show that those who eat the flesh of phthisical cows are liable to contract tubercular disease, tubercular matter being contagious. As tubercular disease is common amongst Irish cattle, their flesh and milk probably occasion much pulmonary consumption in man. The modes by which the more commonly occurring contagious diseases are propagated were explained, and the lecturer concluded by expressing his opinion that, broadly, contagious diseases were all "filth diseases," and could only be destroyed by the most rigid national and private cleanliness. The lecturer was frequently applauded.

The clinical session at St. Vincent's Hospital, Stephen's-green, Dublin, was inaugurated on Monday, October 29, when Dr. Mapother gave the opening address in the presence of a large and appreciative audience. He selected as his topic "The Lives and Writings of O'Ferrall and Bellingham,"—the first two medical officers of the Hospital. As his interesting and instructive address is to appear at length in the *Dublin Journal of Medical Science* for November, it is only necessary to allude to it thus briefly in this letter.

GENERAL CORRESPONDENCE.

DISLOCATIONS OF THE HEAD OF THE THIGH-BONE INTO THE OBTURATOR FORAMEN.

LETTER FROM MR. W. RIVINGTON.

[To the Editor of the Medical Times and Gazette.]

SIR,—In the interesting clinical lecture on Dislocations of the Femur into the Obturator Foramen, by Mr. Holmes, which appeared in your impression last week, there are one or two remarks which personal observation enables me to confirm. Mr. Holmes calls attention to the absence of lengthening, and to the tension of the adductor muscles found in the case on which his remarks were based. A few months ago a similar case came under my care at the London Hospital. I have not by me the notes of the case, as they were sent to a contemporary, but both of the conditions specified were present. There was apparent lengthening, but real shortening to the extent of a quarter to half an inch. Being rather surprised to find shortening in a case of obturator dislocation—an injury always described as being characterised by lengthening—I made some experiments on the dead body, and found that when the head of the bone is actually over the thyroid membrane there is no lengthening in the measurement from the anterior superior spine to the inner malleolus. Lengthening can only occur in those cases in which the head is either below the acetabulum near the tuberosity of the ischium, or at some distance from the foramen; and I cannot avoid the conclusion that in those cases in which lengthening has been described, either, as Mr. Holmes suggests, apparent lengthening from obliquity of the pelvis has been mistaken for real lengthening; or the head of the bone has been at a lower level than the obturator foramen, as in the case reported by Mr. Luke, and quoted by Mr. Holmes in his recent work on Surgery—a case which I had the good fortune to see.

With regard to the tension of the adductors, which was accompanied by tension of the ham-string muscles, I attributed it, as Mr. Holmes does, to the irritation occasioned by the displacement. I am, &c., WALTER RIVINGTON,
Surgeon to the London Hospital.

22, Finsbury-square, October 30.

THE BENEFICENCE OF SCOTCH GROCERS.

[To the Editor of the Medical Times and Gazette.]

SIR,—An extract from your journal appears in the *Edinburgh Courant*, of yesterday's date, in which mention is made of "the evils of the system of granting licences to grocers for the sale of intoxicating liquors." Therein you jauntily hold up the grocers to scorn because one of them is reported to have "sold drink to a woman, with whom he drank it in his back shop"! Sir, the grocer will come out of this inquiry with a better character than the medical profession could were every case in which a medical man prostitutes his professional skill to such cases as procuring abortions, either in back shops or private houses!

A few months ago a certain Dr. —— appeared in the Divorce Court as co-respondent in a case in which one of his patients was actually divorced from her husband for something worse than drinking in a back shop. Do you apply the same principle, then, to your own profession? And, if so, why not hold them up to scorn? Further, the grocer (licensed) sells—in this country at least—the best quality of spirits and wines, which are both food and drink; and, therefore, the people prefer to get the best article as well as the best value for their money from the grocer.

I am of opinion, from a large experience in England, that if a better class of goods were sold there (better wines and spirits), it would be of great advantage to the English in

regard both to their health and morals. And of this I am certain, viz., that one positive result would be less illness, less crime, and a smaller consumption of doctors' drugs—which, as a rule, are neither food nor drink, but positive poisons.

Be kind enough to print this, as it is of public—ay, national—importance; but it is not easy to break through pride of caste, self-interest, or ignorance.

I enclose my card. I am, &c., An ex-Grocer.

Star Hotel, Ayr, N.B., October 23.

[We have been deeply touched with the beautiful simplicity of this letter "of national importance." The reading of it has been to us a real and, we trust, a lasting pleasure. May it equally gratify and delight our readers! The "ex-Grocer" has our heartfelt thanks.—Ed. *Med. Times and Gaz.*]

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Thursday, October 23.

Charles West, M.D., President, in the Chair.

(*Concluded from page* 476.)

On Œdema (Myxœdema) in the Cretinoid Condition of Adult Women.

Dr. Hilton Fagge had come to the conclusion that the cases described by Sir William Gull and Dr. Ord were really cases of sporadic cretinism, as seen in England. In one of his own cases the appearance and features were similar to those seen in the patient exhibited. As to the distinctions between sporadic and endemic cretinism, they were various; but in the first place, in sporadic cretinism there were two masses of fatty tissue in the posterior triangles of the neck, not to be found in endemic cretinism. Dr. Fletcher Beach had shown a specimen from a child which had died after some weeks' diarrhœa and wasting. Here the fatty masses had formerly existed, but had disappeared. Possibly, in ordinary cretins, were they well fed, the fatty masses might appear. Another point of distinction lay in the base of the skull. This had been described by Virchow in a case of his own, where the patient was twenty-one years of age; the condition was somewhat different from that described, but that might result from ossification of the sutures preventing growth. Thirdly, there was the goître of endemic cretins, whilst amongst sporadic cretins in this country the thyroid was often absent. He thought the formation of goître contributed to cretinism, especially in the next generation. In many Alpine valleys the deterioration of race was so great that families seldom survived the fifth generation. He could hardly agree with Dr. Ord that the myxœdema was the primary part of the cretinism leading to the fibroid state and atrophy of the thyroid.

Dr. Heywood Smith inquired whether there was any catamenial irregularity among women of this class, and also as to the condition of the uterus in those who had borne children.

The President considered it would be premature to apply the term "cretinoid" to this class. The disease was rare in England, and even abroad where goître was very common. The condition occurred among all classes, rich and poor. He had recently had such a child under his care, in which the condition was improving. Other children, under two years of age, with a cretinoid appearance, deficient intelligence, and cyanosed skin, he had also seen. Any diseased state interfering with the nutrition of the child, as did cyanosis, might give it a cretinoid appearance. From Sir W. Gull's and Dr. Ord's cases, it appeared that the disease might come on, the mind lose its force, and the face its intelligence. These cases should stimulate inquiry; but few things tended more to retard discovery than the hasty endeavour to affix to such cases an import they could hardly have.

Dr. Ord, in reply, said that in the cases he had seen there was at first no cretinism. There was a dropsical appearance, without kidney mischief, but with a lethargic condition of the nervous system. After death the thyroid gland was found changed into a mucous, yielding, pulpy tissue. As regards the name, it might be useful or it might be abused; but he thought a distinct name should be given to the condition under discussion. Possibly the name "cretinoid" was stronger than circumstances warranted; but "myxœdema" only described the actual condition of affairs. He merely desired to draw attention to the parallelism of such cases with certain aspects of cretinism.

CLINICAL SOCIETY OF LONDON.

Friday, October 26.

Thomas Bryant, F.R.C.S., Vice-President, in the Chair.

A Case of Hysteria, with Contraction of the Lower Limbs, Anæsthesia, and Ischæmia, in a Boy.

Dr. Henry Thompson communicated the report of this case. The patient, aged fourteen, son of a French father and English mother, was admitted into the Middlesex Hospital on May 10, 1877. He had always been delicate, but had had no definite illness until two months before admission, when he began to lose flesh, became low-spirited, and complained of vertical headache. He had occasional paroxysms of laughing and crying, accompanied by a loose barking cough and globus. For a month he had been unable to walk, owing to paresis, rigidity, and distortion of his lower limbs. On admission, his pulse, temperature, and respirations were normal, and remained nearly so throughout the case. His voice was almost inaudible, but was strengthened by weak faradism. The legs were firmly flexed upon the thighs, and the feet extended as in talipes equinus. The genital organs were ill developed. Anæsthesia and ischæmia were prominent symptoms from first to last; and on May 18, experiments were made to define those conditions, with the following results. At the time of observation he was very impassive, but the senses of sight and hearing were normally acute. There was complete cutaneous and deep anæsthesia to ordinary and painful impressions on his cheeks, forearms, and legs—in fact, over the whole body,—the punctures being made down to the bone; and none of the punctures were followed by any bleeding. Faradism being applied to the right forearm, the seats of puncture began to bleed, but the anæsthesia persisted. Gold coins were then applied, and it was noticed that, after their application for ten minutes, sensation returned over those regions, and punctures produced bleeding; the range of sensibility gradually diminishing in every direction from the area over which the coin was placed. These experiments were repeated on the 19th, 21st, 29th, and on several subsequent occasions, with invariably the same result. Like observations were made with other metals, insulated and non-insulated, and with wood, with the boy's attention drawn to it, or, on the other hand, wholly without his knowledge: but only with the gold could the above results be obtained. On one or two occasions the gold failed, but never when it had been applied so long as ten minutes. Once a puncture made into the leg when he was asleep produced pain and free bleeding. In about a month after admission he had so far recovered the use of his limbs as to be able to walk about with the aid of a stick. It was not until fully three months after his admission that the anæsthesia and ischæmia passed away; and he left the hospital on August 25, able to walk fairly well, and with his sensibility and capacity for bleeding everywhere normal. With the exception of being treated for two severe attacks of bronchitis, shower-baths, faradism, valerian, cod-liver oil, and iron were the only remedies adopted. Dr. Thompson pointed out that the case was one of pure and simple hysteria in a boy, who was singularly intelligent, thoroughly truthful, straightforward, and uncomplaining, but who appeared to have been foolishly indulged by an over-fond mother, and was of rather an effeminate disposition, and was possessed of ill-developed genital organs. Possibly the latter was the main element in his predisposition. The symptoms included paresis and contractions; anæsthesia, amounting to analgesia, which, unlike the majority of cases, was distributed equally on both sides. Thirdly, there was the strange feature of ischæmia; and, lastly, the influence of the gold coins. The author of the paper then dwelt at some length upon the nature of this influence; he considered that what is known as the "moral" theory, which has the support of Dr. Russell Reynolds, although, no doubt, an element in this, as in every other case of hysteria, could not altogether explain the result of this experimentation. Thus, the gold was operative when the boy was told, and believed, it was silver; and the silver was

inoperative, although the boy believed it to be gold. On the other hand, so far as the anæsthesia was concerned, a puncture made when the boy was fast asleep was evidently felt, and produced bleeding.

Dr. Althaus said that the case described in the paper was particularly interesting just at this time when the investigations of Charcot and his pupils at the Salpétrière had drawn considerable attention to the phenomena of anæsthesia in hysterical persons. During a recent visit to Paris, Dr. Althaus had carefully examined the cases in M. Charcot's wards, and had come to the conclusion that the phenomena described were all genuine, and could not possibly have been produced by shamming on the part of the patients. The anæsthesia and analgesia in them were so profound that they were utterly unaware of long and sharp needles being thrust not only through the skin, but the cellular tissue, muscles, periosteum, and even into the cranial bones. There were at the same time a low temperature, loss of muscular power, and anæsthesia of the special senses, which had not been alluded to in Dr. Thompson's paper. There was also complete ischæmia, so that needles could be rapidly pulled out of the flesh of the patients without the slightest hæmorrhage occurring. It was at the present time impossible to explain why all these symptoms should yield in a very short time to the application of metallic plates; and M. Charcot had himself given up all attempts at explanation for the present. There was, however, no doubt of the fact that, when gold and other coins or plates were applied to the skin of the affected parts, the sensation returned, that profuse capillary hæmorrhage occurred from punctures, and that the special senses recovered their functions. At the same time, the temperature rose by 8° or 10°, and the muscular force, as measured by the dynamometer, increased considerably. With regard to shamming, Dr. Althaus could not understand how, by any amount of artfulness, the patients could prevent hæmorrhage from punctures, or could, when they remained all the time under observation, cause the thermometer to rise by 10°. With regard to Dr. Russell Reynolds's explanation, that the recovery of function was owing to mental impression rather than to the application of a special therapeutical measure, this would account for many phenomena, but not for all; it could, for instance, not explain why sensation should in some persons only return after the application of copper, while in others it would only return after gold or iron. It had been shown that the application of all oxidisable metals gave rise to the development of galvanic currents, which varied in power according to their affinity to oxygen. In these researches a Du Bois-Reymond's galvanometer multiplier of 25,000 convolutions was used. The needle remained unaffected only with platinum, but gave a deflection of 3° with pure gold, 10° with gold coins, and 15° with copper; and a feeble galvanic current, corresponding in strength to that evolved by the metals, was equally effective in restoring sensation. Phenomena of this kind had, however, not only been observed in hysterical women, but also in cases of undoubted structural disease of the nervous centres; as, for instance, in a case of hemiplegia owing to cerebral hæmorrhage, in which there had been hemianæsthesia and hemichorea for several years, and in which the application of iron restored sensation—copper, gold, and zinc having remained inactive. A curious fact was, that while in the hysterical patients the effects of these applications were temporary, they were more or less permanent in cases of structural disease of the brain and spinal cord. Dr. Althaus finally described the curious phenomena of transfer of sensibility and nervous force altogether from one side to the other, which occurred in the patients alluded to during the application of the metals; and expressed his opinion that those who studied these perplexing phenomena would neither ridicule nor deny them; but that much further observation was necessary for assigning to these their proper place in the pathology of the nervous system.

Dr. Broadbent had seen most of the facts described by Dr. Althaus. All the young females under his care with this affection had been engaged in sewing. He had had a case similar to Dr. Thompson's, the report of which he had sent in to the Society for reading and discussion, and which he would now shortly relate. She had hysterical anæsthesia of both legs below the knee, and had been treated by a metallic band, a cure resulting. The patient, a housemaid, aged seventeen, was admitted into St. Mary's Hospital in July, 1877. She had enjoyed good health up to the age of fifteen, when the catamenia were established, but then began to suffer from pain in the back and side, and headache at each period, and for four months had been unable to keep a situation on account of increased suffering. She never had hysterical attacks. Muscular weakness in the arms and loss of sensation in the legs gradually came on; and, on admission, pinching or pricking of the legs below the knees or of the feet was not felt. She did not even perceive that anything was being done when a pin was pushed under the toe-nails. She stood with the feet close together, or walked when the eyes were closed. The limbs were cold, and did not bleed when pricked. Sensibility was normal above the knees and on the rest of the body. There was a little tenderness on pressure over both ovaries, more on the left side. Compound galbanum pill was given, but no improvement in the condition of the legs had taken place after many days. A metallic band or garter was then ordered to be put round the right leg, just below the knee. Sensation gradually returned, and in six days (though not in a few minutes) was normal in this limb, while the left was still absolutely insensible. The band was now shifted to the left leg, upon which sensation returned in it; and thirty-one days after admission the patient left the hospital well. The treatment was suggested by the effects of the application of plates of gold or other metals in hysterical hemianæsthesia, as described by Professor Charcot. In these cases, sensation returned in fifteen or twenty minutes; and it appeared to be important that a particular metal should be employed in a given case, gold being the metal most generally useful. Feeble galvanic currents were found to be set up by the contact of the metal with the skin; and it was supposed that in these might reside the agency by which the result was effected. In his (Dr. Broadbent's) case no care was taken in the selection of the metal, and no test was applied to estimate the strength of the galvanic currents set up. The cure was attributed by Dr. Broadbent to expectant attention; the girl's attention was called to the leg by the presence of the metal band, and this, with the anticipation of the favourable result, brought it about. The attention directed strongly to a part could induce a pain there; why, then, should it not be able to produce improvement in the sensation at the same part? Dr. Broadbent did not understand the value of one metal over another in these cases; nor did he know if the result in his case was simply due to expectant attention or to some galvanic impulse.

Mr. Brudenell Carter said that many years ago he had had his attention particularly drawn to cases of hysteria. He had heard frequent use made that night of the word "facts"; but facts which rested on the testimony of hysterical patients were not worthy of much credence. Statements from such patients as to colour, etc., must be received with much caution. Elliotson, when working amongst them, was only too easily deceived. As Dr. Risdon Bennett had pointed out, there was a large class of hysterical women who had no higher delight than that of trying to deceive their doctors, whose whole scientific education made them guileless, and perhaps only too easily duped. Mr. Maskelyne had lately said that one reason why Fellows of the Royal Society did not detect tricks was because the tricks were of such a nature as to be detectable by schoolboys rather than by scientific men, with their minds trained to appreciate phenomena of an entirely different kind. We ought to be careful in regard to such cases, and avoid the follies of the wise.

Dr. Coupland said that it seemed to him difficult to suppose that "ischæmia," at any rate, could be produced by any amount of shamming.

Dr. Glover thought that sensation was much more real than doctors were apt to think it; and that hysteria was a much more real disease than it was generally considered to be. He had lately seen a man apparently asleep, who did not respond nor open his eyes when spoken to. His right eye was as insensible to touch as if he had been under chloroform; yet that man had shortly before left his bed to micturate. He could scarcely feel the prick of a pin on his right hand, but felt it well on the left. He had also a decided loss of power on one side of the face on the afternoon of the day when he had been visited. At mesmeric experiments he had seen young men have needles thrust beneath their nails without exhibiting any sign of feeling.

Dr. Barlow thought that Mr. Carter's observations would be much more useful if he would examine these cases himself. They had been most minutely inquired into in Paris by sceptical scientific men. Let us look at them, and not attempt to explain them offhand, nor take refuge in the supposition

that they were all sham. In hysterical patients the larynx might often be most readily examined, as if there were a kind of anæsthesia about the fauces. In one such patient he had constantly seen down the trachea to the bifurcation of the bronchi.

Mr. B. T. Lowne said that, if one placed a cold body on the skin, it produced vascular congestion at the part, by which it was possible the blood might be caused to be poured out.

Mr. Howse inquired if this curious sequence of phenomena were visible at the very first sitting with the patient, or if they were only developed at subsequent sittings.

Dr. Althaus did not think it was imagination or shamming of the patient which produced the curious results witnessed upon the application of the coins. If it were imagination, why should not a copper coin have the same influence as a gold one? In all the cases he had seen, the results differed as the metal of the coins that were used varied.

A Case of Injury to the Lower Part of the Spinal Cord, followed by Wasting and Contraction of the Muscles of the Lower Extremities.

Mr. Lawson read a communication he had received from Dr. Aikman, of Guernsey, on this case. A lad, aged twenty-one, fell about twelve feet on March 30, 1877. With the exception of severe nocturnal pains, which were not allayed by full doses of opium or of chloral, he presented no evidence of spinal injury for four months after the date of his accident, about which time atrophy of the muscles of the left leg set in. At present, his left leg is much atrophied; the muscles on the front of the leg not responding even to the electric stimulus, while the sural muscles and the flexor muscles of the foot remain in tonic spasm, even when the patient is fully under the influence of chloroform. No treatment having done any good, suggestions are asked for.

Dr. Buzzard thought further particulars of the case were required. The history pointed to some hæmorrhage in the lower part of the spinal canal due to the fall, with the mention of great pain in the back. There was none as to stiffness over the vertebræ. The patient gradually recovered from the first effects of the injury. A fortnight afterwards wasting occurred; the débris of the extravasated blood in the cord had doubtless then set up neuritis and destroyed the conductility of the motor nerves to the muscles. Thus atrophy of the muscles was brought about, which was progressive. In such a case the application of the continuous constant voltaic current, if slowly interrupted, would bring about contraction of the muscles, and gradually cure the patient.

Mr. Lawson said that the muscles of the calf of the leg were in a state of continuous contraction, and were atrophied.

Dr. Buzzard said there might be more or less atrophy and yet contraction. Some muscles would be more, others less, contracted if there were irritation, and the stronger ones would overcome the weaker.

Dr. Althaus remarked that the boy could walk after the accident for two or three weeks. He therefore thought his symptoms were due to spinal myelitis. With hæmorrhage into his cord he would not have walked. Myelitis was also accompanied by great pain in the back. He regretted that no mention was made of the use of the continuous current. Even when the interrupted current failed, the continuous current would often make the muscles react.

Cerebro-Spinal Unilateral Sclerosis.

Dr. Dowse read a report of this case, and exhibited some well-executed photographic drawings, showing its pathology. The patient, a woman, aged forty-one, was admitted into the Central London Sick Asylum at Highgate, on January 12, 1872, and died on September 23, 1876, so that she was under Dr. Dowse's observation for more than four years. She was completely devoid of voluntary motor power. In the year 1870 she was seized with a fit of unconsciousness, followed by left hemiplegia. In the year 1872 she was seized with right hemiplegia, and, three months after this, she came under Dr. Dowse's care in the following condition. There was complete paralysis of voluntary power of every muscle in the body, so far as one could judge; and as the nurse placed her at night, so she was to be seen, in precisely the same position, in the morning. Dr. Dowse said that he was really doubtful whether there was or not any voluntary or even muscular automatic power; but after repeated observations, month after month and year after year, no movement of a voluntary nature could be detected, excepting upon one occasion, when she answered some few questions clearly and intelligibly, showing that most probably her reason was not affected. There was complete anæsthesia of the entire body, with flexed contractions of the four extremities, which were in a constant state of rhythmical agitation. There were apparently no trophic changes, and there was no appearance of a bed-sore until within a month of her death. There was no marked adipose or muscular wasting, and the muscles contracted readily to Stöhrer's galvanic continuous current. The countenance was mask-like and devoid of expression. When she was spoken to about her home, the tears would flow freely down her cheeks; but no sign of emotion was ever visible beyond this. When agitated, the tremor of the limbs increased; and when asked to perform any act, it was clearly seen that an attempt was made to carry it out, but the will was unequal and powerless to execute. It was difficult to say how far the special senses were involved. The application of strong ammonia to the nostrils caused at first what was considered to be a voluntary movement of the head, but repeated applications did not produce the same effect. The sense of sight was thought to be good, and the ophthalmoscope gave no evidence of retinal changes. Both pupils were usually contracted, but more so the right. There was marked trismus, and no ordinary power could depress the lower jaw, yet when food was brought to her the rigidity became in a measure relaxed, although there was no direct masticatory power. There was marked paralysis of the facial muscles (bilateral), evidently from central causation. The sense of hearing was normal. When semi-solid food was given, it was necessary to place it well into the mouth, otherwise it would return, showing clearly that she had no voluntary power over the labial muscles. Sensation of the tongue and the special sense of taste were in like manner obliterated, as far as one could ascertain. The voluntary power over the tongue appeared to be greater than that over any other member of the body, for she would at times get it to the lower row of teeth, but it was never protruded. These were what might be noted as the objective signs presented by this patient, and so in a manner she vegetated until she died. What her sufferings might have been, it is impossible to say; for she had no voluntary power whatever to make these conditions manifest, even if they had an existence. The post-mortem appearances were then noted; and the evidence was to the effect that the general surface of the convolution of the hemispheres was normal. The motor ganglia on the left side were free from any gross lesion; but on the right side, a brownish-looking degenerative change was seen to extend from the internal capsule of the corpus striatum, running along the under surface of the optic thalamus, through the right crus cerebri, into the under and inner part of the right half of the pons Varolii, involving the right floor of the fourth ventricle. The drawings, from sections made by Dr. Kesteven, showed the sclerosis of the right half of the pons, advancing in successive stages through the anterior pyramids, and then crossing over in direct relationship with the decussating fibres to the left lateral column of the spiual cord. Dr. Dowse remarked that it was now a recognised pathological fact, which had been more particularly demonstrated by M. Charcot, that lesions of the brain, when they succeeded in promoting consecutive degenerative changes, did so in direct harmony with what may be termed a direct histo-pathological law. He said it was interesting to follow out M. Charcot's statements concerning the association which existed between sclerosis of the lateral columns of the cord and hysteria, both with and without tremor; and had it not been for the marked facial paralysis in this case, he should certainly have felt inclined to look upon it as of an hysterical character; the more especially as there was such general and profound anæsthesia.

Dr. Buzzard said there were interesting points of similitude in the case to those witnessed in many cases of hysteria. He had seen girls suffering from cerebro-spinal sclerosis who had been told that they had hysteria, and who consequently had evidently endured great hardships at the hands of non-sympathisers. This case did at first greatly resemble many cases of hysteria.

The Entrance Science Scholarships given this year at St. Thomas's Hospital Medical School have been awarded as follows, viz.:—The Scholarship of £60 to Mr. Wansborough Jones, B.A. Oxon. and B.Sc. Lond.; and that of £40 to Mr. A. E. Wells, of the University of London.

OBITUARY.

WILLIAM RICHARD BASHAM, M.D., F.R.C.P.

Dr. Basham, who was for many years Senior Physician to the Westminster Hospital, died rather unexpectedly, at his residence in Chester-street, on October 16. It will be remembered that on February 13, this year, while attending the meeting of the Weekly Board of the Governors of his Hospital, he was seized with hemiplegia of the left side, and that, retaining consciousness, he was at his own request at once put to bed in a private room in the Hospital. There he remained, slowly recovering, till, in May we believe, he was removed to his house in Chester-street. Later on in the year he was able to be removed into the country; whence he returned to London, and attempted to resume practice at the beginning of October. Dr. Basham was born in 1804, and was seventy-three years old at the time of his death, but he was not so old as a physician as the date of his birth would suggest, for he entered the profession rather later in life than is generally the case. Intended at first for business, he began the work of life in a banking-house, and it was not till 1831 that he turned his attention to medicine. In that year he entered as a student at Westminster Hospital, then situated in a small street at Westminster, and with that institution he was connected, through various offices, for almost all the rest of his life. He received his medical education there, in what may without offence to anyone be called the most brilliant days of the Hospital—the time when Lynn, Sir Anthony Carlisle, Anthony White, Hale Thompson, Guthrie, and John Bright were on its staff; and Dr. Basham did full credit to his teachers, and was an honour to his school and hospital, ever keeping himself well forward in the ranks of modern and scientific physicians. In 1834 he took his M.D. degree in the University of Edinburgh, and, returning to the Westminster Hospital, filled the office of Clinical Assistant there in 1834 and 1835. He then went for about three years on a voyage to China and India, in the service of the old East India Company. In 1838 he became a Member of the Royal College of Physicians in London. He was appointed Physician to the Westminster Hospital in 1843, on the resignation of Dr. Bright; in 1849 he became joint Lecturer on Medicine with the late Dr. Hamilton Roe; and from the retirement of that physician in 1855, till 1871, Dr. Basham alone held the lecturership. He was elected a Fellow of the College of Physicians in 1850; served as Censor in 1864-66, and again in 1873; gave the Croonian Lectures in 1864; and was Examiner in Medicine in 1870-71. Especially well known as a worker at the subject of renal affections, his first work was published in 1858, under the title, "On Dropsy connected with Disease of the Kidneys, Heart, Lungs, and Liver; and on some other Diseases of the Liver without Dropsy." His Croonian Lectures, afterwards published, were on "The Significance of Dropsy as a Symptom in Renal, Cardiac, and Pulmonary Diseases." In 1870 he published a small work entitled, "Renal Diseases, a Clinical Guide to their Diagnosis and Treatment"; and in 1872 his last work, the title of which is, "Aids to the Diagnosis of Diseases of the Kidneys." His works are illustrated with faithful and accurate drawings from the microscope, the work of his own pencil, for he was a good microscopist and a skilled draughtsman. Dr. Basham was a learned and shrewd physician, a most careful and accurate observer, and to the end of his active life an earnest student. He had a highly and widely cultivated mind, and was, we are told, a skilled botanist, chemist, microscopist, and artist; and his powerful—if we may be permitted to say so, somewhat roughly hewn—exterior framed in a most kind and generous heart, an active keen intellect and sound judgment, and retentive and ready memory.

JOHN DAVIDSON M'CREADY, M.B. Dub., F.K.Q.C.P.

The death of this highly esteemed and veteran member of the profession occurred after a few hours' illness on Saturday, October 27. Dr. M'Cready was amongst the most senior of the Fellows of the King and Queen's College of Physicians, having been elected to the Fellowship on June 8, 1829. He had previously (1827) taken the degree of Bachelor of Medicine in the University of Dublin. For many years he was Physician to the General Dispensary, Fleet-street, Dublin, before the establishment of the existing Poor-law system. In this capacity he laboured unceasingly and fearlessly during the cholera epidemic of 1832. From 1833 to 1872, when he retired from active professional life, he held the appointment of Physician to the Training-Schools of the Commissioners of National Education. As to the man himself, we cannot do better than quote the Dublin *Freeman's Journal*, which, in an obituary notice, speaks thus of him:—"Dr. M'Cready was eminent among those who knew him for the unostentatious and single-minded benevolence of his character, as well as for the blameless integrity of his private and public life. For many years before the passing of the Act rendering vaccination compulsory in Ireland, he vaccinated gratuitously thousands of the children of the poor of Dublin who came to his house. He was a native of the county Down, and was educated at the Belfast Academical Institution. He was a good classical scholar and a keen lover of the topography of Ireland." He died in his seventy-ninth year.

MEDICAL NEWS.

Royal College of Physicians of London.—On October 25 the following gentlemen passed their examination and were admitted Licentiates:—

Boulting, William, Belmont House, Heath-street, N.W.
Brown, John, 12, Colebrook-row, N.
Coley, Frederic Collins, 6, Morden-road, S.E.
Collier, Herbert, Bohemia House, Turnham-green, W.
Druitt, Lionel, 8, Strathmore-gardens, W.
Lockwood, John Parker, New Hampton.
Masters, John Alfred, Maidenstone-hill, S.E.
Prentis, Charles, 11, Upper Phillimore-place, W.
Price, Henry Elthington, Melrose, Stamford-hill, N.
Prideaux, Thomas Engledue Pegamus, Scarborough.
Steedman, Percy Andrew, Charing-cross Hospital, W.C.
Thurston, Edgar, King's College Hospital, W.C.
Tyrrell, Walter, Bethlem Hospital, S.E.
Wilmot, Thomas, Fenton, Newark.

The following candidate, having passed in Medicine and Midwifery, will receive the College Licence on obtaining a qualification in Surgery recognised by this College:—

Pointon, James, Birkenhead.

On October 25 the following gentlemen passed their examination and were admitted Members:—

Steel, Graham, M.D. Edin., Edinburgh.
Barratt, Joseph Gillman, M.D. St. And., 8, Cleveland-gardens, W.
Buszard, Frank, M.D. Lond., Northampton.
De Tatham, Hamilton, M.D. Brussels, Junior United Service Club, S.W.
Smith, Robert Shingleton, M.D. Lond., Clifton.
Smith, David Boyes, M.D. Edin., 16, Holles-street, W.

Royal College of Surgeons of England.—The following gentlemen, having undergone the necessary examinations on the 26th and 30th ult., were admitted Licentiates in Dental Surgery, viz.:—

Bellaby, Frederick, Nottingham, diploma of Membership dated May 23, 1877.
Browning, Daniel, Crawford-street, Portman-square.
Thomson, Walter Scott, Denmark-hill, S.E.
Williams, Harold, Belgrave-road, N.W.

Two candidates, having failed to acquit themselves to the satisfaction of the Board, were referred to their studies. The following were the questions on Anatomy and Physiology, and Pathology and Surgery, which were submitted to the candidates at the above examination on the 26th inst., viz.:—1. Mention the bones which articulate with, and the nerves which pass through, the foramina of the superior maxillary and palate bones. 2. Describe the functions of the tongue.—1. Describe the growth, structure, and treatment of simple epulis. 2. How would you recognise and treat abscess of the antrum? What are the exciting causes of this disease?—The following were the questions on Dental Anatomy and Physiology, and Dental Surgery and Pathology, submitted on the same occasion, viz.:—1. Describe specimens 1, 2, 3 under the microscope—(1) tooth germ before calcification; (2) enamel showing the lines of Retzius and dentine, and interglobular spaces—some of the dentical tubule passing into the enamel; (3) exostosis. 2. (*a.*) Describe and contrast the appearance of the temporary and permanent teeth generally. (*b.*) How would you distinguish between the superior and inferior permanent canine teeth? (*c.*) Describe the crowns of the permanent incisor teeth immediately after protrusion through the gums. 3. What are the principal features which distinguish the teeth and jaws of man from those of the orang?—1. What is meant by the impaction of permanent teeth in the substance of the maxillary

bones? Which of the teeth most frequently exhibit this condition? What is the common course of such cases, and what evil results may arise? 2. What (1) do you consider to be the best anæsthetics for dental operations? Describe (2) the usual effects upon the patient in the order of their occurrence, and also those which you would consider alarming, and their treatment. Mention (3) the reasons which would induce you to prohibit the use of anæsthetics; and give (4) the probable theory of their action. 3. Describe the characteristic symptoms of ulcerative stomatitis, of chronic inflammation (false scurvy) and true scurvy of the gums.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, October 25:—

Aldrich, Arthur Worlledge, Mildenhall, Suffolk.
Baker, Fredk. Grenfell, Cambridge-gardens, Notting-hill.
Jeffreys, James Graham, Richmond, Surrey.
Nundy, Edward, Rotherham Hospital.
Rogers, Maurice Cohen, 23, Wimpole-street, W.

The following gentleman also on the same day passed his Primary Professional Examination:—

Wray, George Bury, University College Hospital.

APPOINTMENT.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

ROBERTSON, FREDERICK FREER LESLIE, M.B.—House-Physician to the Royal Hospital for Diseases of the Chest, City-road, E.C.

NAVAL, MILITARY, &c., APPOINTMENTS.

WAR OFFICE.—MEDICAL DEPARTMENT.—Deputy Surgeon-General Vere Webb retires upon half-pay, with the honorary rank of Surgeon-General. The undermentioned Surgeons to be Surgeons-Major:—John Joseph O'Reilly, William McWalters, Robert Nelson Mally, William Alister Catherwood, M.D., William Johnston, M.D., George Bridges Mouat, M.D., Henry Joseph O'Brien, M.B., Philip Lefeuvre Kilroy, John Edward Purdon, M.B., Edward Connellan, Henry William Alexander Mackinnon, John FitzGerald Brodie.

BALMORAL.—Her Majesty in Council has been pleased, by and with the advice of her Privy Council, to appoint Andrew Fergus, M.D., President of the Faculty of Physicians and Surgeons of Glasgow, to be for five years a member for Scotland of the General Council of Medical Education and Registration in the United Kingdom, in the place of Joseph Lister, resigned.

BIRTHS.

BELL.—On October 30, at Starr-hill, Rochester, the wife of J. Vincent Bell, M.D., of a daughter.

LONGHURST.—On October 28, at Hammersmith, the wife of Alexander K. Longhurst, M.R.C.S., L.S.A., of a son.

MOORE.—On October 28, at Coventry, the wife of Milner M. Moore, L.R.C.P. Lond., of a son.

MOSSE.—On September 28, at Mona, near Kingston, Jamaica, the wife of Deputy Surgeon-General Charles B. Mosse, C.B., L.K.Q.C.P. Ire., of a son.

ROGERS.—On October 26, at Kensington, the wife of Hildyard Rogers, M.R.C.S., of a son.

TWORT.—On October 22, at 2, Staff-villas, Camberley, Surrey, the wife of W. H. Twort, M.R.C.S. Eng., of a son.

VENNING.—On October 26, at 87, Sloane-street, the wife of Edgcombe Venning, F.R.C.S., of a son.

MARRIAGES.

BURTT—SPICER.—On October 24, at the parish church, Clifton, Giles Richard Burtt, L.R.C.P. Edin., M.R.C.S. Eng., to Frances Jones, only daughter of the late Northcote William Spicer, Esq., of Chard, Somerset.

MUIRHEAD—BALFOUR.—On October 23, at Edinburgh, William Muir Muirhead, M.D., of Assam, to Madeline Drummond, second daughter of J. H. Balfour, M.D., Professor of Medicine and Botany at the University of Edinburgh.

SAMPSON—STEELE.—On October 29, at Dorchester, Dorset, Henry Moore Sampson, L.R.C.P. Edin., M.R.C.S.E., of Painswick, Gloucestershire, son of John Sampson, of Brympton, Yeovil, to Laura Augusta, sixth daughter of Edward Steele, of Wollaston House, Dorchester.

SNAPE—POYNTER.—On October 25, at North Shoebury Church, Frank Theodore, third son of R. F. Snape, F.R.C.S., of Bolton-le-Moors, Lancashire, to Georgiana Browning, third daughter of Samuel Poynter, Esq., of The Crouchmans, North Shoebury.

VACHELL—EVANS.—On October 25, at St. John's Church, Westminster, Charles Tanfield Vachell, M.D., of Cardiff, to Winifred, younger daughter of the Rev. J. W. Evans, M.A., Vicar of Costessey, Norfolk.

DEATHS.

BARFOOT, EDWARD, M.R.C.S., at 117, Barnsbury-road, Islington, on October 24, aged 76.

STEELE, EDWARD HARRY, M.R.C.S., L.S.A., eldest son of Edward Steele, of Wollaston House, Dorchester, at Peckham, Surrey, on October 16, aged 31 years.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

EAST SUSSEX, HASTINGS, AND ST. LEONARDS INFIRMARY.—Third Assistant-Surgeon. Candidates for the office must be Fellows or Members of the Royal College of Surgeons of London, Dublin, or Edinburgh. Applications, with testimonials, to the Secretary, endorsed "Application for Assistant-Surgeon," on or before November 10.

EVELINA HOSPITAL FOR SICK CHILDREN, SOUTHWARK-BRIDGE-ROAD, S.E.—Registrar and Chloroformist. Candidates must possess a recognised qualification. Applications, with testimonials, to the Committee of Management, at the Hospital, on or before November 9.

MIDDLESEX COUNTY LUNATIC ASYLUM, COLNEY HATCH.—Assistant Medical Officer in the Female Department. Candidates must be registered, single, and not less than twenty-five years of age. Applications, on a printed form, which may be obtained of the Medical Superintendent of the Female Department, at the Asylum, with not more than three testimonials of recent date, to John S. Skaife, Clerk to the Committee of Visitors, on or before November 10.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Alnwick Union.—Dr. Magill has resigned the Embleton District; area 18,658; population 2776; salary £30 per annum.

Bradford (Yorks) Union.—The Horton West District is vacant; salary £80 per annum.

Poole Union.—Mr. H. D. Ellis has resigned the Workhouse; salary £40 per annum.

Richmond (Yorks) Union.—Mr. R. Atkinson has resigned the Richmond Rural District; area 12,859; population 985; salary £10 per annum.

Wolverhampton Union.—Mr. A. Hands has resigned the Seventh District; area 2085; population 8000; salary £40 per annum.

APPOINTMENTS.

Barrow-upon-Soar Union—Charles W. Drew, M.R.C.S. Eng., L.R.C.P. Edin., to the Quorndon District.

Bury St. Edmunds Incorporation.—F. W. Clarke, M.R.C.S. Eng., L.S.A. to the fourth District.

Horncastle Union.—Thos. Hunter, L.R.C.P. Edin., L.F.P. & S. Glasg., to the Revesby District.

Launceston Union.—Harry Davis, L.R.C.P. Lond., M.R.C.S., L.S.A., to the Fifth District.

Southmolton Union.—Timothy Daly, L.R.C.S. Edin., L.R.C.P. Edin., to the Seventh District.

SANITARY INSTITUTE OF GREAT BRITAIN.—The first examination of Surveyors and Inspectors of Nuisances took place on Monday, October 29, at the rooms of the Medical Society of London. Eight candidates presented themselves, five of whom were successful in obtaining certificates of competence, namely:—Mr. H. Robinson, surveyor, Ulverston; Mr. J. Parker, surveyor, Bridgwater; Mr. F. Booker, inspector of nuisances, Bradford; Mr. W. S. Prebbles, inspector of nuisances, Blackburn; Mr. Thomas Blanchard, inspector of nuisances, Evesham. Fifteen candidates have already entered their names for the next examination.

ANEURISM OF THE AORTA OPENING INTO THE PULMONARY ARTERY.—Dr. Laveran read, before the Hospital Medical Society, the case of a man twenty-nine years of age, who, after suffering for several years marked oppression of breathing, was suddenly seized with great dyspnœa, and exhibited all the signs of aortic insufficiency and contraction of the mitral valve. At the autopsy the aorta was found thickened, rough, and red, but with no lesions of its orifice, although the valves were thickened. Above the orifice an aperture, three or four centimetres in diameter, was found opening into an aneurismal sac, which communicated with the pulmonary artery. It was, then, an example of an aneurism at the base of the aorta which had burst into the pulmonary artery—a fact of such rarity that M. Laveran has only found two other cases recorded in the *Bulletins of the Anatomical Society.—Gaz. Hebd.*, October 26.

AN INDUSTRIAL HOME FOR FEMALE DRUNKARDS.—On Monday last the Lord Mayor presided over a meeting, held at the Mansion House, in support of an appeal to establish an industrial home for women who are habitual drunkards. In moving the first resolution, affirming the evils of drunkenness, Dr. Alfred Carpenter urged that women, once becoming drunkards, sooner lose their self-respect than men. As an encouragement to the promoters of the scheme, he stated that 33 per cent. of the women received into institutions in America, similar to the one now proposed to be established, left completely cured of their cravings for drink. The Chaplain of Newgate, the Rev. E. Brooke, the Rev. Mr. Horsley, the Chaplain of the House of Detention, and Dr. Irons, addressed the

meeting. Mr. S. Morley, in the course of a speech supporting the movement, remarked that, in his opinion, it was high time that an influential deputation should wait upon the Home Secretary, and impress upon him that it was no longer possible for the State to neglect an opportunity for grappling with this national evil; and a resolution to that effect was eventually carried. Upon the motion of the Rev. Ernest Wilberforce, seconded by Captain Toynbee, it was decided to establish an industrial home for the reformation of women and girls addicted to drink; and during the proceedings it was stated that £4000, of which £300 had already been obtained, was needed to make the movement a success. The proceedings terminated in the usual manner.

THE HEALTH OF THE PORT OF LONDON.—The half-yearly report of Dr. Harry Leach, the Medical Officer of Health for the Port of London, for the period ending June 30 last, recently published, shows an increase in usefulness, due in a great measure to the system and organisation which four years' experience have enabled the authorities to bring to bear on the subject. As Dr. Leach remarks in his report, one of the chief duties of a port sanitary authority is most undoubtedly the initiation and maintenance of a system calculated in as complete a manner as possible to prevent the introduction of contagious and infectious diseases into the country by means of shipping; and when it appears that scarlet fever has been discovered and promptly dealt with in a vessel from Melbourne, measles in a first-class steamship from Calcutta, erysipelas in an emigrant ship from Antwerp, and small-pox in various coasting craft, it must be conceded that these duties have been very satisfactorily carried out. Dr. Leach admits that no special event has occurred during the six months now under consideration, so that the substance of the report is almost purely statistical; but in it he regrets that the exertions of the Committee and managers of the school-ships stationed in the Thames have been unable to provide hospital accommodation for these vessels, more especially as the epidemic on the *Cornwall* two years ago cost the school-ship society £3000, and the events of that outbreak showed most distinctly how much inconvenience and increase of sickness were caused by the absence of any proper means for promptly isolating the sick and suspected boys.

DEATH FROM SHOCK.—M. Le Dentu having stated at the Paris Society of Surgery that a patient upon whom he had performed amputation at the hip-joint died twenty-six hours afterwards of "traumatic shock," having lost but little blood, Prof. Verneuil expressed a wish that this term should be suppressed or better defined. "Traumatic shock" is made the result of many causes, the patient being said to die of it when he dies some hours after the operation. Among twenty English cases you are sure to find one that dies of shock; and the term has been especially abused in regard to amputation at the hip. "Shock" is not admitted by all surgeons, and in most cases it is synonymous with acute anæmia—a condition easily produced in some persons who have little blood to lose. M. Desprès observed that we sometimes meet with cases in which there are no wounds at all, the patients being covered with contusions, and having their limbs broken without any large vessels being ruptured. They are in a state of extreme prostration, and often succumb from what may be termed correctly "traumatic shock." It is not requisite that the blood should issue from the body to induce acute anæmia, it sufficing for it to have quitted the vessels. M. Le Dentu observed that the influence of the nervous system in extensive injuries cannot be denied. A patient who loses much blood by a small wound does not die, or dies much more slowly than the subjects of operations. Prof. Verneuil did not deny the effect of injuries on the nervous system; but he wishes that a different name should be given to each depressing action. After amputation at the hip the patients die usually of acute anæmia; and of 136 so operated upon, forty have died within the first twenty-four hours—no other operation furnishing such a result.—*Gaz. Hebd.*, October 26.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Dr. John Drysdale.—Received with thanks.

Economist.—The total expenses of the five Middlesex coroners for the past quarter were £2373 7s. 9d.

Dens-Sap.—The following gentlemen constitute the Dental Board of the College of Surgeons, viz.:—Messrs. F. Le G. Clark, F.R.S., Chairman; William S. Savory, F.R.S.; John Birkett; S. J. A. Salter, F.R.S.; T. A. Rogers; and H. J. Barrett.

Botanist.—It is stated that Sir Joseph Hooker, who has recently returned from his tour in the United States, is of opinion that the key to the botany of these States is to be found in Colorado.

Good Templar.—There were no less than nine different measures, dealing with the question of intemperance, brought before Parliament last session.

Hydrophobia.—At the meeting of the Liverpool Town Council on Monday, a memorial was presented, largely signed by doctors and others, calling attention to a recent shocking case of hydrophobia, and urging that stringent precautions should be taken to prevent stray dogs from infesting the streets.

Humanitas.—John Howard, the philanthropist, whose grand object was to put a stop to that infectious distemper (now believed to have been typhus), the gaol fever, which raged in some places like the plague, died on a tour in Russia. In visiting an hospital at Cherson, then recently founded on the Black Sea, he caught a malignant fever, which carried him off in January, 1790, after an illness of about twelve days. His remains were buried in the garden of a villa in the neighbourhood, and a monument to his memory was erected at the national expense in St. Paul's Cathedral.

Egoism.—Mrs. H. More's remark was—"I used to wonder why people should be so fond of the company of their physician, till I recollected that he is the only person with whom one dares talk continually of one's self without interruption, contradiction, or censure."

L. O. P.—"The average mortality of any given country is less fluctuating than the mean temperature of its climate, and the remark holds good with respect even to violent deaths; and yet upon how many tumultuous passions, wayward thoughts and states in man, and upon what multiplied circumstances, does each death, murder, and fatal accident depend! Not only, then, must the same moral and physical causes be in constant operation, but the annual amount or force of each, taking one year with another, will not vary to any considerable extent."

Nemo.—The Metropolitan Asylums District Board have now under their control two asylums and four hospitals, with a temporary asylum at Clapton, one building at Darenth, and the training-ship *Exmouth*.

Hygeia.—The district surveyor has power over the foundations of buildings, under the Metropolitan Buildings Act, 1855 (Schedule 1, structure of buildings), viz.:—"Every building shall be enclosed with walls constructed of brick, stone, or other hard and incombustible materials, and the foundation shall rest on the solid ground, or upon concrete, or upon other solid substructure."

Grumbler.—It has been stated by a contemporary that the prohibition of exchanges among army medical officers has been rescinded, and those who have suffered impairment of health in the Service may now try to suit themselves as respects climate.

Goliath.—Yon-Shan, the coming Chinee, is stated to be eight feet three inches in his socks, and as he has not finished growing, he stands a chance of rivalling the historic Irish giant, Patrick Colter, who measured eight feet seven inches. He will be the tallest man in giants we have had since O'Brien, another gigantic Celt, who died in 1783, and whose skeleton is, we believe, in the Museum of the Royal College of Surgeons.

Gourmand.—Cheese was known to the Greeks and Romans much earlier than butter, according to Beckmann, for he found no notice of the latter in Aristotle, though the first is frequently mentioned. The ancient proverb was that—"Cheese is bad, because it digests everything but itself."

Meteorologist.—Mr. H. F. Blanford returned to India in 1874, as head of the Meteorological Department. By this appointment the Government of India have shown their appreciation of the importance of a central office, through which useful meteorological work in India may be organised, and uniformity of the observations in the different provinces secured.

G. L.—According to reports that have been received from Bulgaria, the medical staff of the Russian troops there consists of 849 doctors, 146 chemists, 123 veterinary surgeons, and 3285 assistants, besides the sanitary corps of the guards, the medical men of the Red Cross Society, and the Sisters of Charity.

BOOKS AND PAMPHLETS RECEIVED—

Report of the Chief Surgeon on the Health of the Metropolitan Police Force during the Year 1876—Annual Report on the Lock Hospitals of the Madras Presidency for the Year 1876—Cassell's History of India, part 23—Lawson Tait, F.R.C.S., A Letter on Hospital Mortality, addressed to the Governors of the Birmingham General Hospital—Vivisection viewed under the Light of Divine Revelation, an essay, by M.A., Cambridge—Jonathan Hutchinson, F.R.C.S., Illustrations of Clinical Surgery, fasciculus ix.—C. F. Maunder, Fistula in Ano—Julius Althaus, M.D., M.R.C.P. Lond., Diseases of the Nervous System, their Prevalence and Pathology.

PERIODICALS AND NEWSPAPERS RECEIVED

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Cincinnati Clinic—Veterinarian—New York Sanitarian—Nordiskt Medicinskt Arkiv—Students' Journal—Leisure Hour—Sunday at Home—Toronto Sanitary Journal—American Practitioner—La Province Médicale—National Anti-Compulsory Vaccination Reporter—Hardwicke's Science Gossip.

COMMUNICATIONS have been received from—

Mr. W. E. Poole, London; Mr. E. Nettleship, London; Dr. W. B. Gowers, London; Mr. Timothy Holmes, London; Mr. B. R. Wheatley, London; Dr. William Cayley, London; Dr. Julius Althaus, London; Dr. Thomas Barlow, London; Mr. T. M. Stone, London; Dr. A. E. Aust-Lawrence, Clifton, Bristol; The Registrar of the Royal College of Physicians, London; Mr. Wm. F. Crane, London; Mr. E. Drake, London; Mr. Teevan, London; The Secretary of the Apothecaries' Hall, London; Mr. Lawson Tait, Birmingham; Dr. Burdon Sanderson, London; Mr. C. Macnamara, London; Dr. Pavy, London; Dr. Ferrier, London; Dr. J. W. Moore, Dublin; Dr. E. Sparks, Mentone; Mr. R. Biass, London; Messrs. Burgoyne, London; Mr. H. Capon, Weymouth; Mr. Jordan, London; Sir Joseph Fayrer, London; Dr. Gillespie, London; Dr. H. Tibbits, London; Dr. Edis, London; Mr. H. Rivington, London; The Secretary of the Society for the Relief of Widows and Orphans of Medical Men; The Secretary of the Clinical Society; Council of the Sanitary Institute of Great Britain; The Secretary to the Royal Institution; Mr. R. H. A. Schofield, London; Mr. John Chatto, London.

APPOINTMENTS FOR THE WEEK.

November 3. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

5. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Medical Society of London, 8½ p.m. General Meeting. Dr. Greenhalgh, "On the Treatment of Dysmenorrhœa and other Uterine Affections by a New Form of Pessary."

Royal Institution, 2 p.m. General Monthly Meeting.

6. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society, 8½ p.m. Dr. Peacock—Aneurism of the Aorta opening externally. Dr. P. Irvine—Two Cases of Abdominal Aneurism. Mr. Wagstaffe—Aortic Aneurism bursting into the Pericardium, following a cured Popliteal Aneurism. Dr. Crisp—1. Case of Imperforate Anus; 2. Miliary Tuberculosis in an Infant aged three months. Mr. A. Doran—1. Perforation of a Diverticulum in the Jejunum; 2. Large Single Cyst of the Testicle. Mr. Davies-Colley—Congenital Occlusion of the Small Intestine. Mr. H. Cripps—Cancer of the Rectum. Dr. Dowse—The Pathology of a Case of Paralysis Agitans. Dr. Burney Yeo—Cyst connected with the Liver. And other Specimens.

7. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

Obstetrical Society, 8 p.m. Dr. Galabin, "On the Choice of the Leg in Version." And other Papers.

8. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

9. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

Clinical Society, 8½ p.m. Mr. Bellamy, "A Case of Urethral Calculus." Mr. Sydney Jones, "A Case of Urethral Calculus." Dr. Gowers, "A Case of Unilateral Injury to the Spinal Cord." Dr. J. Burney Walker, "A Case of Left Hemiplegia and Hemi-Anæsthesia, associated with Loss of Speech; Recovery." (Communicated, with Remarks, by Dr. Broadbent.)

VITAL STATISTICS OF LONDON.

Week ending Saturday, October 27, 1877.

BIRTHS.

Births of Boys, 1263; Girls, 1211; Total, 2474.
Average of 10 corresponding years 1867-76, 2257·9.

DEATHS.

	Males.	Females.	Total
Deaths during the week	775	724	149
Average of the ten years 1867-76	702·7	670 6	137
Average corrected to increased population ...	...	...	146
Deaths of people aged 80 and upwards ...	...	...	6

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.
West	561359	1	4	2	...	5	...	2	...
North	751729	2	19	22	2	4	1	7	1
Central ...	334369	...	6	13	...	...	...	4	...
East	639111	1	18	13	...	9	...	7	...
South	967692	10	20	14	4	10	2	12	3
Total	3254260	14	67	64	6	28	3	32	4

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·499 in
Mean temperature	49·7°
Highest point of thermometer	62·6°
Lowest point of thermometer	38·4°
Mean dew-point temperature	45·7°
General direction of wind	S.W.
Whole amount of rain in the week	1·24 in.

BIRTHS and DEATHS Registered and METEOROLOG during the Week ending Saturday, October 27, 1877, in t following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Oct. 27.	Deaths Registered during the week ending Oct. 27.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.
London	3533484	46·9	2474	1499	62·6	38·4	49·7	9·83	1·24
Brighton	102264	43·4	63	36	61·2	40·0	50·6	10·34	2·79
Portsmouth ...	127144	28·3	57	44	61·0	41·0	52·0	11·11	...
Norwich	84023	11·2	55	40	61·5	46·5	49·6	9·78	0·39
Plymouth	72911	52·3	37	31	59·0	39·0	51·0	10·56	1·39
Bristol	202950	45·6	149	72	58·6	37·9	49·3	9·61	1·32
Wolverhampton ...	73389	21·6	64	39	58·7	31·0	45·8	7·67	0·74
Birmingham ...	377436	44·9	341	175	...	...	...	...	...
Leicester	117461	36·7	73	46	58·8	36·0	48·2	9·00	0·38
Nottingham ...	95025	47·6	70	46	59·8	37·1	48·3	9·06	0·68
Liverpool	527083	101·2	382	272	57·5	41·5	49·4	9·66	0·77
Manchester ...	359213	83·7	276	193	...	...	...	...	...
Salford	141184	27·3	139	84	59·7	37·7	47·8	8·78	1·18
Oldham	89796	19·2	76	52	...	...	...	...	...
Bradford	179315	24·8	128	75	60·8	42·0	49·0	9·44	1·53
Leeds	298189	13·8	280	127	59·0	41·0	48·9	9·33	1·46
Sheffield	282130	14·4	236	117	58·0	39·0	48·5	9·17	0·67
Hull	140002	38·5	116	68	58·0	39·0	46·4	8·00	0·83
Sunderland ...	110382	33·4	83	47	...	...	...	...	...
Newcastle-on-Tyne	142231	26·5	104	69	...	...	...	...	...
Edinburgh	218729	52·2	131	87	59·2	38·8	47·3	8·50	0·96
Glasgow	555933	92·1	383	242	60·2	39·5	49·7	9·83	1·52
Dublin	314666	31·3	169	149	66·0	37·0	51·1	10·62	0·44
Total of 23 Towns in United Kingdm	8144940	38·3	5886	3610	66·0	31·0	49·0	9·44	1·08

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·50 in. The highest reading was 29·95 in. at the beginning of the week, and the lowest 29·05 in. on Thursday afternoon.

* The figures for the English and Scottish towns are the numbe enumerated in April, 1871, raised to the middle of 1877 by the additio of six years and a quarter's increase, calculated on the rate which pr vailed between 1861 and 1871. The population of Dublin is taken stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

A CLINICAL LECTURE
ON A CASE OF
ULCERATIVE OR INFECTING ENDOCARDITIS SIMULATING TYPHOID FEVER.

DELIVERED AT THE MIDDLESEX HOSPITAL.

By WILLIAM CAYLEY, M.D.,
Physician and Lecturer on Medicine at the Middlesex Hospital;
Physician to the London Fever Hospital.

GENTLEMEN,—I propose to-day to bring under your notice a case of a not very common form of disease, which is generally known as ulcerative endocarditis, though the name is not happily chosen. I will first narrate the facts of the case, and then make some remarks on the pathology and diagnosis of the affection.

The patient was a boy in Hertford ward, aged nine years, who was admitted on September 25, and died on October 3. His previous history is briefly this:—He has never suffered from rheumatism in any form, but about six years ago he had a severe attack of small-pox, since which he has been more or less subject to palpitation, shortness of breath on exertion, and cough. We are therefore, I think, justified in dating the valvular disease of the heart, with which he was affected on his admission, to this attack. Endocarditis, especially of the ulcerative form, is an occasional, though rare, complication of small-pox; pericarditis is much more common. This patient, as it appeared on post-mortem examination, had evidently suffered from both. In January, 1874, he was admitted into this Hospital with symptoms much resembling those of tubercular meningitis—vomiting, pain in the head, muscular twitchings, clenching of the hands, retraction of the abdomen, irregular pulse, and fever. It was then noticed that there was a systolic apex-murmur. These threatening symptoms soon subsided, and he was discharged in about three weeks. On September 16, eleven days before his admission, he was taken ill with pains in the head and chest, and vomiting. He complained of vertigo, and is stated to have fainted several times during the day. The following day he had rigors. He continued to vomit and to complain of his head and chest, and his appetite quite failed. The pain in his head and chest continued up to his admission, but the vomiting gradually ceased.

State on Admission.—An anæmic, delicate-looking boy, much pitted with the small-pox. Expression rather heavy, but there was no delirium. His chief complaint was pain in the præcordia and frontal headache. He coughed frequently, and expectorated a little glairy mucus. There was a marked convergent strabismus of old standing; the pupils were moderately dilated and active. On examination with the ophthalmoscope nothing abnormal was seen in the fundus. There were slight choreic twitchings of the left arm and side of the face. The tongue presented very marked features: the centre was red and transversely fissured; on each side was a strip coated with white fur, and the tip and edges were again red. There was no distension of the belly, or tenderness on pressure, or gurgling in the iliac fossa. No eruption was visible on the skin, which felt pungently hot; the *tâches cérébrales* of Trousseau were only slightly marked. This symptom is evoked by drawing the back of the nail across the skin, and consists in the appearance of a red stripe, bordered on each side by a narrower white anæmic one. Trousseau regarded it as a sign of meningitis, though it is also met with in many febrile conditions, and is especially frequent in typhoid fever. I have, indeed, come to regard its absence as a strong indication against the existence of typhoid fever, and on more than one occasion have found this a guide in making a diagnosis. In typhoid fever this sign often lasts for some time after convalescence has set in, and I regard its persistence as an indication that the intestinal ulcers are not yet healed, and that, therefore, the patient is still liable to relapse and to the complications attending unhealed ulcers. The spleen was enlarged; the dulness extended from an inch below the level of the nipple to below the margin of the costal cartilage—a space of about three inches. Pulse 134; respirations 48; temperature 104° (in the evening it fell to 101·2°). On physical examination of the thorax, nothing amiss was discovered with the lungs except some bronchial râles, which were universally present. The heart was much hypertrophied; the apex beat in the sixth interspace, half an inch external to the mammary line. The impulse was accompanied by a distinct thrill. At the apex there was a loud, rough systolic murmur, which also occupied the presystolic period, and was distinctly heard at the back. At the base a soft systolic, and a prolonged diastolic murmur were audible. The heart had a triple cantering rhythm like that of pericarditis. This was caused, no doubt, by some rough patches and fibrous tags which were found on post-mortem examination, the result of past inflammation. Urine, specific gravity 1030, contained no blood or albumen, and an abundance of chlorides. The next day the motions were observed to be solid, and of a dark colour.

The diagnosis which was now made was the correct one, that the patient was suffering from ulcerative endocarditis; though later, for insufficient reasons, the case became regarded as probably typhoid fever complicated by heart disease.

The next morning (September 27) the pulse was 132; respirations 36; temperature 104° (nearly 3° higher than the temperature of the preceding evening). Fever of this inverse type, I need hardly say, rarely occurs in typhoid, in which there is almost always a decided morning remission, though it is common enough in pyæmia, with which ulcerative endocarditis is closely allied. Patient still complained much of præcordial pain and headache. His belly was now rather swollen and tense, and there was slight general tenderness. He was ordered infusion of digitalis ℥ss. ter die. In the evening his pulse was 120; respirations 48; temperature 104·2°. Four leeches were ordered to the præcordial region; this gave great relief to the præcordial pain and distress. September 27: Pulse 108; temperature 101·2°; patient feels better; the præcordial pain and headache have much abated. During the day he had three loose light-coloured stools. In the evening his temperature rose again to 104·2°. At 10 p.m. he was ordered ten grains of quinine. This was followed by a rapid fall of the temperature. At midnight it was 101·2°; at 3 a.m. on the 28th, 99°; at 6 a.m., 99·4°; at 9 a.m., 100·6°. He was now wandering, and said he felt quite well. His tongue was more fissured and rather dry. At 2 p.m. his temperature was 104°. Ordered thirty grains of salicylate of soda; this he vomited. At 3 p.m. ten grains of quinine were again administered in two doses. At 3.30, temperature, 103°; at 9.30, 104°. September 29: At 6.30 a.m., temperature 101·4°; at 9.30, pulse 120, respirations 36, temperature 102·4°. Patient's condition seems somewhat improved, and he is free from pain. The heart has lost the cantering rhythm, but the physical signs are otherwise little altered. During the day his nose bled freely, and he had several loose light-yellow stools. At 5.20 p.m. the temperature was 102·6°; at 8 p.m., 104·2°. Ten grains of quinine were again administered. At midnight the temperature was 100·2°; at 7 a.m. on the 30th it was 102·6°; at 10 a.m., 104·8°. During the night the bowels were opened several times; the motions were liquid, of a light yellow colour and alkaline reaction. His pulse was now 144; respirations 60, and he dilated his nostrils. The teeth were covered with sordes. There was a frequent hard cough, with scanty glairy expectoration, streaked but not mixed with blood. Bronchitic râles were everywhere audible, but there was no dulness or fine crepitation. Belly swollen and generally rather tender. Urine free from blood and albumen.

I now began to regard the case as probably one of typhoid fever. The symptoms which induced me to change my original opinion were the characters of the stools and the absence of blood and albumen from the urine (these are almost always present in ulcerative endocarditis), and also the occurrence of epistaxis. The *tâches cérébrales* were now well marked. At 11 a.m. he was given ten grains of quinine, divided as before, into two doses. At 1 p.m. his temperature was 102°; at 6, 101·4°; at 7, 103°. He was now given a bath of a temperature of 80°. After about five minutes he began to shiver, and his pulse became very small. He was taken out and given ten grains of quinine. At 11.30 his temperature had gone up to 104°. He passed a restless, disturbed night. The next morning, at 9.30, his temperature was 104·2°. There was now gurgling in the right iliac fossa. He was ordered a second bath at 80°. He remained in it eighteen minutes without any shivering. When taken out his temperature was 103°. Ten grains of quinine were given, and at 3 p.m. his temperature was 101·8°. At 4.30 the temperature had again risen to 104°. A third bath was given at 80°. He remained in it twelve minutes, when he began to shiver, and was therefore taken out. While in the bath the temperature rose to 105°; when taken out it fell to 103·8°. At 7.30 the temperature was 105°. A fourth bath of fifteen minutes' duration was given. Half

an hour after being taken out the temperature was 101·2°. At 10.25 the temperature was 105°. A fifth bath of twenty-five minutes' duration was given, after which the temperature fell to 100·8°; but at 1 a.m. it had risen to 104·4°. A sixth bath was given of twelve minutes' duration, when he began to shiver. In the bath the temperature rose to 105·7°. After being taken out it fell to 102°. He was given twelve grains of quinine. After the baths he generally fell asleep, and his tongue, which had become dry, used to get moist. At 8 a.m. on October 2 the temperature had again risen to 104°. There was now great prostration, a dry brown tongue, sordes on teeth, subsultus tendinum, and much stupor. He continued in much the same condition all day, half unconscious, with muttering delirium, and finally passed into a state of profound coma. The diarrhœa continued. He died the next day at 8.40 p.m. Shortly before his death, while sweating profusely, his temperature rose to 107°; shortly after death to 108·4°.

Stimulants were freely administered as the signs of depression increased. At first four ounces of port were given daily, then brandy, the amount of which was gradually increased to six and eight ounces daily, and at last to half an ounce every hour, though he often refused all nourishment. Nutrient enemata were then tried. Opium was also administered by the bowel to check the diarrhœa.

Post-mortem Examination.—The pia mater of the convexity was very vascular, and studded here and there over the frontal lobes, and still more thickly over the inferior and inner aspect of the occipital lobes of the cerebrum, with dark red patches of effused blood, varying in size from a pin's head to a shilling. In the centre of many of the smaller of these patches an opaque yellowish-white spot was visible, surrounded by the zone of hæmorrhage. On microscopical examination these spots were found to consist of fine molecular matter. There was no effusion of lymph in the pia mater. The brain itself was generally hyperæmic, but there were no abnormal deposits of any kind in it. The fluid in the ventricles and at the base was somewhat increased. The lungs were studded with minute sub-pleural ecchymoses; they were everywhere crepitant, but universally congested, especially their depending parts. They were quite free from any abnormal deposits. The pericardium contained about three ounces of clear fluid. There were no sub-serous ecchymoses or signs of recent inflammation, but on the anterior surface of the heart was a thick, rough, fibrous patch, with fibrous processes attached to it. The right cavities of the heart were filled with loose black clot. The valves were normal. The left ventricle was hypertrophied. Both the aortic and mitral valves were thickened and fringed with vegetations, but there was no ulceration or loss of substance. The chordæ tendineæ of the mitral valve were shortened and thickened. Covering the auricular aspect of the mitral valve, and extending over the wall of the auricle as far as the mouth of one of the pulmonary veins, was a friable reddish-brown granular layer of fibrine or lymph, fragments of which could be readily detached. On microscopic examination of this, it was found to consist mainly of rather highly refractile molecules, among which were many rod shaped bodies, presumably bacteria. Abdomen: On opening the abdomen the intestines were seen to be studded with numerous ecchymoses, varying in size from a pin's head to a sixpenny-piece; they were sub-serous, and many of them presented opaque yellowish-white spots in their centre, like those of the pia mater. The mucous membrane of the intestinal canal presented nothing abnormal; there was no ulceration or infiltration of Peyer's or the solitary glands. The spleen was much enlarged, softened, and presented at one point a large wedge-shaped block of consolidation and hæmorrhage of recent appearance. The kidneys presented very remarkable characters; their surfaces were thickly spotted with minute hæmorrhagic infarctions, in the centre of many of which a yellow spot was visible. On sections, similar deposits were seen scattered through their substance, together with a few old caseous blocks of wedge shape. Microscopic examination showed these yellow spots to consist of molecular matter, together with numerous rods; but I found swarms of bacteria in other parts of the kidney, and elsewhere, due, I suppose, to decomposition. A more minute examination of the kidney was subsequently made with the assistance of Dr. Coupland, and the renal epithelium was found in part filled with highly refractile granules, which were unaffected either by liquor potassæ or acetic acid.

The disease known as ulcerative endocarditis, of which this is a well-marked example, was first described by the late Dr. Senhouse Kirkes, who published a case in the *Edinburgh Medical and Surgical Journal* in 1853; and it has since bee carefully investigated by many pathologists, German as wel as English, especially Virchow. The name is not happil chosen, as we often have ulceration of the endocardium i rheumatic and other affections, without the characteristi symptoms and effects of the disease; and we meet with all th phenomena of the disease, as in this case, without any ulcer tion. Professor Rosenstein, in "Ziemssen's Handbuch," as it called, though it consists of some two dozen bulky volumes, term it "diphtheritic endocarditis"; and considers the soft, friabl layer of lymph or fibrine which is deposited on the inflame endocardium as similar in its nature to the false membran on the mucous surfaces in diphtheria, both being largely com posed of the lower forms of fungi, bacteria, and micrococc The term "diphtheritic" is, however, employed in so many di ferent senses, and has already given rise to so much confusio that I think it very undesirable to extend its use. I myse should prefer the name "infecting endocarditis," as one of th most prominent results is the infection of the blood wit some morbid poison.

The disease is characterised by producing multiple embolism for the most part of the miliary form, and a condition of th blood which at present we must call by the general name blood-poisoning, the indications of which are rigors, feve prostration, delirium, stupor. Embolisms are, of course, liab to occur in ordinary endocarditis, but here the principal co sequences are due to the local effects of the embolism; th miliary form, too, is less frequent, and the seat of the embo isms is not quite the same. In the brain the emboli due detachment of vegetations in ordinary endocarditis usual get lodged in a branch of the middle cerebral artery, and pr duce hæmorrhage, and softening of the anterior part of th optic thalamus or corpus striatum, and, as a consequence, hem plegia. In infecting endocarditis the embolisms are mo common, as in this case, in the pia mater of the hemisphere and from their small size do not necessarily cause any chara teristic signs of cerebral lesion. The intestine, too, is mu more frequently the seat of embolism in infecting than simple endocarditis.

In both forms the kidneys and spleen are the most comm seats of embolism.

The symptoms of the disease differ greatly in different cas but are conveniently divided by Professor Rosenstein into tw main forms—the pyæmic and the typhoid. The pyæmic fo more resembles ordinary pyæmia, with which it is often ass ciated. There are recurrent rigors, fever of a remittent intermittent type, and local suppurations due to embolisms.

The symptoms of the typhoid form were well exemplified this case. At the outset, rigors; often vomiting, which m continue through the whole course of the disease; high fe of an irregular type, the remissions and exacerbations oft occurring at irregular times, and not necessarily morning a evening, as is usually the case in typhoid. Often there profuse sweating. Together with these symptoms there headache, vertigo, great prostration, dry brown tongue, sor on the teeth, delirium, stupor passing into coma. Diarrhœa often present, due no doubt to the intestinal embolisms, a the motions may contain blood. The spleen is enlarged, a the urine is almost always albuminous, and often bloody; the present case this symptom was absent, though the kidn were studded with miliary embolisms.

On auscultation of the heart we find the signs of valvu incompetency, and often also of obstruction of the orifices, the bruits thus produced are liable to vary from day to d from the progress of the ulceration.

Infecting endocarditis does not appear to attack pers previously in good health. It may occur in pyæmia; it also met with in the puerperal state, in which case, accord to Professor Rosenstein, there is often a diphtheritic infla mation of the genital mucous membrane. It sometim complicates the specific fevers, as small-pox or diphthe Sometimes the endocarditis of acute rheumatism takes t form; and occasionally, as in the present case, it supervene chronic valvular disease. If the disease be really due to infection of the blood by bacteria, it is difficult to underst how, in the latter instances, this is effected.

The principal points of distinction between the typhoid f of infecting endocarditis and typhoid fever are these:—Fi the physical signs of the cardiac lesion. Endocarditis is likely to occur as a complication of typhoid, though, of cou typhoid fever may attack persons suffering from chr valvular disease. Next, the presence of one of the affecti which are known to give rise to this form of endocarditis. T there are the more sudden onset, the rapid course, the mar

gors, and the more irregular type of fever. The frequency the pulse, and especially of the respirations, is usually much eater than in typhoid: this great frequency of the respira- ons was well marked in this case, and was out of all proportion the pulmonary lesions, as appeared both by the physical gns during life and the post-mortem condition. Any local mptoms of embolism would, of course, tend to confirm the agnosis. The presence of blood and albumen in the urine, dicating embolism of the kidney, is a very important sign, ough albuminuria is not uncommon in typhoid. Why this gn was absent in my case I am unable to explain. The rose ots of typhoid are of course absent. The delirium, the dry acked tongue, the sordes on the teeth, the prostration, the arrhœa, the enlargement of the spleen, are common to both seases.

The disease appears necessarily to tend to a fatal issue, and not amenable to treatment. On the view that it is due to an fection of the blood by bacteria, it has been proposed to give e sulpho-carbolates, quinine in large doses, salicine and sali- lic acid, which are destructive to these organisms. As this se was regarded as probably one of typhoid fever, the patient as treated by the "antipyretic method," as it is called—that by reducing the temperature by tepid baths and large doses quinine. Though I have not succeeded in obtaining the lliant results which have attended this mode of treatment Germany, I nevertheless regard it as the best way of treat- typhoid with high temperatures. Here the temperature isted the treatment in a remarkable manner, and the chilling ect of the baths was very transient. In typhoid the tem- rature seldom resists the effects of a few successive baths l a large dose of quinine or salicylate of soda, which usually duce a reduction lasting for twelve or even twenty-four irs, and by repetitions of this treatment the temperature y be kept at a moderate height throughout the course of fever. In this case I did not venture to give baths below , as they were not very well borne, soon causing shivering l depression of the circulation. The use of stimulants was icated by the great prostration, which, however, they were verless to remove.

ORIGINAL COMMUNICATIONS.

ON SYPHILITIC AFFECTIONS OF THE NERVOUS SYSTEM.

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THOROUGH knowledge of those nervous diseases which are duced by the subtle poison of syphilis is of the greatest ctical importance, as they yield much more readily to ific treatment than the corresponding idiopathic affections the nervous system, and, unless thoroughly recognised, not be efficiently treated. An incorrect diagnosis in such s will often doom a patient to destruction, while a true gnition of his state may save his life and restore his lth.

euro-syphilitic affections belong generally to the later ions of the secondary stage, or to the tertiary period of complaint. They are invariably preceded by a hard cting sore, and usually by secondary symptoms affecting skin and fauces. They may, however, appear as the first ifestations of infection of the system, in from twelve ths to twenty years from the appearance of the primary ction, and have been now and then seen to follow the first and sore throat. They are observed at all ages, but most uently between twenty and forty years; and this is of nostic importance, as hemiplegia or paraplegia coming on outhful persons is in nine cases out of ten of syphilitic in. The male sex is more liable to them than the female, hich is in accordance with the fact that constitutional ilis is altogether more frequent in men than in women.

erve-syphilis appears to affect with preference those persons hom there is the neuropathic constitution, either hereditary cquired. There is almost always a family history of apo- y, epilepsy, chorea, megrim, or other nervous maladies, frequently the patient himself has previously suffered neuralgia or fits. Persons who have put an undue strain heir nervous power, either by excessive mental labour, or ree indulgence in alcohol and the sexual appetite, are more e, when rendered syphilitic, to become subject to nervous dies than those in whom there have been no such ante- cedents. Injury, such as a blow on the head or a fall, and depressing emotions, act frequently as exciting causes of these diseases. Finally, an unsystematic and too soon interrupted treatment of the primary affection has to be looked upon as a powerfully predisposing cause of nerve-syphilis.

Syphilis affects with preference the brain and cranial nerves, but does not spare the spinal cord. Anatomically, we find that the characteristic lesions are not meningitis or encephalitis, as was formerly believed, but repeated attacks of hyperæmia, tumour, and disease of the arteries.

1. The congestive form of cerebral syphilis shows hardly any striking features on the post-mortem table, more especially where the case ends fatally at an early stage of the complaint, from such complications as cystitis, decubitus, phthisis, or pneumonia. When the disease has lasted for a considerable time, the membranes of the brain are seen to have lost their transparency, and there is slight wasting of the cerebral convolutions,—which latter, however, is not sufficient to explain the severe symptoms which have been observed during life. The lesions are the same, although in a slighter degree, as those which are found in general paralysis of the insane, and affect more particularly Hitzig and Ferrier's psycho-motor centres in the cineritious substance of the anterior lobes. In some of these cases the cervical sympathetic nerve has been found in a state of pigmentary degeneration, and it is probable that disease of the superior cervical ganglion of that nerve may have an important influence in the production of the repeated attacks of hyperæmia by which this form of brain-syphilis is characterised.

The symptoms which are observed under these circumstances resemble very closely those of general paralysis of the insane. They are at first indefinite, come and go, and a change in the mind and temper is the most characteristic feature. There is excitement or depression, with some confusion of thoughts, fussiness, and ambitious ideas or delusions. Apart from a general feeling of *malaise*, the patient does not complain of being ill. As time goes on, there is loss of energy, debility, embarrassed speech partaking of the nature of aphasia, and being cortical rather than medullary in its kind. The size of the pupils is unequal; the tongue is tremulous when protruded; there is tottering gait, and pins-and-needles and numbness in the extremities are complained of. When the symptoms on the part of the nervous system become more marked, there is often a simultaneous outbreak of fresh syphilitic manifestations on the skin, mucous membrane, or periosteum. The intellect and memory now suffer more decidedly, and symptoms of paralysis appear from time to time—viz., aphasia, agraphia, hemiplegia, and paraplegia. Such symptoms may last at first only for a few hours or days, but they gradually become more permanent. The general debility increases *pari passu;* and unless an energetic anti-syphilitic treatment be previously followed, the patient dies within a few years from the outbreak of the disease, from cystitis, decubitus, and general marasmus.

2. The second manifestation of cerebral syphilis is the syphilitic tumour, gumma, or syphiloma, which presents itself in two varieties, these being probably only different stages of development of the same deposit. There are the soft and hard varieties; the soft tumour being the earlier, and the hard swelling the later phenomenon. The soft tumour consists of a reddish-grey jelly, from which on section a small quantity of pinkish liquid is seen to escape. Its histological elements are round cells and nuclei, mixed with spindle and stellated cells, and few but large capillary vessels. The outline of such tumours is not well defined, and they seem gradually to merge into the surrounding normal tissue. They are chiefly found in the subarachnoid space, and grow from thence to the surface of the brain; but they also occur in the dura mater, and are in this situation generally harder than when situated in the soft and moist tissue of the pia.

The hard tumour is in many respects similar to tubercle. It is dry, yellow, of a cheesy consistency, and on section homogeneous. It occurs interspersed into the reddish-grey jelly which I have just described, or as a well-defined tumour of variable size. It consists histologically of a granulated substance otherwise devoid of structure. There are no blood-vessels or spindle-cells, but now and then heaps of pigmentary granules and crystals and oil-globules near the periphery. Its size varies from that of an almond kernel to that of a pigeon's or even a hen's egg, and its shape is frequently adapted to that of the spaces in which it is discovered. It is seen between the two layers of the dura mater, which are much thickened, and more especially in the falx cerebri. The skull-bone which corresponds to its situation is generally in a state of dry caries, and appears rough and attenuated, while the other

portions of the skull are normal. The yellow hard tumour is probably owing to contraction and atrophy of the soft gumma. It is likewise found in the subarachnoid space, and from thence proceeds to the bloodvessels, nerves, and cerebral tissue itself. Occasionally, all the membranes and the cineritious substance are grown together into a uniform mass, and cannot be separated; and the two varieties of tumours are then seen together. Soft jelly is embedded between the dura and the surface of the brain, and one or several dry yellow tumours are lying in the fissures between the convolutions. The surrounding brain-tissue is in a state of red or white softening, or a portion of the cortical and medullary matter is changed into the same cheesy mass of which the tumour itself consists. Under the influence of anti-syphilitic treatment, nearly the whole of these changes may be repaired, and cicatricial patches are then discovered on the surface of the hemispheres.

At the base of the brain there is occasionally a diffuse infiltration with grey jelly, which can no longer be called a tumour, but must be looked upon as gummatous meningitis. The effusion in such instances is seen to spread from the olfactory bulb to the posterior portion of the cerebellum, and may even invade the cortex.

The symptoms of cerebral syphiloma differ considerably from those of syphilitic hyperæmia; and one that is hardly ever wanting, and also the first to appear, is a peculiar kind of headache, which appears chiefly at night, and is relieved towards morning. It is intolerably severe, and occurs in paroxysms which last for a few weeks, after which there is a remission, which is again succeeded by a fresh outbreak of it. Unless specific treatment is adopted, this may go on for years. The seat of the headache is mostly at the sides of the head, but it may also be frontal and occipital. It is sometimes localised in a very small area, and then generally increased by pressure; and it is owing to a gummatous deposit on the internal surface of the skull-bones, which irritates the periosteum and the dura mater. Sleeplessness is another symptom which is generally caused by the pain, but also occurs during free intervals; and it is apt to raise our suspicion, because it is mostly found in young persons, in whom insomnia is otherwise very rare.

After these symptoms have continued for a variable time, epileptiform attacks are apt to supervene, which sometimes resemble in every way an ordinary epileptic seizure. Unilateral convulsion, without loss of consciousness, is often connected with this condition; the muscular spasm starts from the thumb or first finger, or the foot, or the face, and affects only the arm or the leg of the same side, but becomes bilateral where the nerve nuclei of the two sides are associated; or there may be a regular epileptic seizure, *i.e.*, general convulsions and coma. When the hemispasm is on the right side, showing affection of the left hemisphere, temporary aphasia may be produced, and there may be hemiplegia with this, or left hemiplegia without aphasia. This hemispasm is due to irritation of the convolutions of the opposite hemisphere. When such fits succeed each other more or less rapidly, the mind becomes affected. There is irritability of temper: the patient is sometimes in a state of hysteria, laughing and crying alternately without any adequate cause; he is generally depressed in spirits; the memory is impaired, and the current of thoughts considerably retarded; the speech is embarrassed; the patient is unable to finish a sentence, and sometimes stops for a minute without being able to go on; he tries to held himself with gestures, but even this aid after a time forsakes him, and complete aphasia, agraphia, and amimia may become developed.

In such cases there is no hemiplegia or any other form of actual paralysis; but there is paresis, such as we are apt to connect with disease of Hitzig and Ferrier's psycho-motor centres. The patient is still able to walk, to dress and feed himself, but he is clumsy in doing so; the foot drags on the ground; he becomes gradually more helpless; there are frequent epileptic fits, and sometimes he does not awake from the coma; or decubitus is developed, leading to blood-poisoning; or death supervenes from total exhaustion of the nervous force.

The symptoms just described arise from syphiloma of the subarachnoid space, which gradually involves the cortex of the brain and the adjacent medullary matter. Where the third left frontal convolution and its neighbourhood are suffering, aphasia and agraphia will be the result. Where the anterior lobes are affected, there will be symptoms of paresis; while irritation of the posterior lobes causes melancholia, without much, if any, loss of motor power. But whatever portion of the cineritious structure is affected, syphilitic epilepsy will be the most prominent symptom.

The cerebral nerves generally suffer in exact proportion the seat of the syphiloma, which causes irritation, and final destruction, of the nerve-trunk. The gummatous tumo sometimes grows right round a nerve, and compresses it, it squeezes it against the bone; or an exostosis may occur the osseous canal through which the nerve has to pass. It quite true that a nerve is occasionally discovered passing rig through a syphiloma at the base, without having lost its fu tion or structure; but such cases are exceptional.

The general sequence of events is neuritis, followed atrophy. The nerve appears at first reddish and soften its sheath is thickened; and at a later period it is wasted a changed into a thin thread. Sometimes the sheath of the ne appears perfectly normal, but on opening it the nervous s stance is seen to have disappeared, and to be replaced b reddish or yellow mass, corresponding in structure to the s and hard syphiloma. In other instances the syphiloma gr directly from the pia mater along the bloodvessels into nervous substance, more particularly into the chiasma of optic nerves, causing atrophy of the same. Finally, there n be no structural lesion, although symptoms of paralysis, an thesia, and neuralgia may have been present during life. Hughlings-Jackson(a) is therefore incorrect in stating t the pathogenesis of these cases is nothing but a squeezing nerve-fibres by overgrowth of the connective-tissue eleme this is only one of several causes.

Amongst the cranial nerves the third is most frequen affected by syphilis, and the most common symptoms ptosis, external strabismus, and paralytic dilatation of pupil. Vertigo is occasionally a symptom of paralysis of nerve. Syphilitic neuro-retinitis and simple retinitis are common. There is effusion of serum into the layers of retina, which is sometimes slight and sometimes considera and is generally preceded by hyperæmia. The outline of disc is rendered indistinct and hazy, and the neighbourhoo the yellow spot is particularly affected. Sometimes vitreous humour becomes turbid, and prevents a thoro ophthalmoscopic examination. Where the effusion t place rapidly, the sight may be quickly destroyed; bu most cases it occurs slowly. It is not unfrequently associa with irido-choroiditis. Dr. Hughlings-Jackson has poi out that double optic neuritis may often be recognised by ophthalmoscope before vision suffers, and that it may be some time the only symptom, or be accompanied with slight symptoms as to be hardly noticed.

The portio dura and the fifth and sixth nerves may like suffer; there is then inability to close the eye, neuralgi the face, with lachrymation, paralysis of mastication, internal strabismus.

3. The third and last form of cerebral syphilis is disease o arteries, which affects with preference the carotids, the c of Willis, the Sylvian artery, and that of the corpus callo The first symptom of disease is, that the artery becomes transparent and loses its pink colour, assuming instead of white-greyish appearance. At the same time the vessel its cylindrical shape and becomes quite round, while its co hardened, and gives a cartilaginous sensation to the fi The diameter of the vessel is very much reduced by the d sition of a moist grey substance, which later on becomes and dry, and what remains of a free canal is often blocke by thrombosis, so that ultimately the whole artery is cha into a solid cord. This deposit takes place chiefly betwee endothelium and the elastic fibres of the vessel. At fi appears to consist of endothelial cells, which multiply siderably, and develope into connective tissue. This gr goes on in a longitudinal as well as in a transverse direc and the degeneration is therefore apt to spread to the bra of the artery.

Heubner and Cohnheim have distinguished two spher cerebral nutrition, which differ considerably from one and viz., the basal and the cortical sphere. In syphilitic disea cerebral arteries, these considerations become of paran importance. The basal sphere comprises the vertebral, ba and carotid arteries, the circle of Willis, and the comm ment of the anterior, middle, and posterior cerebral ar All these vessels give off small branches vertically, penetrate directly into the cerebral matter, become divide terminal, and then proceed through the capillary vessel the smaller veins. It is particularly in this basal s which supplies the central ganglia, that plugging o arteries from deposit and subsequent thrombosis becon dangerous to the nutrition of the parts; for as there

(a) *Journal of Mental Science*, July, 1875, page 5.

astomosis, the various forms of necrobiosis, such as red, low, and white softening, are easily produced, the results ng generally syphilitic hemiplegia.

In the cortical sphere of nutrition, on the other hand, the gging of arteries is not of the same vital importance, ause the peripheral part of the bloodvessel may still be pplied with blood by anastomosis in the pia mater. The tical arteries run for a long time in the pia mater without ving off any branches to the cerebral substance; they divide the pia, become constantly smaller, and anastomose so roughly with their fellows, that a kind of network is esta-shed, by means of which not only the smaller branches, but o the principal arteries, are made to communicate with each ner. The cerebral matter only receives small capillary ssels from this large vascular net after it has been allowed spread over a considerable surface. Although, therefore, e danger of starvation is much less in the cortex than in the ntral ganglia, nevertheless a rapid plugging cannot pass thout causing mischief, inasmuch as it decreases the pressure those vessels; while, if collateral circulation is established, e pressure may be suddenly increased above the normal ndard. The cineritious substance is thus exposed to consider-le vicissitudes of circulation, and the temporary apoplectic zures which are so common in this form of syphilis find in em a satisfactory explanation.

In both spheres of nutrition, however—the basal as well as e cortical,—simple narrowing of the arterial tubes, without tual plugging of the same, must have a deleterious influence the nutrition of the entire brain. It increases the resistance ered to the current of blood, which becomes further retarded the rigidity of the tube, which has lost its elasticity. The erchange of oxygen and of nutritive material is therefore nsiderably lessened, which explains the loss of energy, the pairment of the mental functions, and the somnolence which found in a number of these cases.

Where the basal sphere of nutrition suffers, the symptoms e generally rapidly developed. It is not by any means rare at, after a few insignificant premonitory symptoms, there is sudden stroke of apoplexy, which proves fatal. The sym-oms of this form of apoplexy are in all respects similar to ose of ordinary apoplexy from cerebral hæmorrhage. Mul-le thrombosis of several important basal arteries is discovered st-mortem.

In other cases there are premonitory symptoms chiefly on e part of the cranial nerves. These are ptosis, double vision, akness of sight from optic neuritis, anæsthesia, and neu-gia in certain branches of the fifth nerve, spasm in the portio ra and sixth nerve, etc. These symptoms may come on, as were, spontaneously, or after mental and physical efforts, citement, and indulgence in alcohol and the sexual appetite. ter a time there is a somewhat slowly produced attack of miplegia, with or without aphasia, and without loss of con-ousness. If collateral circulation is established the patient y gradually improve; or he sinks into a somnolent condition embling that of typhoid fever. There are headache, confusion, siness; the patient has a staring, absent look, and a morose pression of the countenance. He will on occasions pass his ter or fæces in the middle of the room, and does other things ich show absence of the feeling of shame; but on being ked to he generally becomes more reasonable. He will often use food, and die in the first or subsequent attacks; yet ere all these symptoms have been present an immense provement may by proper treatment be brought about in the tient's condition.

When there has been true hemiplegia, recovery is generally perfect, even under the best treatment. There are, however, nporary kinds of hemiplegia, which only persist for a day two, and where the starvation of cerebral tissue is evidently too short duration to cause any great degree of softening. some cases hemiplegia is followed by Türck's sclerosis of e lateral columns of the spinal cord, just as after ordinary ebral hæmorrhage.

Syphilitic Affections of the Spinal Cord.

These are much more rare than the corresponding diseases the brain and cranial nerves, and there are as yet only few st-mortem examinations of such cases put on record.

The syphiloma occurs in its two forms—viz., as jelly and as eese—in the pia mater and the subarachnoid space. The rec membranes are found grown together with each other d with the surface of the cord. There are, however, not cumscribed tumours as in the brain, but a kind of infiltra-n of the meninges and lymphatic spaces by gummatous usions, which appear small, multiple, and disseminated. Where the membranes grow together with the periosteum of vertebræ and the surface of the cord, there is generally pro-liferation of the neuroglia and wasting of the white columns. Some cases in which the symptoms of acute ascending spinal paralysis are observed during life seem to be owing to hyper-æmia simply, as no real structural alterations of the cord have been discovered.

In this latter case the symptoms generally commence at an early period—viz., in the first year,—and are accompanied by the usual early manifestations of constitutional syphilis. The first symptom is sudden paraplegia, with incontinence of urine and the fæces. There is no pain in the spine, and no anæsthesia of the limbs. Decubitus soon becomes developed, and the patient dies within a few weeks from the beginning of these symptoms.

More frequently, however, paralysis comes on in the later periods of the disease, after many other symptoms have existed for a long time. There is muddy pallor of the skin, and a disagreable smell about the patient, who is generally feeble and in a state of constant *malaise*. He experiences pain at different points of the spine, which is increased by pressure; and also pain, pins and needles, numbness and stiffness, in the lower extremities. These symptoms come and go, and then there is all of a sudden an attack of paraplegia or hemi-paraplegia. Where the seat of the disease is in the lower portion of the dorsal cord, there is also paralysis of the sphincters. If the case is not well treated, the paralysis remains stationary, and ultimately decubitus is developed, which shortly leads to a fatal result. By proper treatment, however, the patient may get well in a very short time. Some years ago I was consulted by a patient of this kind, only two days after the paraplegia had become developed. He was carried into my consulting-room on the back of a cabman, and had completely lost power over the lower extremities, but only slightly over the sphincters: there was no anæsthesia. Under full doses of iodide of potassium the patient improved most rapidly, and walked briskly into my room a week after I had first seen him. He did, however, not perfectly recover, as a slight degree of weakness in the left leg has remained up to this day.

Where the cervical spine is affected, matters are more serious. There is then not only paraplegia and paralysis of the sphincters, but also of the thoracic and abdominal muscles, the upper extremities, and the diaphragm. Asphyxia from paralysis of the phrenic nerve, or pneumonia, generally carry the patients off in a short time, unless, as we have seen it, the remedy proves stronger than the disease. But in cases of this class we cannot look forward to perfect recovery, as the posterior columns of the cord generally become disorganised beyond thorough repair, and a state resembling locomotor ataxy may remain for life.

ON CHINESE HÆMATOZOA. (a)

By PATRICK MANSON, M.D.

Allusion has often been made to a condition known at Amoy as "worms in the heart," to which the European dog in China is peculiarly liable. Anyone who has had much acquaintance with dogs in China must be aware of their liability to sudden and apparently unaccountable death; and the medical practitioner is often asked to perform a post-mortem examination with the view of clearing up or confirming the suspicion of poisoning which is so commonly entertained in such cases. Ten chances to one the cause of death is found to be plugging of the pulmonary artery, or mechanical interference with the action of the valves of the heart, by a mass of filariæ occupying the artery and cavities of the right side. I have had many opportunities of seeing this affection, and I am aware that a similar disease is known in America, France, and Italy, and probably elsewhere, and that the "worm" has been more or less carefully described by various authors.

Besides the usual and well-known external pests, there is a large number of different parasites infesting both foreign and Chinese dogs. I am familiar with at least five species occupying the alimentary canal—viz., two kinds of tænia, a thread-worm inhabiting the small intestine, and two round worms like the human lumbricus. In addition to these is the heart-worm, variously named *Filaria canis cordis* or *Filaria immitis*, and a new species, not hitherto described as existing in the dog in China, the *Filaria sanguinolenta*. The latter was discovered by Dr. Lewis in the pariah dog of Calcutta, and most of his observations I have been able to confirm. I propose to

(a) From the *Customs Gazette*.

describe both *Filaria immitis* and *Filaria sanguinolenta*, as an acquaintance with the appearance and habits of both is necessary to understand the lesions they produce, and to prevent mistakes and false conclusions on an important point in the history of *Filaria immitis*—viz., the process by which it obtains access to the circulation of its host.

Filaria Immitis.

Its Prevalence.—The extent of this is difficult to estimate without much and laborious investigation; but if I say that one-half of all dogs in China (my remarks apply especially to Amoy), whether native or foreign, are the hosts of this parasite, I believe I am within the truth; two out of three is nearer it, and is not, I think, an over-statement. Anyone can satisfy himself on this point by examining with the microscope the blood of the first half-dozen dogs he can procure, and to do so it is not necessary to kill the animals.

Mode of Examining the Blood for Embryos.—The plan I adopt is to make a small incision with a sharp knife on the inner surface of the ear, where the skin is not covered by hair, and from this to express sufficient blood to supply six or eight slides. These I carefully search with a low power, and the probability is, that in one or all of them one or more immature filariæ will be discovered. From observations thus made, and in some cases confirmed by post-mortem examination, I conclude that dogs of all ages, and probably every breed, are liable to be attacked by the parasite I am describing.

The Embryo Filaria.—The immature hæmatozoon thus discovered, according to my measurements is about $\frac{1}{100}$th of an inch in length, by $\frac{1}{3000}$th of an inch in breadth, and, as far as I can make out, is quite structureless. On close examination with a high power, something like a mouth can be seen at the blunt extremity, which appears to be alternately protruded and retracted. The body attains its greatest diameter a short distance from this point, and maintains the same thickness for about two-thirds of its length; beyond this point it gradually tapers off to the long and filiform tail. In freshly drawn blood the animalcule is in constant motion, wriggling about amongst the blood-corpuscles with a snake-like movement, and lashing out most vigorously with its supple and slender tail. It never seems to be at rest, and retains its activity as long as the blood continues fluid, often for many hours. It never seems to attach itself to the blood-corpuscles or to the surface of the slide. I have never seen any sign of growth or development in the many specimens I have examined, the measurements and appearance of all being exactly alike. So numerous are these creatures in some specimens of blood, that I have seen as many as five in full activity in one small field of the microscope. From this some idea may be formed of the vast numbers existing in the total circulation in such a case, and one cannot but wonder that it is possible for a dog, containing such a prodigious number of parasites, to live. I know many dogs thus infested, and who have probably been so for many years, yet they seem in no way inconvenienced by their guests, have attained a good old age, and are fat and well nourished. If a dog whose blood is thus infested dies or is killed, the parents of these microscopic filariæ are found coiled up in the right ventricle of the heart for the most part, sometimes extending through the tricuspid valve into the auricle, and even into the superior vena cava, and very generally through the semilunar valves far into the pulmonary artery and its branches. I have never found them, or anything resembling them, in any other vessel, though careful search has been made in all the larger veins. In the heart their bodies are found after death, surrounded for the most part with a dark, soft, grumous clot, which, on microscopic examination, is found to be swarming with the embryos above described. Their number varies very much. Sometimes there are only three or four, while in other instances the heart and pulmonary artery are actually stuffed with them, so that one can hardly understand how the circulation can possibly be carried on. The largest number I have counted was forty-one, and in this instance some were probably overlooked, as they extended into the smaller branches of the pulmonary artery, and escaped detection.

On opening the heart, the worms are found massed together in a bundle like a coil of thick catgut that has been some time steeping in water. The few sluggish movements they exhibit after the death of their host form a striking contrast to the liveliness of their progeny. On unravelling and extending them, they can be separated into two kinds: one sort, the larger and plumper, measure from 8 to 13 inches in length, by $\frac{1}{30}$th of an inch in diameter; the other (the smaller), 5 to 7 inches in length by $\frac{1}{40}$th of an inch in diameter. The former is the female, and is characterised by her superior dimensions and only slightly curved caudal extremity; the latter is the male, and is easily recognised by his fine tail, curled up near its extremity like a corkscrew or the tendril of a creeper. The colour of both is a milky opalescent white, with generally a long, and at places convoluted, thin red streak, most marked near the head, running nearly the whole length of the body—this is the alimentary canal. They feel like whipcord when rolled between the fingers, and can bear considerable strain without breaking. If the body of the female is snapped or cut across, three slender threads can be drawn from one of the severed ends—these are the alimentary canal and the two uterine tubes. On the male being similarly treated, only two threads are observed, the alimentary canal and the testicle. As a rule, the females are more numerous than the males. In one instance I found four females but no male. The general proportion is about one male to two females. In the instance above mentioned, in which forty-one worms were found together, thirteen were males and twenty-eight females.

Anatomy of the Mature Worm.—The coverings appear to be two in number—the tegumentary, a very delicate diagonally striped membrane, continuous at the mouth and anus with the lining of the alimentary canal; and the fibro-muscular, or inner coat, of strong and coarse longitudinal fibres, strengthened about the head by numerous diagonal bands. The alimentary canal commences by a funnel-shaped mouth placed slightly to one side of the extreme end of the animal. This funnel-shaped opening contracting towards its apex leads to the pharynx, and this to the œsophagus, which, running for a short distance directly backwards, terminates in a valvular-like opening in the intestine, about a quarter of an inch from the mouth. This, the main part of the alimentary canal, traverses the whole of the remaining length of the animal, to terminate in an anus placed not quite at the tip of the incurvated tail. For the most part, the course of this tube is straight, but at intervals it winds round the uterine or seminal tubes. It is rather narrower near the anus than elsewhere, but its dimensions seem to depend on the quantity of food, represented by a dark red granular matter, with which it is more or less filled. The œsophagus is usually empty and contracted. The anatomy of the alimentary canal is about the same in both sexes. The vagina opens at a point close to the union of the œsophagus and intestine. It is a narrow muscular tube, which, after a short and convoluted course, first forward and then backwards, bifurcates. The two tubes thus formed gradually increase in diameter, and constitute the uterus. These two uterine tubes occupy the greater part of the animal and extend from within half an inch of the head to an inch and a half of the tail. Their course is usually straight and parallel, but at intervals they are twisted round each other. Each terminates quite abruptly in a very delicate vessel, which, after a short and nearly straight course again gradually expands to about half the diameter of the uterine tubes, and after many turns, doublings, and convolutions, ends, close to the tail, in the delicate ovarian tube. The course of the latter is short and tortuous, and terminates abruptly. The contents of the female reproductive organs form a very beautiful and striking object for microscopic study, and from them, with a very little care, the whole history of the development of the embryo can be ascertained. To obtain specimens at different stages of development, it is only necessary to divide the body at short intervals with a sharp instrument, and examine the fluid which exudes from the severed ends. If a section is made near the tail it is sometimes possible to draw or press out the very termination of the ovarian tubes, and after adding a little water to observe the earliest appearances of the embryo. One is a globular transparent cell, from $\frac{1}{3000}$th to $\frac{1}{2000}$th of an inch in diameter, with a distinct nucleus and nucleolus. A little farther down the ovary, mixed with the clear globular cells are others of a granular appearance and elongated form measuring $\frac{1}{750}$th by $\frac{1}{2000}$th of an inch, with a nucleus and nucleolus dimly visible. Some of them are drawn out into a spine at one end or both, and when massed together, as they often are, resemble a columnar epithelium. Still farther down, the cells enlarge, the circular to $\frac{1}{1000}$th, the spindle-shaped to $\frac{1}{500}$th by $\frac{1}{1500}$th of an inch, and are mixed with abundance of bright shining granules, measuring about $\frac{1}{5000}$ of an inch, resembling what is seen in the spermatic fluid of the male worm. About this point the nucleus is seen to be divided, and as the examination advances into the uterine tubes, division and subdivision of this nucleus proceeds, the cell increasing in size to $\frac{1}{750}$th by $\frac{1}{1000}$th of an inch, and acquiring the oval form which it maintains till its maturity. The continued and minute subdivision of the nucleus, a mulber

lass is formed inside the envelope or shell. An indentation is ien observed at one point; this indentation deepens, and by egrees the semblance of the free embryo is shaped from the lass. When this process is perfected, the egg measures $\frac{1}{300}$th y $\frac{1}{500}$th of an inch. As its development advances, the embryo ses its granular appearance, and exhibits some amount of iovement. Its movements gradually become more active, till wards the vaginal end of the uterus the shell is burst, and hrivels up into an irregular granular membrane, and the mbryo struggles out and swims about with all the vigour it fterwards displays when an independent organism in the lood. The liberated embryo measures from $\frac{1}{4000}$th to $\frac{1}{3000}$th in readth by $\frac{1}{100}$th of an inch in length.

Close to the extremity of the tail of the mature male orm, and on its under surface, are two very delicate spicules nclosed in a sheath and apparently retractile. Their common heath is close to the anus. One spicule is longer than the ther, being attached higher up the body. Besides these, here is a double row of delicate pedunculated papillæ, ix on each side of the anus; and farther back than these, hree minute serrations, and at the very extremity of the tail wo very small tubercles. I presume that these spicules, and erhaps papillæ, communicate with the testicle by means of a as deferens, but this communication I have not been able to race, owing to the thickness and opacity of the fibro-muscular bat of the tail in the male worm. The testicle is easily made ut; it is a long, simple tube occupying the greater part of he body; it terminates opposite the union of œsophagus and ntestine, by the last few lines of it doubling back and gra- ually tapering down to a point. The contents of the spermatic ube consist of a clear colourless fluid, in which minute shining longated bodies are suspended. If the male is cut across ear his caudal extremity, a drop of this fluid exudes. The permatozoa measure about $\frac{1}{6000}$th of an inch in length.

How does Filaria immitis enter the circulation? We have een the two extremes, so to speak, of the parasite's life—the inute structureless embryo, and the mature elaborately rganised parent a foot in length. But I have met with no ntermediate form; yet such there must be. Where to look or it I cannot suggest. I have searched in all the visceral nd cervical veins, but without discovering a trace of such a orm. Spleen, liver, kidneys, lungs, brain—all the viscera, in act, in every instance in which I have dissected them, have ielded no information. Dr. Jamieson has suggested that the arge water filariæ he had under observation for some time ight be the heart-worm of the dog, but this is extremely nlikely, if not impossible. Of the two hundred or more pecies of filariæ known to naturalists, many live an indepen- ent life, and never become parasitic. Such were probably the pecimens he watched. They are found in abundance in stag- ant water, moist earth, and in a variety of different media. Many, however, are parasitic in birds, fishes, quadrupeds and olluscs, free in the intestine or embedded in different tissues. uch, as a rule, are swallowed with the food, having pre- iously undergone some advance in development in the body f another animal, in water, in moist earth, or on vegetables hich the final host consumes. The degree of development ffected in these temporary media consists essentially in he elaboration of an alimentary canal, and a boring appa- atus wherewith to penetrate the tissues and assist the animal n its progress to its future resting-place. Now, in the case f the Filaria immitis, after a residence more or less pro- onged in some suitable medium, it is swallowed, or in some ther way obtains access to the tissues of the dog; then, by neans of the boring apparatus with which it has become rovided, it penetrates, and working its way to some spot in r near a vein, it rests for a time, loses all trace of its boring pparatus, and grows from probably a microscopic animal to length of many inches, and becomes provided with a com- lete set of reproductive organs. This accomplished, it finds s way along the vein to its final resting-place—the right ide of the heart,—where the important function, reproduction f its species, is performed. I cannot tell whether the parasite ver dies before its host, or if it dies what becomes of it, or hat effect its death has on the dog. In what animal or other nedium the first step in development is gone through, I can nly guess at; and what the spot or tissue it lies *perdu* in till finally enters the circulation, I cannot find out. Both these oints it would be interesting and important to ascertain. hat the latter is not the heart I feel certain, as imperfect nimals of a much smaller size and at different stages of evelopment would be found there. Such I have never seen. he smallest female I have measured has been over seven nches in length, and all I have examined have been sexually mature. It cannot be in the arterial system, as to get at the right side of the heart the capillaries must be traversed; and it cannot be on the distal side of the portal circulation, as it would be arrested in the liver. The receptaculum chyli, thoracic duct, or the venous system, exclusive of that passing into the liver, must be the channel by which the heart is reached, and the places where the immature animal should be searched for.

Diseases produced by Filaria Immitis.—One must be careful not to attribute to this cause the death of every dog in whose heart worms are found. We have seen that nearly two-thirds of all dogs are thus affected, and that for the most part host and parasite are apparently in good health. But I think there are at least two forms of disease fairly attributable to Filaria immitis.

The position the worm occupies in the circulation is about the safest so large and fertile an animal could select. Were the left side of the heart its habitat, the consequences to the host would surely be much more formidable; for in such case, the animal, escaping from the ventricle (as is its habit), would pass into some small but important artery, and all the evils of embolism would follow. Or even if the unhatched eggs were to escape in any number, as I suppose they sometimes do, there would be the same danger from capillary plugging in the brain, spinal cord, and elsewhere. The capillaries of the lungs, however, act as a filter, and all products of generation too large to pass capillaries,—all the results of death if such a thing occurs, and the wandering parasite itself should he, as he so frequently does, leave the heart,—all these are arrested there; the free embryo, of a diameter smaller than a blood corpuscle, too small to do harm by its size, alone passes through. As a consequence of this filtration, the lungs may themselves be injured; and I put down tubercle, or tuberculoid disease, as an occasional result of this process. I have met with an appearance closely resembling miliary tuberculosis in the lungs of filaria-stricken dogs, and in many cases where no distinct tubercular appearance exists, the lungs feel, when squeezed between the fingers, as if they contained numerous minute particles of gravel.

The most frequent and important effects, however, are those that may be attributed purely to the mechanical interference with the valves of the heart, and the capacity of the pulmonary artery and branches. But it is astonishing how very considerable the bulk of the bunch or rope of worms extending through the tricuspid and pulmonary valves may become. In many instances it must be impossible for the valves to close properly, or for more than one-third of the full stream of blood to be transmitted by the pulmonary artery. Such an animal must, of course, be short-winded, and perhaps liable to attacks of syncope, especially on exertion or excitement, when the demands on the circulation are greatest. And it is after some occurrence, such as a fight, that death most frequently occurs. Possibly, then, the energetic working of the ventricle has forced one or two more worms suddenly into the pulmonary artery, or entangled them among the valves or chordæ tendineæ, and death may come suddenly, or only after a day or two, during which breathlessness and other signs of failing circulation point to the probable cause of illness.

(*To be continued.*)

THE RESULTS OF THE MEDICAL EXAMINATIONS IN PRUSSIA.—Of the 346 students of the nine Prussian universities who were submitted to examination for the year 1876-77, there were 220 who passed with the designation "good," forty-nine with "very good," and seven with "remarkably good." The rejections amounted to seventy.—*Deutsch. Med. Woch.*, October 20.

THE STATURE OF MAN.—The question of the medium stature of man is one that has much excited the curiosity of anthropologists, and concerning which extremely divergent opinions have prevailed. According to an investigation into the subject, published recently in the *Révue d'Anthropologie*, the tallest man ever yet met with was a Finlander, who measured 2·88 mètres, and the shortest a dwarf, measuring only 0·43 mètres. Between these two extremes numerous are the differences, as influenced by climate, habits, manners, etc. It is among the Patagonians that the highest medium height (1·78) is attained, while the bushmen of Eastern Africa are the shortest (1·35) of men. The medium between these extremes would be 1·60; but the *Révue* is of the opinion, derived from the tables hitherto published, that the central point of departure should be 1·65. The measurements do not apply to women.—*Union Méd.*, November 1.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

THE GREAT NORTHERN HOSPITAL.

GENERAL PARALYSIS, FOLLOWING EXPOSURE TO COLD AND WET—RECOVERY UNDER TREATMENT BY PERCHLORIDE OF MERCURY AND BARK.

(Under the care of Dr. CHOLMELEY.)

[From notes by Mr. T. H. GILLAM, House-Surgeon.]

W. B., aged thirty-eight, married, a knife-grinder by occupation, was admitted on February 25 into No. 2 Male Ward.

History.—Always had good health till a week ago, when, after long exposure to wet and cold, he was seized with "stabbing" pains in the fingers and legs. This sensation was on the following day replaced by tingling and numbness, which have daily increased. Family history good; no history of rheumatism or syphilis. Gonorrhœa six years ago.

Present Condition.—Patient is a strong and healthy-looking man; well nourished. Complexion rather dark red. Skin soft and moist. Temperature 99·2° in axilla; tongue furred. Bowels have been very confined during last week; appetite good. Urine normal in quantity; specific gravity 1012, acid; no albumen, phosphates, or sugar. Chest and abdomen normal. The veins of both legs are varicose, and are said to have been so for many years. On the right leg are some superficial cicatrices of old ulcers, not of a specific character. No evidence of clotting in femoral or iliac veins. There is hyperæsthesia over the inner side of both calves, pressure creating great soreness and pain. He is able to walk, but his gait is unsteady; and he feels unsafe, and as if at any moment his legs may "give under him."

At first he was kept simply at rest in bed, with good diet, and no medicine except aperients. The constipation was very obstinate, though ordinarily, the patient said, the bowels were easily acted on. At first slight improvement took place; but after two days the paretic condition began again to increase, and on March 3 the man was unable to stand. His legs and feet felt to him "dead" and cold, though to the hand they were warm. The hyperæsthesia over the inside of the calves had almost disappeared. He complained of numbness in the arms and hands, especially on the right side, and of tingling in the hands. He was now given the iodide of potassium. March 5: Worse in all respects. Ordered potass. iodidi grs. v., ammon. chloridi grs. x., every three hours, day and night. This treatment was persevered with till March 16, but the patient continued to get steadily worse. On March 14 he was unable to make any movement in bed; the lower limbs were absolutely paralysed, and hyperasthesia had everywhere disappeared, there being complete insensibility to touch as well as loss of motor power. The abdominal parietes were also numb; there was complete loss of power and sensibility in the arms and hands on both sides; the urine and fæces passed involuntarily, and the patient was very low and emaciated. The tongue was furred and tremulous. The pulse varied from 68 to 76, regular and weak. The temperature ranged from 98° to 99·2°. Constipation had been replaced by diarrhœa. On March 15 the former medicine was omitted, and the patient was given liq. hydrargyri perchloridi ℥ss., and tinct. cinchon. co. ℥ss., every three hours, in water. He seemed then in a very hopeless condition; and the stomach and intestinal canal were so irritable that all the nourishment taken passed off almost immediately per anum, in spite of the employment of starch and opium enemata. The patient suffered greatly also from sleeplessness, over which neither chloral nor the bromide of potassium, given at night, seemed to have any effect. March 18: Decided improvement. He "feels stronger." The pulse is 80, and of better volume and power; temperature 98·1°. The urine does not pass involuntarily, and there is very slight power in the legs. On the 17th there seemed to be some loss of power on one side of the face, but this certainly does not now exist; the diarrhœa is so severe that the medicine is to-day discontinued. On the 19th the mixture was resumed, five minims of tincture of opium being added to each dose. The diarrhœa quite ceased on that day, and on the 21st the opium was omitted. From the 18th the improvement in the general condition was steady and rapid. On the 23rd the patient could move the toes and feet, and the legs slightly; he could also move his fingers, and give a feeble grasp with the hands. On April 3 he could just manage to get in and out of bed without help. On the 13th he was able to walk slowly up and down the ward with the help of a walking-stick; he had at this time "twitchings" in the right calf, but no severe spasms or pains anywhere. On March 25 the dose of the liq. hydrarg. perchlor. was altered to one drachm given every four hours, and this was continued till April 30; then it was gradually reduced, and on May 3 changed for quassia and iron. There was never the slightest soreness of the gums, nor any salivation. On May 6 the man was discharged perfectly well.

It may be added that on one occasion after the patient's admission the electric irritability of the muscles and nerves was tested by both the continuous and the interrupted current, with the view of assisting the diagnosis whether the paralysis was *rheumatic*, or in other form *peripheral*, or *central*. It was found that faradic irritability was diminished, but not abolished; and that galvanic irritability was not increased, but also diminished in a similar proportion to the faradic.

NEWCASTLE-ON-TYNE INFIRMARY.

PUERPERAL FEVER—BRIGHT'S DISEASE—THROMBOSIS OF THE FEMORAL VEIN—PUERPERAL CHOROIDITIS—DEATH.

(Under the care of Dr. BYROM BRAMWELL.)

MRS. A., aged thirty-three, was admitted on March 18, 1875, suffering from fever, œdema of the left leg, and loss of vision.

Previous History.—Patient was a healthy woman until two years ago, when she was laid up for three weeks after her confinement with general dropsy. She remained fairly well until a fortnight ago (March 4), when she was again confined. The labour was difficult, owing to the large size of the child. On March 5 she had a rigor, and felt a severe pain in the lower part of the abdomen. On March 7 the right thigh became painful and swollen; she was feverish. On March 11 an abscess, which had formed in the front of the right thigh, burst. The same evening she *suddenly* felt a severe pain in both eyes: the eyes began to water; vision became dim; she thought she saw people pointing swords and pistols at her. On March 12 she completely lost her eyesight, and has not been able to see since. For the last week she has felt a pain in the chest, and has had a cough.

Condition on Admission.—She is quite sensible. Pulse 130, temperature 102·2° Fahr. The tongue is dry and tremulous. She complains of great thirst. The right thigh is much swollen, hard, and brawny. There is a dirty, sloughing-looking ulcer over the lower end of Scarpa's triangle. The feet and legs are œdematous. The urine contains a large quantity of albumen and casts. She is totally blind. The conjunctivæ are much swollen; the pupils irregular. The conjunctivæ are so clouded that ophthalmoscopic examination is impossible. The skin of the face is red and erythematous. The heart sounds are normal, but weak. There is some dulness over both bases posteriorly. Crepitant râles are heard all over the back of the chest. The uterus seems normal, but there has been no discharge since March 5, the day after her confinement.

The treatment consisted in the administration of beef-tea, milk, wine, the tincture of the muriate of iron in half-drachm doses, and quinine.

On March 20 she complained of pain in the right knee and wrist-joints. The parts were slightly swollen. She gradually sank, and died on March 25.

The post-mortem was made twenty-four hours after death. The pericardium and both pleural cavities contained a considerable amount of clear serous fluid. Both lungs were adherent posteriorly. There was a small deposit of tubercle in the left apex. The lower half of the left lung was in a state of pneumonic consolidation. The other portion of both lungs were highly œdematous. The heart was of natural size, its valves healthy, the muscular substance pale. Both kidneys were large and pale, the cortical substance much increased. The right femoral vein was plugged with a firm clot, which was adherent to the sides of the vessel. All the tissues of the eyeball were in a state of purulent inflammation. No emboli were found on microscopical examination (the tissues were much disorganised). There was no pus in any of the joints. The uterus and ovaries were healthy.

Remarks.—The case has been detailed at some length, as it is particularly interesting from the eye affection. Dr. Clifford Allbutt, in his work on the Ophthalmoscope (page 104,

alludes to the condition as one of great rarity. He describes its causation as follows:—"The purulent inflammation begins in the chorio-capillaries, and is apparently due to capillary infarctions, which soften and break up into pyoid forms. From this layer the inflammation extends to the stroma of the choroid, which proliferates and runs down into pus and fat; and thence the retina, the pars ciliaris, the vitreous humour, and even the capsule of the lens, are invaded. The process seems to recede before perforation takes place."

BULLOUS SCARLET FEVER (SCARLATINA PEMPHIGOIDEA, OR PUSTULOSA).

(Under the care of Dr. BYROM BRAMWELL.)

A. B., male, aged thirty-six, a joiner, was admitted on April 12, 1875, suffering from a cutaneous eruption and sore throat. He complained of great debility.

Previous History.—His present illness commenced a week ago with headache, sore throat, and aching in the bones. Several children were laid up in the house where he was at work, with "red rash and sore throat." He has not had syphilis.

Present Condition.—Is very heavy and stupid-looking. Says he is deaf, and "feels quite dazed in the head." On the skin there are several spots which present the characters of pemphigus. In some places the vesicles have been broken and a running sore remains. On the left hand and arm there is a good deal of loose epidermis. On both legs there are many small ecchymoses. On the nates there are some red, angry-looking spots, and some other spots covered with scabs. The scabbed spots are chiefly situated in the fold between the nates, and around the anus. The tongue is perfectly clean, moist, and abnormally red. The throat is considerably inflamed. There is an ash-coloured slough on the uvula and on the back of the pharynx. The pus from the vesicles and surrounding skin was examined microscopically, but nothing abnormal was detected. The blood too was normal. The temperature was 99·8° Fahr.; the pulse 68. The splenic dulness was slightly increased. The other organs and systems were normal.

Treatment.—A mixture containing iron and quinine was prescribed, and the throat was brushed over with a solution of nitrate of silver.

On April 29 he was so much better that he was allowed to sit up. The skin was beginning to desquamate from the whole body.

On May 6 he was quite well, the desquamation still continuing. The temperature never exceeded 101·3° Fahr., nor the pulse 90.

WEST LONDON HOSPITAL.

A CASE OF TIGHT URETHRAL STRICTURE, ILLUSTRATING THE VALUE OF FILIFORM BOUGIES IN THE TREATMENT.

(Under the care of Mr. TEEVAN.)

GEORGE W., a labourer, twenty-eight years old, was admitted into the Hospital on September 4, 1877.

History.—The patient stated that he had contracted gonorrhœa when fourteen years old, and that it was treated by medicines only. It gradually dwindled into a gleet, which hung about him for a long time. Six years ago he had another attack of the complaint, which followed an almost similar course to the first one.

State on Admission.—The patient, who was a healthy-looking man, complained that he was incessantly obliged to make water, and that he could only pass his urine in drops after much straining.

Treatment.—The patient was put to bed the day he was admitted, and at 3 p.m. Mr. Teevan managed to introduce a very fine filiform bougie, which was tied in for twenty-four hours. On September 7 a larger bougie was passed, and tied in for twelve hours. On September 9 a filiform conducting bougie was introduced, and a No. 7 (Charrière = No. 3) silver catheter having been screwed on to it, it followed the "bougie conductrice" into the bladder, and drew off the urine. On the 15th a No. 10 (Charrière) olivary catheter was passed, and tied in for twenty-seven hours, when it was withdrawn, and No. 13 was introduced, but not left in. No. 16 was passed on the 20th. The patient left the hospital the same day, able to make a good stream, and to hold his urine for four hours. He was requested to attend as an out-patient, in order that the dilatation might be carried up to No. 20, when he would be taught to use the instrument himself. The strictures were two in number, one being situated just in front of the root of the penis, and the other at the sub-pubic curve.

Mr. Teevan remarked that the value of filiform bougies in the treatment of stricture could hardly be overrated, for they rendered permeable strictures which were impermeable to catheters; they enabled catheters to be slid over them; and when screwed on to urethrotomes or catheters they conducted them into the bladder. Not only were filiform bougies most useful in the treatment of stricture, but they were invaluable in cases of retention of urine. It was perhaps not generally known that in order to relieve retention it was not necessary to introduce a catheter, for if a fine filiform bougie were passed and left in for a few minutes, urine would usually flow on its withdrawal, so that many cases of stoppage from strictures so tight and narrow that they would not admit any catheter, soft or metal, could be relieved by the smaller bougie. When a bougie was tied in, a patient would often ask how he would be able to urinate, as the instrument was solid; and he could be told that the water would flow by the sides of the bougie. Such annoyances as bleeding, pain, or rigors were almost unknown when filiform bougies were used. Their very weakness constituted a great recommendation, as no injury could be inflicted by them.

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Medical Times and Gazette.

SATURDAY, NOVEMBER 10, 1877.

HYDROPHOBIA.

PROVIDED that the public alarm excited by the growing prevalence of hydrophobia in England does not degrade into unreasoning panic, we shall certainly not regret that the public have been well frightened; since not a little good may come out of it, at least till the present alarm shall have been forgotten. We are all apt to laugh kindly at, if we do not criticise, the late Lord Macaulay's assumption, or affected assumption, that all that he knew must be common knowledge, as conveyed in his oft-used phrase, "Every schoolboy knows," as the introduction to some choice or little-known piece of historical or other lore. But are we not all really somewhat too ready to think that any information which we ourselves have for years possessed, concerning subjects of common and public import or interest, must be common information, must

be things that everybody knows? Hydrophobia has for untold years been a subject of public interest; its mode of communication, the means of preventing it, and the way in which persons bitten by mad dogs should be treated, at once and when the disease attacks (if it should attack) them, have all been treated of over and over again, not only in medical works, but in the daily papers; yet the study of the innumerable letters and of some of the leading articles that are now taking up so much space in the public journals shows that even educated people know almost nothing, and apparently think that the profession know as little, on all matters concerning the disease. We have no intention of entering now into the whole subject of hydrophobia, but mean only to point out some facts regarding it; and to say a few words on the employment of curara in the treatment of the disease in the human subject.

So far as we know, the disease never arises now except by direct inoculation from an animal suffering from it. We have no proof whatever that it can originate spontaneously in man, or in the dog or any other animal. We know that in the vast majority of cases it arises from the bite of a rabid dog. Some cases are traceable to the bite of a cat, but these are comparatively rare—so rare that in considering measures of prevention they need not be taken much into account. We know that after inoculation the disease remains latent for a considerable, and almost indefinite, period—generally for some weeks, sometimes for several months. But Youatt, one of the greatest authorities on the subject, says that there is only one acknowledged case on record in which the disease appeared in the dog after the seventh month from the bite. The idea presents itself, therefore, that the disease might be stamped out by the isolation of every animal subject to it, or at least of every dog, for a length of time exceeding the longest known period of incubation; and it has been actually suggested that it may be necessary to pass "a law making it compulsory that every dog in the land should be kept in a state of isolation for the space of half a year." From what we have said above, it is evident that the period of isolation must, to make such a measure perfect, last at the least for more than seven months; but the utter impracticability of such a proceeding is so patent that it is not worthy of consideration. The slightest thought will convince anyone of the absolute impossibility of carrying out such a measure perfectly in Great Britain; while if not carried out absolutely perfectly, it might altogether fail in stamping out the disease, even for a time; and, moreover, it might at any time be again imported from abroad. We know that the degree of prevalence of hydrophobia has varied very much in different years. In the five years, 1850-54, the number of deaths from it in England and Wales averaged less than one for each million of the population; during the two succeeding terms of five years the average decreased, and in 1862 there was only one death from hydrophobia in all England and Wales. Since 1864 the average mortality from it has again increased, steadily as regards each quinquennial period, though irregularly as regards each year separately. In 1866 the number of deaths from it exceeded 30; then they sank, but in 1869 rose again to 18, in 1870 to 32, and in 1871 to 56; in the next two years they were 39 and 28, but rose to 61 in 1874, and in 1875 were 47. We are not disposed to attempt to connect the drop in the number of deaths with the passing of the Dog Act of 1872, or the increase since 1873 with any carelessness in the working of that Act; but it is a fact that hydrophobia has been most common in those parts of the kingdom where dogs are most numerous, and in which it may be supposed that masterless or unowned dogs are most common. Thus, in 1875, out of the 47 deaths from the disease, 16 occurred in Lancashire, 10 in Yorkshire, 5 in Staffordshire, and 6 in London. Mr. Fleming, the Veterinary Surgeon to the 2nd Life Guards, in a letter to the *Times*, says that he some years ago predicted the late increase of the malady, unless measures should be adopted to check it. What measures can and ought to be taken for that purpose is a matter for the consideration of the Government; but we may venture to say that a rigid carrying out of even the present Dog Act would largely lessen the risk of the disease, by doing away with great numbers of the stray, unowned dogs,—the "curs" and "mongrels" that roam at large, and by which the disease is chiefly spread. We know, next, that a large proportion of the persons bitten by rabid dogs escape hydrophobia; and the reason of this is, most probably, that very many of the bites are on covered parts of the body, so that the teeth of the attacking dog have been wiped free from saliva before the skin was reached: for we know that dogs can be inoculated with rabies by the saliva of a rabid dog, or of a person who has hydrophobia; and we know that the disease has been communicated to man by the contact of the saliva of a mad dog with an abraded part of the skin, without any bite.

Then, with regard to the prophylaxis of the disease, the prevention of it in bitten persons. We may fairly say that we know that the prompt and thoroughly efficient cauterisation, or more certainly still the excision and cauterisation, of the bitten part will insure safety; and we certainly know of nothing else that will. Mr. Youatt has told us that he has employed lunar caustic on upwards of 400 persons, and four times on himself, after bites from dogs decidedly rabid, and in not one of these instances did rabies occur. Cauterisation is often, however, employed inefficiently, or too late; the disease is developed afterwards, and then it is said that cauterisation has failed. In every case of bite by a mad dog a ligature of some sort should, if possible, be applied immediately and firmly above the bitten part—that is, between it and the body; and that, as promptly as possible, the bite should be excised and freely cauterised, or at least cauterised. The agent employed does not much matter—it may be the nitrate of silver or lunar caustic, nitric acid, sulphuric acid, the actual cautery or red-hot iron, etc.,—but the cauterisation must be thorough.

Lastly, as to treatment when the disease is developed. We have no proof that any case of true hydrophobia has ever been cured, unless it is the case we reported in our number of October 6, and which has been since again reported in the *Times*. Alleged specifics have again and again been brought forward, been tried, and been found wanting; and now, as on all former occasions when public attention has been directed to the malady, methods of treatment are recommended that have been thoroughly tested not only years, but ages ago. The eliminative plan of treatment, by drugs, sweating, etc. has been tried in vain so far back as the days of Celsus. Van Swieten and others have tried mercurials; and it has been stated that the Chinese believe that a combination of musk and cinnabar is an infallible cure for the disease. But with us, at any rate, every case has hitherto proved fatal. The case which we have alluded to—Dr. Offenburg's case,—which was treated by curara, does seem to have been a genuine case of hydrophobia, and it terminated in recovery. Curara is a resinous substance said to be used by the Indians of South America for the purpose of poisoning their arrows; and believed to be the watery extract of a climbing plant belonging to the genus Strychnos; but this is doubtful, as the properties of curara are the opposite of those possessed by strychnia. It is soluble in water, and may be introduced with impunity into the alimentary canal, except in very large doses; but if introduced into a puncture in the skin it rapidly kills by paralysing every muscle in the body. Its use in hydrophobia, therefore, is grounded on the rational principle of arresting the spasms by or through which the disease kills, and so curing or gaining time for recovery. Its physiological action has been studied by Bernard (*Compt.-Rend.*, lx., 1327)

and many others; and it has been employed with success in the treatment of tetanus. We reported in our pages (vol. i., page 336) of the present year, a case of tetanus treated successfully, chiefly by curare, in Guy's Hospital by Mr. Durham. The drug ought, therefore, to be fully tried. But it must be tried with great skill and care, as well as with boldness. It is an heroic remedy. If used timidly it will fail, and if employed too boldly it may kill. In the case in which Dr. Offenburg used it, about one-third of a grain was injected hypodermically, and repeated, at intervals of fifteen minutes or longer, according to the effect, till the physiological action was well obtained, and this action was kept up as long as was necessary. At one time the physiological effect was so complete as to affect the muscles of respiration, and artificial respiration was necessary. This must be watched for, but need not excite serious alarm, for, as was taught years ago by the late Sir Benjamin Brodie's experiments with woorara (another name for curara), artificial respiration will maintain life in an animal poisoned by the drug. Under the treatment so boldly and skilfully carried out in Dr. Offenburg's case, the spasms gradually lessened in frequency and intensity, and finally disappeared after the eighth day. We have been at some pains to find out, for the information of our readers, where the drug can be procured, and find that it can be obtained, at a very moderate price, from Messrs. Hopkins and Williams, wholesale druggists, of Hatton-garden; Messrs. Morson and Son, of Southampton-row, W.C.; Messrs. Savory and Moore, New Bond-street; and the General Apothecaries' Company, Oxford-street and Berners-street; and no doubt from other first-class druggists. Messrs. Savory and Moore supply gelatine discs containing it for hypodermic injection; each disc as usually made by them contains only one-hundredth of a grain of the drug, but they can easily be made very much stronger, and are very manageable. The best method of administration will probably be either to use the gelatine discs, or to prepare an aqueous solution of a given strength—say one part of the drug to ten of hot or boiling water,—and then filter it. M. Du Cazal, in his experiments with it, found that it is not wholly soluble in water, and that the unfiltered solution excites great and lasting irritation at the points of injection, while the filtered solution is free from this inconvenience, and produces the whole effect of the poison.

We ought to say that Mr. Fleming states that he published an account of Dr. Offenburg's case in the *Veterinary Journal* in July, 1876; and that a case of hydrophobia, in which curara was employed with apparently some good effect, is reported in the *Boston Medical and Surgical Journal* for May 17 of the present year. It was not successful, but the curara treatment was not fully carried out, and many other drugs also were employed, as morphia, chloroform, and nitrite of amyl. The nitrite of amyl appears to have been of decided service in quelling the spasms. Lastly, it may be observed, for the information of anti-vivisectionists, that what was hitherto known of the effects of curara has been learned by means of experiments on animals; and that one of the difficulties in the way of its prompt and efficient use arises from the Vivisection Act. The drug as we receive it varies greatly in strength, and it can be very easily and quickly tested on frogs. But no one but a licensed experimenter can do this now, and the strength of any specimen of the drug can only be tested without licence on man himself. Two dangers may therefore, in a severe or advanced case, await the unfortunate patient: the surgeon, anxious to get quickly the physiological action of the drug, may have got an unusually potent sample of it, of which an ordinarily moderate dose may prove to be a dangerous one; or, fearing such a result, he may have to waste invaluable time in cautiously testing on his patient the strength of the specimen in use. In the helmsman's anxiety to avoid Scylla his barque may be lost in Charybdis.

THE MANAGEMENT OF ST. THOMAS'S HOSPITAL.

St. Thomas's Hospital has now for a long time been under what we might call a cloud. For many years it existed in a state of semi-hibernation in the Surrey Gardens, and since its removal to its present site its resources have been so crippled, that though 500 beds are available, only 350 have been occupied, thus reducing the Hospital, notwithstanding its pretensions externally, to the level of one of the second-rate London hospitals, as far as the number of its beds is concerned. At last, however, it has dawned upon the minds of some of the governors that such a position is unbecoming in what should be a great public charity; and since the death of the late Treasurer, various schemes have been proposed for its regeneration. At last these schemes took the form of a special report from the Grand Committee to the whole body of governors. A meeting was held last week to consider this report. It was largely and influentially attended, but the report of the proceedings seems to remind us—*mal-àpropos* as it may be where grave aldermen are concerned—of the palmy days of St. Pancras. The gist of the report was this—either that the new Treasurer should be a paid officer of the Hospital, and should attend to its business, residing in the Hospital and looking after its administration; or that, with a Treasurer of the old school, an Acting Resident Superintendent should be appointed to look after the Hospital and Medical School, to keep the minutes of the House Committee, and to conduct its correspondence. This Superintendent *should not be a medical man*. The House Committee above referred to is to consist of the treasurer, almoners, and six governors, two of whom are to be gentlemen who *have been* either Physicians or Surgeons to the Hospital. This Committee are to have full power to make all regulations for their own proceedings, but their business is defined in the report of the Grand Committee. They are to meet weekly, and keep a constant supervision over the medical, surgical, and apothecaries' departments, the nursing, the supply of food, and the sanitary condition of the Hospital generally, as well as of the several wards and the Medical School; and in order that the House Committee may be kept in regular communication with the medical staff, a representative from it is to attend all the meetings, but shall not have the power of voting; and the meetings shall also be attended by the steward and matron, and by any other officer the Committee may think advisable. Every man may look on this scheme as pleases him, but to us as medical men the constitution of the Committee is peculiarly interesting. First of all, two of its members must be former Physicians or Surgeons to the Hospital. Well, we might say, can the Hospital always dispose of the services of two such gentlemen? if so, are they the most eligible representatives of their class, or are they not likely to be *laudatores temporis acti?* Why not appoint at once two representatives of the Hospital Staff and School, instead of thus beating about the bush? True, they may say, but we are to provide for the attendance of such representative, but he has to have no vote—a dignified position truly, for the attendance of the steward and matron is to be provided for in like manner. We suppose that it is out of respect for this unfortunate representative's feelings that the Superintendent, a man of power and authority, is recommended to be *not a medical man!*

Next came the resolutions with regard to the appointment of Treasurer. Here the City was up in arms: to poach on their privileges was a crime indeed! Some respectable and successful tradesman must forsooth be appointed to this purely honorary and unpaid-for post. Curiously enough, we have heard, and we should be glad to be contradicted, that the unpaid post of treasurer to some of our hospitals—St. Thomas's may be among them—is really very lucrative, inasmuch as the treasurer receives the interest on all hospital deposits or current

accounts (which may be kept at his own private banker's) as a solatium for his trouble. There can be no doubt of the enormous power and influence the treasurer yields in many ways; and it is high time he were no longer an autocrat, appointing and ruling the staff with a rod of iron. As to the question of a paid treasurer, who is to do everything—that we hold to be sheer nonsense? With estates like those belonging to St. Thomas's Hospital there is plenty of room for out-of-door management. To master the domestic details of a large hospital requires a man who knows something as to the requirements of patients, doctors, nurses, and students. How is a layman to acquire this knowledge? It certainly does not come by nature. But when it is suggested that this layman shall also look after the affairs of the Medical School, we find the proposed arrangement somewhat too absurd. It is plain that the aldermanic body is resolved to do its best to put in one of their own number as Treasurer; and to Alderman Stone himself we can find no objection. But three things are quite plain to us: (1) that St. Thomas's Hospital and estates sadly want more careful supervision; (2) that neither Alderman Stone nor anybody else can do the double work of external and domestic management efficiently; and (3) that it is far more difficult to get a good and efficient Hospital Superintendent than an Honorary Treasurer. However, we shall see. It may be that St. Thomas's shall yet revive—with good management, it is certain that it will do so. Meanwhile, can it be wondered at that people do not care to bestow their money on an institution managed as this has been.

THE WEEK.

TOPICS OF THE DAY.

A visit of inspection was paid last week by several members of the Metropolitan Board of Works to the West Kent Main Drainage Works at Dartford. We explained the full intention of the present scheme some time ago, when the undertaking was commenced; it will be remembered that it consists of a main sewer fifteen miles long, which begins at Beckenham, and passing through Lewisham, Mottingham, Eltham, Bexley, Crayford, and Dartford, finally discharges itself into the Thames at Long Reach. The works were commenced about nine months ago, and since that time good progress has been made, the total length of sewer already constructed being about three miles and three-quarters; and according to the present rate of progress it is expected that the whole will be completed by the end of the year 1878. The time of completion is anxiously looked forward to by the various districts affected, and it is anticipated that the scheme will eventually prove to be the outfall for a much larger district than is at present arranged for. This contingency has been foreseen and provided against by Sir Joseph Bazalgette, who prepared the scheme, and who is the consulting engineer: in designing the works he has provided sufficient capacity throughout to enable them to meet any extraneous demands which may at any time be made upon them.

There has been recently opened at Leicester a new coffee and cocoa house, on temperance principles. The house is well lit, and is made as much as possible to resemble an ordinary public-house. It contains a handsome billiard-room, and provision is made for games, such as chess, bagatelle, and dominoes. The Mayor, Canon Vaughan, and others were present at the opening. The house has been built, at the suggestion of the Church of England Temperance Society, by a company with a capital of £10,000, the shares being fixed at £1 each, of which only five shillings has been called up.

It is almost incredible that in the present day anyone should be found to object to the utilisation of our metropolitan churchyards, yet at the Consistorial Court of London, held before Dr. Tristram, the Chancellor of the Diocese, a question was raised last week as to the appropriation of the disused burying-ground of St. Matthew, Bethnal-green. The rector and churchwardens had presented a petition for a faculty, or licence, to erect in the churchyard a mortuary and rooms for post-mortem examinations, together with a coroner's court. Some objections have, however, been made on the part of the inhabitants, and the question has been raised on pleadings. Counsel appeared for both the petitioners and objectors; it was stated that the proceedings were closed, and the parties wished to know whether the Court could proceed on affidavits and require witnesses to attend for cross-examination, or whether the case would be heard on *vivâ voce* evidence. The learned Chancellor remarked that the question raised was certainly an important one, and he would appoint the hearing before Christmas on *vivâ voce* evidence. We shall be glad to hear that the objections have failed, and that a faculty has been granted for the erection of these much-required buildings.

At the annual meeting of the promoters of the Hospital Saturday and Sunday collections at Liverpool, held in that town last week under the presidency of the Mayor, Alderman A. B. Walker, it was stated that the amounts contributed in the past five years were as follows:—1873, £9821; 1874, £11,185; 1875, £9716; 1876, £9946; and 1877, £10,019. The Mayor remarked that he felt justified in assuming that the institution might be depended upon to yield at least £10,000 a year, which, capitalised at 5 per cent., represented the magnificent sum of £200,000. The Liverpool hospitals are certainly to be congratulated on the munificent spirit which distinguishes the dwellers in their city; these results, as compared with the annual metropolitan collections for a similar purpose, do not redound to the credit of the first city in the world as regards its charitable impulses.

A useful, if practicable (?), suggestion for diminishing the risk of infectious diseases in private families has been put forward by Dr. McGrigor Croft, one of the Marylebone Guardians; this is to the effect that, in engaging female servants, ladies should make a point of inquiring whether any sickness had prevailed in the families they had just left, and, if so, of what nature. In the event of their seeking employment from private lodgings or institutes, the same question might be asked. He remarks that many instances occur of scarlet fever, small-pox, etc., breaking out in families immediately after the advent of a new servant, who undoubtedly imported the disease. We fear that a great deal of deception would be practised, and many difficulties occur, in obtaining this information; but so, too, it is not easy to find out the nature of the sanitary arrangements of Sarah's own home and of the places she visits on her "Sunday out." Surely it is given to some men to be useful above their fellows.

The present disastrous famine in India has aroused public attention to the question whether it would not be possible to adopt some means for preventing the recurrence of such a deplorable catastrophe; and at a meeting of the Liverpool Chamber of Commerce, held last week, a resolution was adopted, which, whilst deploring the famine and the inadequacy of existing appliances for grappling effectually with so great an evil, expressed a belief that it is incumbent on Ministers to "advise her Majesty to appoint a Royal Commission of skilled men competent to inquire into and report upon the remedial measures best calculated to ward off or to alleviate the horrors attendant upon such a visitation, and especially to direct their inquiries as to the value of works of irrigation and water transit as a principal means of preventing famine." In the discussion, irrigation and canals were strongly advocated, and regret was expressed that Parliament devoted so little time to Indian affairs. How about the rain?

After a somewhat long period of retirement from public agitation, the opponents of the Contagious Diseases Acts have once more come to the front. A meeting, stated to be con-

vened by the National Association for the Repeal of the Contagious Diseases Acts was held last week at the Cannon-street Hotel, the object of the convenors being to lay before the public the result of the deliberations of the Congress lately held in Geneva "for the abolition of Government regulation of prostitution." Mr. William Shaen occupied the chair, and amongst those present were the Right Hon. James Stansfeld, M.P., Mr. W. Fowler, Professor James Stuart, and Professor Sheldon Amos, with representatives of the movement from several provincial towns. Mr. B. Scott moved the following resolution, which was seconded by Mr. W. Ashurst, and carried unanimously:—"That this meeting rejoices to hear of the remarkable success of the first Congress of the British and Continental Federation for the Abolition of Government Regulation of Vice, held in Geneva in September last, and is of opinion that the resolutions so carefully considered and unanimously adopted by the Sections of Morals, Hygiene, Benevolence, etc., will be productive of great good." A second resolution, pledging the meeting to support the National Association in its efforts to insure success for the repeal Bill of Sir Harcourt Johnstone, was then proposed by Mr. Stansfeld, who contended that the obnoxious Acts stimulated the demand for prostitution, and so increased the supply, and, therefore, the danger they pretended to do away with. This resolution was also carried unanimously, and the meeting then separated.

Some little time since we reported that the Lords Commissioners of her Majesty's Treasury, in a letter to the Sheerness Board of Health characterised as "unsatisfactory and insufficient" the explanations tendered by that Board respecting the quashing of a general district rate after a considerable portion of it had been collected—among others, from the Government. The Sheerness Board decided on that occasion to write to the Treasury, asking why the explanations they offered were not considered satisfactory, the Chairman going further, and counselling a petition to Parliament if the Treasury did not withdraw the words used. The Lords Commissioners of the Treasury have now replied to this letter, stating that they can only repeat their opinion that the explanations were unsatisfactory. The Board referred the letter to a committee to report upon.

A somewhat singular cause of death was elicited at an inquest which was held on Monday last, before Dr. Hardwicke, at Stoke Newington-green-road, South Hornsey, on the body of John William Digby, aged seventy-six. The widow of the deceased said he was a tutor, and enjoyed very good health. On Sunday week last, whilst they were dining, she heard a peculiar noise as of choking, and perceived that the deceased had swallowed his artificial teeth. She at once put her fingers into his mouth, but to no purpose. Dr. Welsh, who was called in, attempted to remove the teeth, but he failed to do so; after which, Mr. Durham, of Guy's Hospital, was summoned, but also failed to accomplish their removal. Morphia was administered, but the deceased grew worse, and expired on the following Wednesday. Dr. Welsh deposed that he attended the deceased, and found that he could not get the teeth up. He had made a post-mortem examination, and found that death had resulted from shock, and injury to the throat. The reason why the teeth could not be removed was because the crooked portion of the plate had caught in the muscles of the throat. The jury returned a verdict of accidental death.

An outbreak of small-pox in the Isle of Man appears to be of rather a serious character. Since July 18 there have been 102 cases in Douglas, twenty-eight of which have been fatal.

The Medical Officer to the Kingston-on-Thames Sanitary Authority, Dr. Price Jones, has reported to that Board that the water of the Lammas Well, on the property of Mr. Money Wigram, at Esher, should not be used for drinking purposes unless well filtered. One of the Esher Guardians stated that the water of the well in question was always drunk by her Majesty when staying at Claremont. The Board resolved to send a copy of the analysis made by Dr. Price Jones to Mr. Money Wigram.

At the meeting of the Metropolitan District Asylums Board, held on Saturday last, the usual fortnightly returns from the various small-pox hospitals under the control of the managers were announced to be as follows:—Admitted, 98; died, 16; discharged, 60; remaining under treatment, 184. In the previous fortnight the numbers were:—Admitted, 81; died, 21; discharged, 44; remaining under treatment, 162: or an increase in the last fortnight of 22.

DIMINUTION OF THE GASTRIC HYDROCHLORIC ACID IN FEBRILE CONDITIONS.

An interesting illustration of the relation of the hydrochloric acid of gastric juice to the febrile process is afforded by a case reported by Dr. Von den Velden, assistant to Professor Kussmaul, at Strasburg, in the *Berl. Klin. Woch.* (No. 42, 1877). The patient, a man of sixty, had suffered from gastric symptoms for about ten years, which latterly assumed the character of those of dilatation of the stomach, pain in the epigastrium, repeated vomiting, etc., which reduced his strength to such a degree that he was obliged to enter the hospital for relief. He was admitted on February 27, 1877, and treated with the stomach-pump with great benefit, and the disappearance of the vomiting. The fluid which was pumped out (in the morning, before breakfast) was generally quite clear and ranged in quantity between 100 and 700 cubic centimetres. At first it contained sarcinæ and torulæ, with abundance of peptones, and a gradually diminishing amount of undigested food. The percentage of hydrochloric acid was determined by Resch's colour test (described in the *Zeitschrift für Phys. Chemie*, Bd. i. 3), and varied between 0·025, 0·03, 0·05, 0·13, 0·15, 0·16, and in one instance 0·3 per cent. In May, when the patient's improvement had become so great that he was about to leave the hospital, he began to suffer from diarrhœa, and on June 7, headache, fever, and general *malaise* ushered in an attack of typhoid fever (source not stated), which ran a normal course, and terminated about the twenty-second day. During the attack the stomach-pump was used daily before breakfast, and the liquid removed carefully examined. In quantity it was less than previously, and scarcely reached 100 cubic centimetres. The main difference in its composition revealed by analysis was *the absence of free hydrochloric acid*, although its reaction was faintly acid, probably from the presence of lactic or acetic acid. A flake of fibrin remained quite undigested whilst in some of the filtered liquid in the cold; whereas the addition of an equal volume of 0·2 per cent. dilute hydrochloric acid caused its rapid disappearance. On the cessation of fever, on June 7, Dr. Von den Velden naturally expected that hydrochloric acid would again be found in the gastric liquid. He had, however, to wait until the *eighth* day after the temperature had become normal before traces of it reappeared. On the *ninth* day 0·08 per cent. was detected, and from this time onwards the percentage ranged between the limits mentioned above. It might be objected that since in this case the gastric contents were removed before food had been ingested, the absence of acid might depend on the absence of a stimulus to its secretion; but this objection fails, because the patient happened one morning to breakfast before being pumped, and still not a trace of free hydrochloric acid was present. The absence of acid was also not due to the patient's diet during the period of fever, for the latter consisted, *inter alia*, of milk, *bouillon* containing eggs, and other nitrogenised substances, in the presence of which acid juice would normally be secreted. Lastly, there was no increased secretion of alkaline mucus which would mask the free acid by neutralising it as soon as secreted. This case confirms the observations of Pavy, Hoppe-

Seyler, Manassein, Leube, Uffelmann, and others, that it is the acid, and not the pepsin, of the gastric juice which suffers diminution in fever, and it suggests the more extensive use of hydrochloric acid during the period of elevated temperature.

THE QUARTERLY REPORT OF THE REGISTRAR-GENERAL TO SEPTEMBER LAST.

The quarterly return of the Registrar-General, of births, deaths, and marriages registered in England during the period ended September 30 last, has just been made public. The figures show the births of 276,968 children, and the deaths of 144,528 persons of both sexes; the recorded natural increase of population thus being 132,440. The death-rate of the quarter was no less than 3·1 per 1000 below the average rate in the ten preceding corresponding quarters, and was mainly due to the low summer temperature, which favoured exceptionally low rates of infant mortality, and especially of mortality from diarrhœa.

The comparison of the health of England with that of the principal cities abroad may not prove uninteresting. A summary of the weekly returns received by the Registrar-General from various local authorities abroad shows that the average annual death-rate during the third quarter of the present year, in thirty Indian and foreign cities, was 31·8 per 1000, against 20·5 in twenty of the largest English towns. The population of these thirty foreign cities is estimated at rather more than eleven millions. The lowest death-rates in these cities were 19·0 and 21·0 in Christiania and Copenhagen; whereas the rate was equal to 51·0 in Alexandria, 53·2 in Bombay, and 125·4 in Madras. The 12,419 deaths in Madras included 3010 from dysentery, 1131 from cholera, and 943 from small-pox; thns, excessive zymotic fatality is partly attributed by the Medical Officer to the immigration of crowds of half-starved fugitives from the surrounding famine-stricken districts. In Calcutta 218, and in Bombay 1129 deaths were referred to cholera. Typhoid fever caused 322 deaths in Paris during the quarter, against 386 and 212 in the two preceding quarters; in Paris the annual death-rate from this disease was equal to 0·65 per 1000, while it was only 0·23 in London. In St. Petersburg and Philadelphia typhoid fever was especially fatal. Small-pox was more or less prevalent in Madras, Brussels, and Vienna, though in each of these towns the fatal cases showed a considerable decline from those in the preceding three months. In Berlin 269 deaths resulted from scarlet fever; this disease also prevailed in Stockholm, Brooklyn, and Philadelphia. To diarrhœa or diarrhœal diseases 3111 deaths were referred in Berlin, 460 in Munich, 2675 in New York, and 1193 in Brooklyn. Whooping-cough caused 130 deaths in Alexandria.

HEALTH OF ST. GEORGE'S, HANOVER-SQUARE.

In his annual report on the sanitary condition of the parish of St. George's, Hanover-square, for the year 1876, Dr. W. H. Corfield, the Medical Officer of Health, remarks that the year in question was a very healthy one for the parish, and indeed for London generally, in spite of the fact that an epidemic of small-pox was prevalent. The corrected death-rate for his district shows a result of 18·2 per 1000 per annum, or lower than either last year or the year before. The deaths of children under one year were also less than in either of the three preceding years, and the percentages of such deaths to the registered births—except in one instance—and to the total deaths were also less than in either of those years, which must be pronounced to be satisfactory; and Dr. Corfield states that the infantile mortality of the parish, though small, would be still less were it not for the infanticides committed in the Parks and in the Serpentine. Allusion is made to the fact that only two out of twenty-two deaths from scarlet fever, and only one out of thirty-three deaths from "fever," were reported to the inspector, showing strongly the necessity for the Medical Officer of Health being provided at once with a return of all deaths from infectious diseases. Dr. Corfield would appear to have succeeded in impressing this important fact upon the authorities of his parish, as he states that "this has since been done, so that I now receive immediate information, and am able to take measures to prevent the spread of these diseases." Even a West-end parish like St. George's, Hanover-square, is not without some blots in the shape of low and unsanitary courts and alleys. In the beginning of the year 1876 Dr. Corfield made a special report on the condition of Street's-buildings, May's-buildings, and Lancashire-court, which resulted in his reporting the latter locality to the Metropolitan Board of Works as a suitable area to be dealt with under the Artisans' and Labourers' Dwellings Act; the Board, however, declined to deal with it, and various sanitary improvements have since been carried out at several of the houses.

PROVINCIAL STUDENTS.

The following is an abstract of the annual return of the Royal College of Surgeons, of gentlemen pursuing their professional studies at our recognised provincial schools, which has just been made to Mr. John Birkett, the Government Inspector:—

	1877	1876.	1875.
Owens College, Manchester . . .	11(	110	119
Leeds School of Medicine . . .	6(	54	45
Liverpool Infirmary School of Medicine .	5(	53	63
Cambridge University School . .	2(	42	36
Durham University College of Medicine	3(	31	28
Bristol Medical School	3(	40	31
Queen's College, Birmingham . .	5(	34	59
Sheffield Medical School . . .	2(	17	17
Totals . . .	41	381	398

It will be seen that this session Queen's Collge, Birmingham, has an increase of twenty-three over the las, followed by the Leeds School of Medicine with fifteen, Durham University College of Medicine six, Sheffield Medical School five, and Owens College, Manchester, four. There is a decrease of fourteen at the Cambridge School, of six at the Bristol Medical School (owing, no doubt, to the circumstance we recently published), and of three at the Liverpool Infirmary School of Medicine. Perhaps the following totals of medical students at provincial schools from 1867 to 1877, inclusive, will be interesting to many of our metropolitan as well as provincial teachers:—

In 1867 there were	257	students	In 1872 there were	402	students
1868	,,	284	,,	1873	,,	455	,,
1869	,,	330	,,	1874	,,	453	,,
1870	,,	357	,,	1875	,,	398	,,
1871	,,	368	,,	1876	,,	381	,,

In 1877 there are 413 students.

The following comparative table, showing the numbers of metropolitan and provincial students respectively during the past decade, will no doubt be read with great interest by town and country teachers and their pupils:—

	Metropolitan.	Provincial.	Total.
1868 . . .	1,194	284	1,478
1869 . . .	1,241	330	1,571
1870 . . .	1,298	357	1,655
1871 . . .	1,475	368	1,843
1872 . . .	1,496	402	1,898
1873 . . .	1,650	455	2,105
1874 . . .	1,745	453	2,198
1875 . . .	1,769	398	2,167
1876 . . .	1,744	381	2,125
1877 . . .	1,923	413	2,336

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND

At the monthly business meeting of the College, held on Friday, November 2, the Fellows present being twenty-one

in number, an adjourned debate took place, and was concluded on a motion by Dr. Grimshaw, seconded by Dr. James Little, that the following resolution, passed on February 21, 1868, be repealed:—"That in future no King's Professor in the School of Physic shall be allowed to hold an appointment as medical officer to any clinical hospital other than that of Sir Patrick Dun. This rule not to affect existing arrangements." The College was equally divided on the question, and the motion was carried by the casting vote of the President, who, before putting the motion, and while speaking strongly in favour of a rule which would prevent a Physician or Surgeon holding two clinical hospital appointments—pluralism,—observed that by that rule the King's Professors were left no option as to whether they should continue to hold appointments in other hospitals, or should of necessity surrender such appointments and become members of the staff of Sir Patrick Dun's Hospital. In his reply, Dr. Grimshaw showed clearly that "The School of Physic Amendment Act" (30th Vic., cap. 9) provided that the College of Physicians should have power to appoint Physicians to Sir P. Dun's Hospital should the King's Professors not wish to undertake clinical duties in that institution. If, as outsiders, we may give an opinion on the points at issue, we cannot but express our regret that the relations between the School of Physic in Ireland and Sir P. Dun's Hospital should be so close as to demand the compulsory service of the Professors in the School as Physicians and Surgeons to the Hospital. In our opinion, it by no means follows that the best school lecturers necessarily make the best clinical teachers. And further, we think it inimical to the interests of the School of Physic that its Professors should be obliged to accept office only on pain of forfeiting their previous hospital appointments and of becoming members of the staff of a small, albeit a well-appointed, institution like Sir P. Dun's Hospital, where the opportunities for clinical research are of necessity extremely limited.

ARMY MEDICAL EXCHANGES.

We fear that one or two of our contemporaries have been rather premature in announcing that one of the most substantial grounds of discontent amongst army medical officers has been removed—namely, prohibition of exchanges. As far as we can learn, the rule of considering every individual case upon its own merits is still in force. There may perhaps be a disposition to forward the views of officers as much as possible when the interests of the service are not compromised, but we believe we are right in stating that exchanges for the persistent evasion of foreign service would still most certainly be refused; and we can only hope, in the absence of any official declaration on the subject, that this is the only class of exchanges against which the authorities at the Army Medical Department will now set their faces.

THE INDIAN FAMINE.

The latest news from India with regard to the famine and the food-supply prospects is as satisfactory as possible. A telegram, received at the India Office from the Viceroy, dated November 3, states that in the Madras Presidency the north-east monsoon has burst favourably everywhere except in Ganjam; that, with the exception of the same district, the crop prospects are good, rainfall sufficient, and prices of food falling. The numbers of persons on the relief works and receiving gratuitous relief were steadily decreasing, and the condition of the people was improving. The reports from all other parts of India were also good, excepting that in Scinde "harvests are short." And the most telling proof possible of the happy change since the rains came was received by the Executive Committee of the Mansion House during their meeting on the 5th inst., in the shape of a telegram, dated that day, from the Duke of Buckingham, the Governor of Madras, to the Lord Mayor, announcing that the Executive Relief Committee concurred with him in thinking that "under the present favourable prospects, we gratefully say that the collection may cease." A telegram was also received from the Secretary of the Relief Committee, stating—"With reference to the Governor's telegram, please remember that we shall continue active operations with the munificent funds supplied to us till January or February." The Mansion House Fund is therefore now closed, and the Committee will only continue to receive donations already promised or collected by local committees, or from other sources. The funds entrusted to the Lord Mayor already amount to £451,000, and considerable sums have still to be received; so that whether the Fund reaches or not the half-million spoken of, a grand and most pregnant proof has been thus given to our fellow-subjects in India that we in England do feel a most real and practical interest in their welfare, and are ready to give them prompt and most material aid in their distress.

MEDICAL SOCIETY OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

The annual general meeting of this Society was held on Wednesday evening, October 31, in the Hall of the College of Physicians, Kildare-street, Dublin. The chair was taken by Dr. Thomas Fitzpatrick, Honorary Fellow of the College. The election of officers and Council for the session of 1877-78 resulted as follows:—*President:* Samuel Gordon, M.D., President of the College (*ex officio*). *Vice-Presidents:* James Little, M.D., Vice-President of the College (*ex officio*); Sir Dominic J. Corrigan, Bart., M.D., ex-President; William Stokes, M.D., D.C.L., F.R.S., ex-President; Alfred Hudson, M.D., ex-President. *Council:* J. Hawtrey Benson, M.D., F.C.P.; James Foulis Duncan, M.D., F.C.P.; John Magee Finney, M.D., F.C.P.; Arthur Wynne Foot, M.D., F.C.P.; Thomas Wrigley Grimshaw, M.D., F.C.P.; Reuben J. Harvey, M.D.; Thomas Hayden, F.C.P.; Henry Kennedy, M.B., F.C.P.; Stephen Myles MacSwiney, M.D., F.C.P.; John William Moore, M.D., F.C.P.; Walter George Smith, M.D., F.C.P. *Honorary Secretary:* George Frederick Duffey, M.D., F.C.P. The report of the Council for the past session was read by Dr. Duffey, Hon. Secretary, and was unanimously adopted. It contained a recommendation that, in future, discussions on clinical cases or observations should occasionally take place at the meetings of the Society. The opening meetings for the present session will be held on Wednesday evening, November 14, when the President (Dr. Gordon) will give an inaugural address.

The General Hospital, Birmingham.—At a meeting of the Committee, held yesterday, Philip Bindley, M.B. Lond., and Robert Saundby, M.D. Edin., were elected Assistant-Physicians to this Hospital; and Wm. G. Archer, M.A., M.B. Cantab., M.R.C.S., and Thomas F. Chavasse, M.B., C.M. Edin., M.R.C.S., Assistant-Surgeons, for attendance upon out-patients. It was resolved to declare the recently created offices of Obstetric Officer and Ophthalmic Surgeon vacant; the election to take place on the 28th inst.

Surgical Society of Ireland.—The ballot for the election of a Council for the session 1877-78 took place at the Royal College of Surgeons, Stephen's-green, on Monday, November 5. The following are the new officers of the Society:—*President:* Robert McDonnell, F.R.S., President of the College. *Vice-President:* Philip Crampton Smyly, Vice-President of the College. *Council:* John Barker, Charles Benson, Philip Bevan, Richard George Butcher, William Colles, Anthony H. Corley, Henry Gray Croly, Edward Hamilton, James Stannus Hughes, Archibald H. Jacob, Benjamin Francis McDowell, Rawdon Macnamara, Edward Dillon Mapother, Humphrey Minchin, George Hornidge Porter, Benjamin Wills Richardson, M. Harry Stapleton, William Stokes, Jolliffe Tufnell, Henry J. Tyrrell, Albert Walsh. *Honorary Secretaries:* Benjamin Wills Richardson, Jolliffe Tufnell. The first meeting of the Society will take place on Friday evening, the 23rd inst.

VIRCHOW ON THE PENGE CASE.

We have received, through the courtesy of Professor Virchow, a copy of his pamphlet (a *Separat-Abdruck* from the *Berlin. Klin. Wochensehrift*) on the "Penge Case," and we have much pleasure in laying a translation of it before our readers; and it will be observed that the celebrated German pathological teacher supports the doctrine we advocated in our leading article of October 6 on the subject. We hope, now that public attention has been so strongly drawn to the shortcomings of our post-mortem system (if we may be allowed the expression), that the necessary alterations will soon be officially initiated, and that the humiliating spectacle of another "Penge Case" will thus be avoided. We would take this opportunity of reminding our readers that Virchow has recently published a little work on "Post-mortem Examinations, with especial reference to Medico-Legal Practice"(a) (the translation of which first appeared in these columns), to which we would again draw attention:—

The English medical journals have during the past two or three weeks contained a number of leading articles, special reports, and individual opinions, all with the same heading —"The Penge Case." The case in point is a criminal one, in which the indictment declares that the death of Harriet Staunton, of Penge, in the county of Kent, was brought about through starvation. The unusual sensation which this case created, and which found expression even in political papers, is to be explained chiefly by the energetic opposition which this indictment met with among medical men. The exhaustive arguments of Drs. Greenfield and J. F. Payne are to be found in the *British Medical Journal* of October 6, pages 495 and 497, and in the *Lancet* of the same date, page 492. It was these arguments which induced an English medical man to request me to express my opinion concerning the case, as he feared that the excitement of the public mind in his own country was too great to allow of a thoroughly unprejudiced opinion on the part of English medical men.

Indeed, to read the editorial comments of the *Lancet* and *British Medical Journal* side by side, amply suffices to show how totally opposed are the views of the various parties. Thus, while the editor of the *British Medical Journal* congratulates the court on its verdict of guilty, and sees in the summing-up of the judge a vindication of English justice, the *Lancet* organises a petition praying for the intervention of the Secretary of State, and for a pardon for the condemned prisoners, lest they should fall victims to an unjust sentence. As the papers announced, this petition has been successful; therefore the following criticisms are directed to the purely scientific aspect of the case, as indeed it is right that they should be.

Nevertheless, I would have kept silence if the points at issue had referred to this individual case alone. On the contrary, this case seems to me peculiarly suited to bring on for discussion the cardinal questions of the position of medical men in medico-legal cases in general, and especially as regards the methodical performance of *post-mortem* examinations. I can do this the more unrestrainedly, inasmuch as the *Medical Times and Gazette* (also in a leading article on October 6, page 392) has already arrived at the same conclusions as those which I am now about to formulate. This article condemns in the strongest language the unskilfulness with which the post-mortem examination was made, and demands a reform in the system of giving medical evidence in England. The writer, speaking of the medical evidence, says, "It shows the utter folly of leaving such inquiries in the hands of men not specially trained to, and skilled in, such inquiries"; and concludes with, "It is high time the system of medical evidence in criminal cases was reformed."

If we review without prejudice the medical technicalities which the case presents, we find that there are two chief points of reproach.

The first, which, by the way, is admitted on all hands, relates to the manner in which the autopsy was made, and to the drawing up of the report (protocol)—that is, of the written notes of the result of the autopsy. If the former was in the highest degree unsatisfactory, the latter was certainly culpably careless. The original protocol is to be found in the *British Medical Journal* (page 495). At all events, to judge from its general form, we must accept as such the "Notes of a post-mortem examination the body of Harriet Staunton," at the commencement of which Dr. Wilkinson, Dr. Longrigg, and various other persons, among which several medical men are named, are stated to have been present. In the *Lancet* (page 512) the same Dr. Wilkinson, on his own responsibility, gives an extract from his own notes, taken during the autopsy, *which differ in essential points from those already mentioned.* For instance, in the protocol it says:—

"On removal of skull-cap, *adhesions* were found between this and the dura mater and *arachnoid or fibrous (and serous) membranes enclosing the brain*, and between this last and the pia mater (or internal membrane of the brain itself), *showing the existence of previous inflammation*"; while in Dr. Wilkinson's summary it is recorded, "There was no trace of meningitis, *no adhesion*, and no effusion."

If ever a case demonstrated how necessary are the strict regulations of our criminal procedure as regards *post-mortem* examinations and the method of reporting them, surely it is this one. A portion of the French press protested with great vehemence against such minute and despotic instructions, on the occasion of the publication of the new Prussian regulations, in which they were contained, and many of our own medical men in Prussia are only too much inclined to agree. But, notwithstanding, whoever forms his opinion on something else than mere theory, whoever has had personal opportunity of seeing how the entire worth of a technical medical examination may almost be destroyed owing to a superficial and careless *post-mortem* examination, and still more to an ambiguous and unintelligible manner of recording the same, will not for one moment doubt that it is desirable, both in the interests of justice and still more in those of the medical profession, that a definite method of proceeding in all criminal cases should be imposed on us as an obligatory duty. What must a judge or statesman, or even the public, think of professional men who not only are not able to agree as to facts, but who afterwards differently depose as to facts which they have jointly observed?

(*To be continued.*)

(a) "Post-mortem Examinations, with especial reference to Medico-Legal Practice." By Professor Rudolph Virchow. London: J. and A. Churchill. 1876. Pp. 86.

THE SICK AND WOUNDED IN THE RUSSO-TURKISH WAR.

(*Concluded from page* 499.)

(Y.) *Extract from Dr. McQuean's Letter from Cherissa.*

September 13, 1877.

On August 29, Dr. Beresford and myself, accompanied by Mr. Pratt, arrived at Yeni-Kieni with the intention of forming a temporary hospital there, and of using our waggons to transport the wounded from the field to our hospital, and from there as soon as possible to the nearest large hospital in the rear. We found a Turkish hospial already established in the best houses of the village, so that we had some difficulty in securing suitable places for our hospital, but at last fixed upon a house capable of containing twelve beds, and a large hay-shed, which we had cleared out, capable of containing twenty or twenty-five beds.

On the 31st we set out with our arabas and cacolets, horses and work, over the battle-feld of the previous day along with Dr. Cruikshank and Dr. Roy, but found no wounded.

The few sick or wounded that came into the village were taken to the Turkish hospital, where they lay without anything being done for them—several cases of gunshot wounds with bullets unextracted, smashed fingers requiring amputation, etc. When asked why they did not operate, they said they had not proper instruments, and afterwards that they had received orders not to operate; and though we begged to be allowed to operate or to take charge of the cases, we were always put off for a day or two, and then the cases sent off to Eski-Djuma untouched.

On the 4th we had five sick soldiers in our hospital. We transported from the Turkish hospital at Yeni-Kieni to Eski-Djuma on the 30th nine sick and wounded, and on the 3rd twenty sick and wounded.

On the evening of the 6th Mr. Pratt arrived from Cherissa,

where he had seen numbers of wounded unattended to, so, as there was no work at Yeni-Kieni, we started off early next morning, and arrived here late in the afternoon. We found numbers of wounded lying about the streets in a deplorable state, with undressed wounds and unset fractures. We got them as comfortably housed as possible, with mattresses and blankets for the bad cases, and distributed bread.

Early next morning we dressed seven fresh cases and performed amputation of the thigh on a poor fellow we found the evening before, lying on the bare floor of a room, suffering great agony from a gunshot smash of the leg, the wound being in a bad state, swarming with maggots.

We fortunately were able to buy a supply of bread from a passing cart; sent off an araba to Rasgrad for two sheep to make soup for the wounded.

On the 9th we were able to secure seven arabas, and transported fourteen sick and wounded to Rasgrad (six or seven hours from here), and in the course of the day we treated thirteen sick and wounded, and sent them off the next morning to Rasgrad. On the 10th we treated seven fresh sick cases, and on the 11th one.

To-day Dr. Beresford has taken all the cases from here to Rasgrad. These include the amputation case, which has been doing famously.

Dr. Beresford and I have almost come to the conclusion, after consultation with Busby, Wattie, and Cruikshank, that we must get up our tents and join a division, as it is impracticable to work in the villages.

(Z.) *Hayes' Section (from Dr. Hayes).*

[Copy.] Varna, September 13.

[*Note.*—This report was written in answer to one suggesting the advisability of suspending the Varna Town Transport. It is doing extremely good work, and want of funds alone will compel me to abandon it.—V. B. K.]

I have the honour to acknowledge receipt of your memorandum dated 11th inst., also a list of cases and contents. Yesterday I had the cases sent up in the boat, and to-day they were sent up the line addressed to Dr. Busby.

I note your opinion that a large town transport is unnecessary at Varna, "and that we must cut down that item of our expenditure." If you send me an order to abolish the ambulance carts here, I shall immediately carry out your instructions. In the meantime, I send you a sort of list of the whole thing, and you will be able to judge if the expense or size is too great for the Stafford House Funds; at present the cost of working it is, roughly speaking, seventy Turkish liras a month at the outside.

I have arranged that at Sheylandjik the wounded have soup ready for them, and they have already partaken of it, and enjoyed it much.

On the night of the 9th I received 553 wounded at the station here; on the 10th, 229; on the 11th, 69 very badly wounded. On all these occasions I personally assisted and superintended the matter, and our waggons were of much service. Dr. Lake is now here; he arrived on the night of the 11th. The trains conveying wounded often arrive after 10 p.m., and we have been at the station as late as 1.30 a.m. next day before we could get all the wounded away.

My reasons for having established the local transport service were, that when I came here everyone was loud in complaining of the way in which the sick and wounded were received here on their arrival; that they were left all night in the station, etc. So I set to work to remedy this, and since we have been here no wounded have been left; they have always all been carefully removed. Often have I been down when there was no one on the part of the civil or military authorities to receive them, and our people have carried them to the ambulance waggons. I must say that, stimulated perhaps by the example of others, the authorities seem to be working out of their lethargy now, and to be becoming alive to the fact that badly wounded men cannot walk, and require somewhat tender removal.

(Signed) J. E. D. Hayes.

Transport List or Notes.—Rasgrad: One man permanent and three occasional bearers; one man to travel with train to see after soup, etc. Shumla Road: One man. Varna: One chaousb, seven drivers, four bearers, one vitalis piperus, thirteen horses, six pair-horse waggons, one single-horse waggon, twenty-two mattresses, twelve stretchers. On the Railway Line: Eight stretchers, eighty carriage cushions, thirty-five mattresses.

Note.—Five pair-horse waggons take two persons each; one waggon, one man full length or three sitting; one waggon, six men sitting. The waggons have sometimes to make four trips per station to hospital.

(Signed) J. E. D. Hayes.

(D.) *Hôpital du Croissant Rouge à Varna.*

No. 10.—Cullen's Section, Varna.

Varna, le 16 Septembre, 1877.

J'ai l'honneur de vous remettre ci-joint copie du tableau que j'ai addressé au Comité Central du Croissant Rouge à Constantinople, comprenant la statistique du mouvement médical de cet hôpital du 21 Août époque, à laquelle nous avons commencé de recevoir des blessés jusqu'au 31 Août, vieux style.

Il resulte de ce tableau, que durant ce temps nous avons soigné 49 blessés juste le nombre des lits que l'hospital peut disposer.

De ces 49 blessés, 1 a guéri, 3 sont morts, 11 devra rester encore sous traitment, et 34 étaient susceptibles d'être evacués.

(Signé) D. Konvaros.

Etat du Mouvement Médical de l'Hôpital du Croissant Rouge à Varna du 21 au 31 Août, 1877, vieux style (2 au 12 Septembre).

Blessures des malades et accidents qui les ont compliquées.						
Blessures dans la tête avec lesion de l'encephale par coup de bayonette ou sabre	1	..	..	1	..	
Scorchure dans le visage par coup de feu	1	..	1	..	..	
Sillon transversale dans le visage par coup de feu	1	1	..	..	..	
Plaies dans les cuisses par coup de feu	12	8	..	1	3	Dont 3 avec fractures.
Plaies dans les jambes par coup de feu	5	4	..	..	1	1 avec fractures.
Plaies dans les bras	8	8	..	..	..	2 avec fractures.
Plaies dans avant bras	6	6	..	..	..	
Plaies dans cou	3	3	..	..	..	
Plaies dans épaules	2	2	..	..	..	
Ablation de la partie antérieure du maxillaire inférieur par coup de feu	1	1	..	..	..	L'un de ces trois morts, au quel j'ai extrait pur une contre ouverture la balle, est décédé par suite d'une infection purulente; les deux autres par une hémorrhagie intestinale.
Plaies du tronc par coup de feu	1	..	..	1	..	
Plaies dans les pieds par coup de feu	4	..	..	..	3	
Brûlures (second degré)	4	..	..	..	4	
	49	34	1	3	11	

(C.) *Copy of a Telegram received from Mr. Cullen.*

Philippopolis, September 18, 1877.

Sketchley went on to Bazardjik with stores and medicines for Temple Bey and Dr. Moore. Large numbers of wounded are walking the whole of the way between Arimia, Sophia, and Bazardjik, in bad condition. No transport service. Temple Bey urgently solicits the presence of our transport service, and supplies are badly provided for.

(D.) *Copy of a Telegram sent by Dr. Neylan.*

Philippopolis, September 17, 1877.

One hundred and fifty wounded arrived here last night.

Barker will leave with some to-morrow. I go with him for a few days, being ill. Minassian temporarily in charge. Manvury and Wood have hospitals. Total of wounded here at present, 850; all going well.

(E.) *Copy of a Telegram received from Dr. Neylan.*

Philippopolis, September 16, 1877.

Stores received. Gave Wood a hospital. Manovitch going to Plevna. Stoker just brought twenty serious cases, and the Turks 300 more. We can accommodate all the bad cases here. Dragoman wanted. Colley returning invalided. All going well.

(F.) *Telegram from Kennett.*

Kezanlik, September 17, 1877.

Nine hundred fugitives have no food for the last three days. I have distributed all my private money. See Layard. The road from Sophia is one string of Turkish fugitives. Urgent need. Sophia messenger arrived says only one foreign doctor; crowded with wounded; gangrene, and many deaths. Wounded arrive down here in very bad condition.

Bond Moore.

(H.) *List of Wounded that arrived at the Serkedji Station, Constantinople.*

Sept.	, 1877.—By	first	train .	406
„ 6,	„	second	„ . .	662
„ 7,	„	third	„ . .	709
„ 8,	„	fourth	„ . .	538
„ 10,	„	fifth	„ . .	300
„ 12,	„	sixth	„ . .	401
„ 13,	„	seventh	„ . .	238
„ 15,	„	eighth	„ . .	281
„ 17,	„	ninth	„ . .	297

Wounded who have been supplied with soup, tobacco, coffee, bread, etc., at the Stafford House Soup-Kitchen.

Making a total of 3,832 wounded received up to this date, Sept. 17, 1877.

FROM ABROAD.

Lesions of Bone in Hereditary Syphilis.

In the *Gazette des Hôpitaux*, No. 111, we find some notes of an interesting lecture delivered by Prof. Parrot at the Hôpital des Enfants-Assistés, on "Bony Lesions by the aid of which we may diagnose Hereditary Syphilis."

"When young infants," he observes, "are emaciated, whether from the fact of the disease itself or from any other cause, there are certain parts of the bony system on which it is possible, with a little attention, to discern certain indications of syphilis. The first region towards which the physician should at once direct his attention when he suspects in a child the existence of syphilis, and in the absence of all other clinical manifestations, is the inner surface of the tibia. There, in fact, in place of that habitual depression which exists in all healthy subjects of good conformation, is found a true bony tumefaction, in convex relief. Sometimes the swelling exists in a general manner, occupying the whole of the inner surface of the tibia; while in other cases, which are, however, exceptional, in place of this general thickening of bone we meet with small projections or tuberosities, separated from each other by depressions. Another point which should also be carefully examined is the lower part of the humerus. But while the tibia, owing to its superficial position, easily lends itself to investigations, these are less easily conducted on the humerus. This, in fact, especially at its lower end, is covered by numerous muscles and tendons, and the skin is notably thicker at this part; so that all these conditions impede the perception in a very evident manner, especially when not sufficiently habituated to it, of bony lesions, the existence of which it is of importance to verify. However this may be, when, in a child the subject of syphilis, we lay hold of the lower part of the arm, grasping it from before backwards, we find a more or less considerable increase of thickness of the humerus. Nothing, indeed, is more easy than to overlook this lesion, especially when not familiarised with this examination, and not accustomed to these children; but in doubtful cases it is sufficient, in order to convince oneself that the bone is really affected, to first of all grasp the middle of the humerus, and then let the fingers slide down to its lower extremity. We then perceive, on comparing the thickness of the diaphysis of the bone with that of the epiphysis, a pretty notable difference in favour of the latter.

"Another very important sign which you will meet with in a considerable number of cases, but at a somewhat more advanced age, about the seventh, eighth, or twelfth month, is the following:—When the cranial surface is inspected, not only do we perceive that it is very devoid of hair (a circumstance common enough in individuals quite free from syphilis), but we are struck by the presence of prominences disseminated around the bregma and anterior fontanelle: on the two frontals at their obtuse angles, and on the parietals at the angles which border on the bregma, four more or less notable projections are observable—one on each bone. These projections or bumps are rounded, as if small orange-peels had been applied to these parts of the cranium. It is easy, by passing the hand over the cranium, to verify the existence of these prominences when they are not apparent enough to be recognised by simple inspection. Finally, there is another characteristic which should be mentioned, but which is much rarer than those which precede. In certain infants, and especially those which are not older than from a fortnight to two or three months, we observe in the continuity of the limbs one, and sometimes two, fusiform tubercles or true nodosities. At these points the bones seem set in a body of an olivary form. These lesions are especially met with in the femur and at the upper part of the limb, and they are due to fractures in process of consolidation, consisting of a semi-osseous, semi-fibrous callus, as is shown at the autopsy.

"Such are the lesions of the bones that are sometimes met with in infants the subjects of syphilis, and which, when present, are certain indications of the disease. The knowledge of the fact is the more valuable that you may frequently observe them in individuals who exhibit neither on the skin or elsewhere any other sign that might enlighten you on the subject."

Artificial Suckling of Infants.

The Paris Municipal Council, which on various occasions has meddled with things it little understands, has quite recently, in consequence of the great attention of late paid by the public to the immense mortality of young infants, voted a considerable sum in order that experiments may be made on a large scale concerning the artificial feeding of these little beings. It desired the Assistance Publique to conduct such experiments, but that body, somewhat better informed as to the true position of the question, demurred, and refused, at all events, to enter upon such a course unless this was sanctioned by the Academy of Medicine. The Préfet of the Seine accordingly communicated this resolution to the Academy, with a request for its advice upon the subject. This request having been referred to the Committee for the Hygiene of Infants, this body has just made its report thereon through M. Denonvillers. In this he observes that since the Academy has of late more especially occupied itself with the question relating to the hygiene of children, all its efforts have been directed to induce the bringing up of infants by the breast, and especially the maternal breast; and it has received reports which show that in some of the provinces these efforts have been attended with a certain amount of success. Bringing up by hand should not be resorted to except in extreme necessity, accompanied by care and precautions which are difficult to put into force. If it succeed under exceptional circumstances, as when associated with suckling, or when carried on in the midst of families by aid of excellent milk, this will not be the case when it is employed under quite different circumstances, and especially if attempted in large towns and in special establishments, the agglomeration of children in which is in itself a fertile source of disease. For the Committee it seems absolutely certain that the trial at Paris of an establishment for conducting artificial feeding of young infants would produce the most murderous effects on these, and would soon have to be abandoned. It would be far preferable that the sums proposed to be devoted to this object should be expended in rewarding nursing mothers.

When it was proposed to the Academy to agree to the report entirely denouncing the scheme, M. Jules Guérin protested against this, inasmuch as it is admitted that artificial feeding is a necessity with a vast number of infants, and that under its influence a very great proportion die, the reasonable course would be to encourage study and experimentation with

the view of rendering this means of feeding less disastrous in its effects. The subject of artificial feeding has made much progress of late years, and future improvements should be encouraged in place of being arrested by such decisions. Much of the harm attributed to the use of the sucking-bottle is really due to the premature use of solid food. M. Devilliers, while admitting that this distinction between artificial suckling and premature feeding should be borne in mind, maintains that the former, even when exclusively employed, leads to great mortality. Thus, in Normandy, where the practice is very prevalent, and the milk usually of good quality, the deaths of infants reach the high proportion of 35 per cent. as contrasted with the 15 or 16, or even less per cent. under maternal suckling. M. Colin agreed with M. Guérin in thinking that artificial suckling required further investigation, for surely it is not logical to conclude that because in the hands of ignorant and mercenary women it gives rise to such disastrous results, it will have the same effects when properly directed and regulated according to the laws of hygiene and physiology. Surely, in the present state of science and chemistry, a milk might be prepared from the milk of animals, very analogous to, if not identical with, that of women. Experiment has shown, with regard to animals, that artificial suckling, properly conducted, gives rise to the best results; and why should it not be so in the human species? M. Depaul stated that he was entirely of the opinion of the Committee. The Academy could not give its support and approbation to a series of experiments that must lead to a deplorable result. That artificial suckling is bad has been amply demonstrated, and the Academy cannot encourage experiments that would only consign other infants to the tomb. Chemistry is quite unable to render any help in the matter, and has often even led to deplorable errors. M. Blot was of the same opinion, and could not endorse M. Colin's opinion as to young animals thriving under artificial suckling. Having for some time past had to keep young calves for the purpose of animal vaccination, which were suckled artificially, he found them waste away very rapidly. M. Devergie said that the Committee had not stated the case so strongly as it felt, believing, as it did, that these experiments would be not only dangerous, but immoral.

The conclusions of the Committee were adopted by the Academy. M. De Ranse, commenting upon the subject in the *Gazette Médicale* (Nov. 3), observes that the Academy seemed to fear that the adoption of the project would be an encouragement given to artificial suckling to the detriment of natural suckling. But the question was either badly put before it, or ill understood. The object was not to patronise and encourage artificial suckling, and to place it in parallel with maternal suckling, which is so infinitely superior, but to render it less destructive in those instances, unfortunately so numerous, in which recourse to it is obligatory. Even as regards the execution of the experiments, infants nursed by devoted persons, under the inspection of physicians ready to substitute a nurse on the signs of mischief appearing, would certainly be less exposed to the danger of death than if they were consigned to women who made bringing them up an occupation.

Twin Births.

In a paper in the *Journal de la Société de Statistique de Paris* for September, M. Tschouriloff treats of twin births in an ethnic point of view, and states that his investigations with regard to France (in 1861-65), Bavaria, and Italy, all lead him to the same conclusion, viz., that there is almost a constant relation between the frequency of twin births and the development of the stature. The way he seeks to prove it is by comparing in each department of France the number of twin births and that of the exemption from service on account of stature. He finds that in two departments in which the twins varied from 14 to 13 per 1000, there were but 3·93 per cent. of exemptions; while in six departments in which the twin births varied from 8 to 7, the exemptions mounted up to 10·54. With rare exceptions, the principle held good throughout all the departments. In Bavaria the same held good; but it was in Italy that the most striking results were obtained. It is in the South that fewest high statures are found, while in the North (which has been peopled in part by the taller natives of Gaul and Germany) are the largest number; and if stature is to be regarded as an ethnic characteristic, the prevalence of twin births, which corresponds to it, should be so also considered.

GENERAL CORRESPONDENCE.

HOSPITAL MORTALITY.

Letter from Mr. Lawson Tait.

[To the Editor of the Medical Times and Gazette.]

Sir,—A review of my book on this subject appeared in the last number of the *British and Foreign Medico-Chirurgical Review*, of such a character that I find it necessary to make a reply; and as the journal in question has ceased to appear, I am obliged to trespass on your courtesy for the publication of what I have to say in answer.

When I undertook the compilation of the material for my book, I knew that I had a difficult and, perhaps, thankless task before me. I knew that I must certainly so far interfere with vested interests, that I should lay myself open to rough treatment if I allowed any errors to be discovered in my work. I knew, also, that such an amount of material could not be gathered and arranged without error, and therefore I was quite prepared to receive much adverse criticism. I was not, however, prepared to find it possible that my critics should manufacture blunders for me, and then find fault with me for making them; or that they should construct sentences of their own out of fragments of mine, so as to put both the subject and its treatment in a wholly false light. This, however, in my opinion, is what has been done by my critic in the *British and Foreign Medico-Chirurgical Review*.

The first sentence to which I take exception, as containing a distinct misrepresentation, is as follows:—"Sir James Simpson followed a plan of investigation at any rate calculated to lead to some definite results. By limiting himself to one set of cases only, he was able to draw comparisons between hospital and private practice, which were certainly of some value." This sentence seems to me to mean that as I have not followed Simpson's plan, my results are of no value. But if anyone will glance at my book, he will find that I follow Simpson's plan of collecting and contrasting computations—which alone was Simpson's plan; that I do it on a much larger scale than Simpson did it; that I avoided what all Simpson's critics, including myself, saw was Simpson's error; and finally, that I come by this and other methods to the same conclusions as Simpson did. A little further on in the article I complain of, I find that my words are made to convey a meaning which they do not possess, by the unfair process of taking extracts from my sentences, and placing the quotation in inverted commas after a few words by the reviewer. Thus:—

Review.	*Original.*
Mr. Tait found that this part of the subject had been so thoroughly done by Sir James Simpson that "he felt that any further investigation of the subject must be prefaced by research in another direction."	His papers were placed in my hands by his son, but I found so little that had not been used by him that I felt that any further investigation of the subject must be prefaced by research in another direction.
The more he thought on the difficult subject of discovering something which should be more than a repetition of Sir James Simpson's work, "the more he became satisfied that the first step was to establish the facts of a total hospital mortality for a definite and somewhat extended period."	The more I thought this difficult subject (statistics of amputations) over, the more I became satisfied that the first step was to establish the facts of a total hospital mortality for a definite and somewhat extended period.

As a further illustration of the misrepresentations to which I have been subjected by the writer of this review, the following sentences will serve:—

"The average number of patients to each bed is calculated by dividing the average number of full beds into the yearly number of patients. Thus, let us say, a hospital of a hundred beds has on an average only ten full, and receives one hundred patients per annum. Mr. Tait would put the patients per bed as ten. Another hospital of one hundred beds might have every bed full all the year round, and receive a thousand patients, and Mr. Tait would still call the average per bed ten, and would say that one hospital was as active as the other."

I never have said any such thing, and the illustration given by my reviewer, together with the reasoning following

it, seem to me to show an unfairness in his criticism which is not usual in such journals as the late *British and Foreign Medico-Chirurgical Review*. He apparently does not understand the difference between the *total work done* and *activity*. If five men could mow a five-acre field in a day, and another twenty men could mow another field of twenty acres in the same time, the activity of each set of men would be equal, as would also be that of each of the men. But the total work would not be the same for the two sets of men. But if the set of five men could mow six acres instead of five, whilst the twenty men could not do more than their twenty acres, both total work and activity would be increased. If there were only five acres to be mown by the first set, then the five more active men would finish their work in less than the day. There would be then a greater *activity*.

The reviewer does not seem able to understand the difference between the number of beds which any particular hospital states in the columns of Churchill's "Medical Directory" that it possesses, and the numbers which it has actually in use. "We must say that such gross blunders about a hospital (St. Bartholomew's), of which the prospectus and the printed report can be obtained by anyone, have rather shaken our faith in the accuracy of the rest of the table." The gross blunders consist in having stated that the number of beds in this hospital is 710. But I do not state this. What I do say is that the hospital has only 301·49 beds in average occupation, *exclusive of ophthalmic beds*, though in the "Directory" the number is given as 710. The reviewer has not read the context, which is necessary to understand the tables.

Again, he says, "The hospital held up as the type of all that is bad is University College Hospital." This is not true, neither is the statement that the amputation mortality of St. Bartholomew's is 1 in 3·7, while that in University College is 1 in 4·3. The correct statement is that in Bartholomew's the mortality is 1 in 4·36, and in University 1 in 4·68. The difference is so fractional, and the number of cases given for University College Hospital is so small, that the reviewer is not entitled to say that "the pupil and master are at such utter variance, it is evident further investigation is necessary before either of their conclusions can be considered reliable."

Finally, to review a book it is necessary to learn what its object is. At page 7, I surely stated the object of my book with sufficient explicitness in the following words:—"In an inquiry into hospital mortality it must be distinctly borne in mind that there are three steps in the process which, although interdependent, must be kept distinct. The first is to ascertain what hospital mortality really is. . . . The main object of this essay is with the first of these steps." And yet my reviewer finds fault "that there is not one word in the book, or one figure of this vast mass of calculations, which can really help us to guess at the cause of this variation (in the mortality of different hospitals)." I made not the slightest pretensions to offer any explanation. All I wanted to do in this book is to demonstrate the fact that there are variations *which ought to be explained*.

I am, &c.,

Birmingham. LAWSON TAIT.

THE OXFORD CORONER AND THE RADCLIFFE INFIRMARY.

LETTER FROM MR. HUSSEY.

THE following letter, a copy of which has been forwarded to us by Mr. Hussey, addressed to the Chairman of the Radcliffe Infirmary, was laid before the Committee of that institution at their meeting on Wednesday last:—

St. Aldate's, 27th October, 1877.

My dear Sir,—In the Oxford *Chronicle* of to-day, in a report of remarks made by you—"on behalf of the Committee of Management"—at the late Quarterly Court, I see that you refer to the case of the death of a patient under chloroform, adding that, "in such cases it has been the custom in this Infirmary to hold an inquest, as it is in all the London hospitals."

Of the present custom in the hospitals of London I am unable to speak, but I believe it is not the custom to hold inquests in such cases in private practice.

At the Infirmary I never heard that there had been more than one such case: that was in 1871. In that case the patient died before any surgical operation was begun. In the late case, the death happened, as I understood, after the operation was ended. Information was given to me. I referred th informant to the registrar of deaths; and I heard no more of it.

It seems to me that you cannot be aware of the change which has taken place in the need for inquests under the operation of the late Amended Act for the Registration of Deaths.

In this case, I heard afterwards that there were ten medical doctors present. Surely there was medical evidence enough to justify the registrar in registering the death, and to satisfy any reasonable person that an inquest was not wanted to make the cause of death clear. No application for an inquest was made to me by the friends of the deceased, nor by the officers of the Infirmary. In all the cases at the Infirmary in which I have held an inquest, information has been given to the summoning officer by one of the resident officers of the Infirmary. This has long been the established practice. None was given in this case; and I never knew, till I saw the newspaper last night, that the question of an inquest had been before the Committee.

If I had known it, I should have felt it a duty to the public to attend the Committee, and explain why I did not think an inquest necessary. I am, &c., E. L. HUSSEY.

To the Rev. John Slatter,
Chairman of the Committee of Management.

REPORTS OF SOCIETIES.

THE PATHOLOGICAL SOCIETY.

TUESDAY, NOVEMBER 6.

CHARLES MURCHISON, M.D., LL.D., F.R.S., President, in the Chair.

ANEURISM OF THE ARCH OF THE AORTA OPENING EXTERNALLY.

DR. PEACOCK exhibited this specimen. A man of forty-six was admitted into St. Thomas's Hospital on December 4, 1871, with a large pulsating tumour in the front of the chest, which had existed for seven months. He was kept continually in bed, on a plain nutritious diet, with a small quantity of wine and a mixture containing perchloride of iron. Under this treatment the tumour subsided, so as to be felt merely as a hard knot in the second intercartilaginous space, immediately to the left of the sternum. The patient left St. Thomas's Hospital in May, 1874, and was afterwards an inmate of the Victoria-park Hospital and Guy's Hospital in succession. He was readmitted to St. Thomas's in June, 1876, when he proved to have altered much for the worse. The tumour was much larger, and the integuments over it were thin. Soon after his admission, livid patches appeared on the most prominent parts of the swelling, followed by excoriation; and in a short time an opening formed, from which there were repeating oozings of blood. The patient died on October 4, 1876, exhausted. Post-mortem an aneurism was found occupying the whole of the arch of the aorta from near the origin of the vessel to the point where the left subclavian is given off. The tumour thus formed lay behind the manubrium, which was considerably absorbed. The sternal end of the left clavicle, and the end of the first rib, were also destroyed. From this sac a second aneurism opened, which lay in front of the upper part of the sternum. This was not bounded by any distinct sac, and had only the skin covering it in front; and in this there was an opening about the size of a shilling, partly closed by a clot. The case was interesting (1) on account of the extreme infrequency with which aortic aneurisms opened externally; and (2) from the fact that the opening was the result, not of sloughing, but apparently of ulceration of the integuments from without inwards. A somewhat similar case had recently occurred at St. Thomas's Hospital, where, in an aortic aneurism advancing through the back, a reddening appeared of the skin, and ulceration threatened; the patient, however, died before perforation. Of seventy-four cases of aortic aneurism, collected by Dr. Peacock, there was external opening in two only. It was important to observe that death was not due to hæmorrhage, but to exhaustion.

ABDOMINAL ANEURISM.

Dr. IRVINE showed two specimens of abdominal aneurism. The first was a specimen of aneurism of the cœliac axis. The patient, aged forty-nine, was admitted into Charing-cross Hospital in December, 1876, suffering from inflammation about the

left knee. His illness dated only fourteen days back. There was no history of syphilis, but the patient had gonorrhœa at the age of twenty. During his stay in hospital he developed pyæmic symptoms; and lung-mischief set in towards the end. He had also, during the last seven days, pain in the abdomen, which was examined as carefully as tenderness would permit, but nothing was found. At this time there was a considerable amount of albumen, with mere traces of pus, in the urine. The day before his death, on January 10, 1877, a movable tumour could be felt in the right hypochondriac and lumbar regions, but no pulsation was found. Post-mortem, an aneurism twice the size of an orange was found springing from the cœliac axis. This lay in the middle line, and contained but very little friable clot. Its walls consisted of fibrinous laminæ, an eighth of an inch thick, which were fragile, and could be easily separated from one another. The aneurism was embedded in fat, as were most of the tissues and organs of the abdomen. Among this fat, pus was found burrowing in all directions, and was evidently due to large concretions of curious shape, which projected into the pelvis of the left kidney, and some of which had perforated the organ. The aneurism compressed the right renal vein and the inferior cava above, so that for the distance of about an inch its calibre barely admitted a quill. The liver and spleen were lardaceous. A large, firm clot was found in the right hypochondrium. Dr. Irvine thought that in this case the renal concretions were the source of all the mischief. It seemed likely that the diffuse suppuration consequent on their existence had affected the walls of the arteries, especially of the cœliac axis; and that this vessel, when deprived of its normal support, and of that of the tissues about, had given way in such a manner that a traumatic aneurism resulted. It also seemed likely that the firm fat about had for a time prevented rapid extension, and that a fibrinous lamellar wall had been formed. The movable tumour felt the day before death was the firm clot found post-mortem. Dr. Irvine also showed a specimen of aneurism of the abdominal aorta. The symptoms in this case came on suddenly. The patient, forty-two years of age, was a commissionaire, who had served twenty years in the army. A month before his admission into Charing-cross Hospital, in November, 1876, he had charge of a house during its decoration; he began to suffer from pains in the head and abdomen, and was sent to hospital as suffering from lead-poisoning. There were, however, distinct physical signs of an aneurism in the epigastric region: marked tumour with expansile pulsation, slight thrill, and loud systolic murmur, while the heart's sounds were pure. There was also a systolic murmur in the back opposite the ends of the last two ribs. The man passed a considerable quantity of albumen, and complained frequently of violent pains in the head occurring paroxysmally, but continuing for long periods, the pains being such that it was suggested that he had possibly a cerebral aneurism with consequent meningitis. He at times suffered from violent vomiting, and frequently from nausea. He was also delirious at fitful intervals. He died suddenly on January 17, 1877, and post-mortem a large aneurism was found involving the abdominal aorta from its origin to below the orifices of the renal arteries. It was divisible into two portions—one growing to the right (a true aneurism), and reaching from the liver to the top of the pelvis; the second, a vast mass, separated from the other by a furrow, in which was lying the inferior cava, filled up the whole left side of the abdominal cavity. The latter portion was traumatic, and contained firm clot, which occupied its greater part. It consisted, indeed, of clot kept in place by the posterior peritoneal tissues, which it had carried in front of it. The clot surrounded the left kidney, and completely embedded the left renal vein and artery. The aneurism adhered to the vertebræ, which were partly eroded. The vena cava was stretched, and contained laminated clots. The left femoral artery was almost obliterated by extension of disease downwards. The brain was fairly healthy. It seemed clear in this case that rupture of the true aneurism had been followed by a slow escape of blood into the retro-peritoneal tissues, and by the formation of a large traumatic aneurism. As in the last case, there was pressure on the vena cava, and on one or other of the renal veins; and as the kidneys in the latter case were quite healthy beyond congestion, probably the albuminuria in both—with, in the one, headache, delirium, etc.—was due to direct interference with the venous circulation.

The President said that there were two points of great clinical interest in these cases—namely, the complete absence of lumbar pain in both, and the absence of murmur over the tumour in the first.

Surgeon-Major Robinson asked whether the second patient was a soldier, and had been in India.

Dr. Dowse asked whether there was pulsation at the xiphoid cartilage, or evidence of cardiac dilatation.

Dr. Irvine replied. The two important clinical points mentioned by the President were present. The tumour felt in the first case, just before death, proved to be a blood-clot; there was neither pulsation nor murmur over it. The second patient had been a soldier for twenty years, and had served in India. Neither before nor after death was there evidence of cardiac enlargement. The abdominal aorta proved to be quite healthy in the first case, excepting a small patch of atheroma just beyond the aneurism.

Intra-Pericardial Aortic Aneurism following Cure of Popliteal Aneurism.

Mr. Wagstaffe exhibited this specimen, as well as the specimen of popliteal aneurism cured by operation. Last year Mr. Wagstaffe treated the subject, a man, for popliteal aneurism by applying Esmarch's bandage to the limb (excepting the region of the aneurism) for one hour, and a tourniquet to the artery above for the next five hours. No pulsation remained, but for the next twenty-four hours a slight flow was permitted through the vessel. The patient speedily recovered. Two months later, in November, 1876, he suffered from sciatica of the same limb, apparently quite unconnected with the aneurism. In January, 1877, the man suddenly dropped down dead in the street. Post-mortem, the pericardium contained a pint of blood-clot. At the root of the aorta, opposite the right anterior semilunar valve, was found an aneurism as large as an ordinary thimble. It bulged into the pericardium, and opened into that cavity by means of a hole not larger than the point of a pin. The other viscera were healthy, including the large arteries; but the aorta was peculiarly mottled, and presented soft atheroma in the arch. The popliteal aneurism was cut across, and showed a clot, firm externally, but soft internally, and not laminated. This popliteal aneurism was probably the first exhibited after cure by treatment with Esmarch's bandage. Intra-pericardial hæmorrhage from aneurism was comparatively rare. The size of the opening in recorded cases was remarkably small, yet death in thirty-four out of thirty-five cases was sudden. The base of the aorta might probably be regarded as a likely seat of aneurism, considering its connexions and structure.

Dr. Frederick Taylor said that the question of the mode of death in these cases of intra-pericardial hæmorrhage was very important. He himself remembered two cases in which patients with this lesion survived for days, and were examined physically.

Dr. Crisp said that rupture into the pericardium was one of the most common terminations of aortic aneurism. One question in connexion with Mr. Wagstaffe's case was of much interest. What might be the effect upon such an aneurism at the root of the aorta of the application of Esmarch's bandage to the leg?

Mr. Butlin asked whether any microscopical examination had been made of the solid popliteal aneurism. Such a large clot as this specimen presented was generally believed to be liable to produce inflammation, and even suppuration.

Dr. Goodhart said he believed that the occurrence or not of sudden death in intra-pericardial hæmorrhage depended on the amount of previous inflammation of the parts. The adhesions would cause slow leakage, and corresponding slowness of symptoms. The amount of clot in the sac of the aneurism would also affect the symptoms in a similar manner.

Dr. Irvine said that he had shown two somewhat similar cases last session; in one of them the aneurism was not larger than a pea. Both patients had survived rupture for some time; the second patient lived ten hours after the first symptoms.

Mr. Wagstaffe replied that a microscopical examination of the healed popliteal aneurism had shown that the greater part of the thrombus was organised; the central portion, however, was soft and contained no vessels.

Imperforate Anus.

Dr. Crisp showed a specimen of imperforate anus from a child which survived its birth fifty-six hours. The gut projected at the usual seat of the anus, but the case was mistaken by the midwife and purgatives were given. Surgical advice was sought too late to save life.

Miliary Tuberculosis in an Infant.

Dr. Crisp also showed this specimen. An infant of three months was found dead in the morning, after having suffered from cough and been "delicate" all its life, without other special symptoms. Post-mortem the only organs specially diseased were the lungs. These were everywhere studded with tubercles, light yellowish, as large as a pin's head—amounting, say, to 3000 in number. At the root of the lungs one bronchial gland was as big as a marble, and was soft and caseous. This gland was probably the seat of infection. The mother of the child had died of pulmonary phthisis one month previously, and her family were consumptive; a sister was suffering now from phthisis; the father was healthy. Dr. Crisp added that he had reported a very similar case before, in which the spleen was tuberculous, but in which there was no hereditary tubercular predisposition.

Dr. Day exhibited, in connexion with this specimen, drawings of the microscopical appearances of the lungs in a case of acute tuberculosis in a child of two years and a half; and of a case of catarrhal pneumonia with tuberculosis.

Dr. Douglas Powell said that two years ago he had exhibited a specimen of lung disease from an infant of three months, which had died of hæmorrhage from a pulmonary aneurism in a cavity, and miliary tuberculosis. He had also seen another case of seven months. This case of Dr. Crisp's furnished strong evidence of the heredity of tuberculosis.

Perforation of Diverticulum in the Ileum.

Mr. Alban Doran showed this specimen, which was taken from the body of a boy of four years, who died under the care of Mr. Johnson, of Bedford. The boy complained after a hearty dinner, which included peas, of abdominal pain, and vomited; and a dose of castor-oil neither moved the bowels nor relieved the symptoms, which, on the contrary, were aggravated. Opium was then administered, but there was no improvement; and death occurred on the fourth day, after stercoraceous vomiting. Post-mortem the peritoneal cavity was found to contain flatus, fæces, and ingesta. In the small bowel, at a point which was not quite accurately determined, a contraction was found; and at the same point there was a diverticulum from the bowel. This diverticulum was close to the mesenteric border of the gut, and was composed of all the coats of the intestine, and the narrowing of the bowel was just below it. The diverticulum contained a half-digested pea, and the wall was inflamed and perforated. The nature of the case was therefore evident. The diverticulum was probably an example of the usual embryonic diverticulum at the point of junction of the vitelline duct with the intestine.

The President said that many cases of a somewhat similar nature were on record. He had seen a gall-stone thus impacted in a diverticulum; also typhoid ulceration of a diverticulum.

Single Cyst of the Testicle.

Mr. Doran also showed this specimen, which was removed by operation from a gentleman of thirty-six years, by Mr. Hutchinson. The patient was of strumous appearance, had never had syphilis, and had received a slight injury to the testicle twelve months previously. More than once a hydrocele in connexion with the diseased organ was relieved by tapping, but the testicle itself did not diminish in size. Mr. Hutchinson performed castration with success. On examination, the testicle proved to be occupied mainly by a cyst, single, full of chocolate-coloured fluid, and with irregular walls. On the walls there were some smaller cysts of similar structure; and from the walls there could be floated out many filaments, which proved to be seminiferous tubules with granular and cellular contents. But the deeper layers of the cyst-masses were found to consist of soft material, composed entirely of round cells. The specimen was probably, therefore, an adeno-sarcoma. Adeno-sarcomata were comparatively common near the mamma, but had not been often found near the testis. It presented none of the characters of ordinary "cystic disease" of the testis.

Congenital Occlusion of the Small Intestine.

Mr. Davies-Colley showed this specimen, taken from the body of a child of four days. At birth the child was believed to be quite healthy, and was said to have passed a sufficient and natural motion. On the second day it vomited, and had no movement of the bowels, and it was then brought to Guy's Hospital. When seen, the belly was much swollen, and occasional coils of intestine made themselves visible through the walls. The anus was small, and a watery fluid passed from it: a catheter could be passed in but a few inches. Operation was resolved upon, and a small opening was made between the right anterior superior iliac spine and the umbilicus: a small bit of distended gut was hooked up, stitched to the edge of the wound, and opened, and a quantity of meconium was let out. Relief followed; but on the third day the symptoms returned and the child died. Post-mortem it was found that the small intestine was dilated and thickened until a few inches above the cæcum. It then became greatly contracted, and continued so to the valve, appearing as a mere band. On being opened above and below, there proved to be complete occlusion, the lumen ending in two *culs-de-sac*, which overlapped each other. The opening had been made two inches above the upper end of the occlusion. There was acute peritonitis. Mr. Davies-Colley said that this was the first case exhibited here of such occlusion. The diagnosis was difficult, and the account of the passage of a meconium-motion perhaps incorrect. The situation of the opening for relief proved the value of the method of operating on the right side of the abdomen.

Mr. Wagstaffe inquired what the probable pathology of the case was.

Mr. Davies-Colley replied that the pathology of the case was obscure. It had, however, occurred to him that the situation of the occlusion might be the same as the situation of junction of the vitelline duct.

False Membrane from the Larynx in Typhoid Fever.

Dr. Greenfield showed this specimen, which was taken from the body of a child of five years, a patient with enteric fever under the care of Dr. Murchison at St. Thomas's Hospital. After being in the wards for fifteen days with the ordinary symptoms of enteric fever, the child died of laryngeal complication. Post-mortem, typhoid ulceration was found in the lower three inches of the ileum, with swelling and congestion of Peyer's patches, and swelling of the mesenteric glands. The larynx and upper part of the trachea presented a false membrane, and a muco-purulent fluid. On the soft palate and epiglottis there were also similar changes, and a pellicle covered the upper part of the pharynx, and the openings of the Eustachian tubes. The bronchi contained mucopus, and there was broncho-pneumonia. The case was unquestionably one of enteric fever, and the question was, What was the relation between the enteric fever and the diphtheritic exudation? Was it (1) a co-existing diphtheria?—for epidemics of enteric fever and diphtheria went together; or (2) was the intestinal change diphtheritic?—for swelling of the glands in the lower part of the ileum was frequently seen in diphtheria, with small superficial ulceration. In the present case there could be no question that the intestinal disase was that of true enteric fever.

The President said that the clinical history of the case was simple. The child was under his care with enteric fever, and had reached the sixteenth or seventeenth day of the disease. The symptoms were not extraordinary until about three days before death, when laryngeal complication supervened. No membrane was seen on the fauces during life, but only redness and swelling. A laryngoscopic examination could not be made. There was never regurgitation of fluids through the nose. With respect to the relation between enteric fever and diphtheria, laryngeal complication was not uncommon in enteric fever. Louis had recorded it in many cases, and he had himself often seen it. He did not consider the disease true diphtheria, but one of the fresh inflammations seen in enteric fever, scarlatina, and typhus. Such laryngeal inflammation in fever had been observed long before true diphtheria was recognised. In the present case there was no question about the enteric fever. Another child of the same family was under treatment with symptoms of abortive enteric fever; a second member of the family died of enteric fever at the end of three weeks; and the child's symptoms were characteristic.

Dr. Felix Semon said that he had seen such cases in Germany. The laryngeal disease differed from ordinary diphtheria in beginning in the larynx, and passing upwards.

Mr. Knowsley Thornton asked at what period of enteric fever this complication usually appeared.

The President replied that it appeared at a late stage.

Dr. Clifford Allbutt, of Leeds, said that there was a fourfold connexion between enteric fever and diphtheria. Epidemics of the two diseases occurred together; the combination appeared in many cases of one epidemic, and not in those of

others. The two diseases were traceable to similar causes; and they affected the same neighbourhoods.

Cancer of the Rectum.

Mr. H. Cripps showed two specimens of this disease. The first was from a man who had long suffered from the symptoms of cancer of the rectum, but who died suddenly. Post-mortem, a cancerous deposit was found in the *cul-de-sac* between the rectum and bladder, and a large cancerous mass between the rectum and the sacrum, the latter being partly absorbed. There was secondary deposit in the liver. The second specimen was removed by operation from a gentleman who had suffered from irritation in the rectum for two years, and from greatly aggravated symptoms for twelve months. A cancerous mass was felt on the posterior wall of the rectum, about two inches from the anus; and this, along with the whole of the posterior wall corresponding, was removed by operation. The gentleman was now at business in the City, and suffered only from occasional incontinence of fæces. Microscopically, the growth consisted of characteristic scirrhus.

OBITUARY.

MR. JAMES FLOWER.

The Royal College of Surgeons of England has just lost a valuable assistant well known to scientific members of the medical profession as the able Articulator, under his well-known namesake Professor W. H. Flower, in the Museum of the College. Mr. James Flower was born in 1800, and, at the age of fifteen, enlisted as a soldier in the 18th Hussars, and with that regiment formed part of the English army which occupied France after the battle of Waterloo. When the regiment was reduced in 1821 he left the service, and began to cultivate a taste for natural history, and soon after found employment for many years in the museum which the Zoological Society were then forming at their house in Bruton-street. He afterwards took up the work of articulating skeletons, at the same time going into the business of a licensed victualler at the "Canterbury Arms," now known as the Canterbury Hall. His business as an articulator soon increased to such an extent, principally through the patronage of Professor Owen, that he converted his skittle-alley into a large workroom; and it was here that some of his principal labours were carried on, such as articulating the stupendous megatherium and many of the large skeletons in the Hunterian Museum. The trustees of the national collection had such confidence in him that they entrusted the celebrated Nineveh ivories to him to restore. Here also he made for his Majesty the King of Siam a remarkable work of art. The King being desirous of receiving some general knowledge of anatomy, would have lost caste had he touched a dead human subject: Mr. James Flower therefore executed for him, we believe in sycamore or some other soft wood, a most perfect skeleton of an adult man, which met with the commendation of all who saw it. The late Marquis of Westminster employed him to articulate his celebrated racehorse Touchstone, now preserved at Eaton Hall. Subsequently he articulated Orlando, which was presented to the Museum by her Majesty. Amongst his other patrons were the Earl of Enniskillen, Professors T. Bell, Busk, South, Owen, Flower, Mr. Yarrell, etc. Having been permanently appointed Articulator to the Royal College of Surgeons, he had spacious workrooms and assistants provided for him. It was here that his numerous mechanical arrangements were invented, by which the various surfaces of the bones can be examined separately, without interfering with the remainder of the skeleton. Professor Flower has rendered full justice to his earnest labours, by constantly holding them up for example in his annual reports; and on one occasion the Council "testified their sense of the zeal and skill of Mr. James Flower in devising and executing so many of these improvements," by a special vote of approbation, accompanied with a gratuity. During the past year his health became much impaired, and finally he died from cancer on Tuesday, the 30th ult., in the seventy-seventh year of his age. He received the greatest professional skill and kindness from Sir James Paget, Mr. Howard Marsh, Professor Flower, and other gentlemen who fully appreciated his value. By the last-named gentleman and the Council of the College his loss is greatly regretted.

MEDICAL NEWS.

Royal College of Surgeons of England.—The following gentlemen passed their Primary Examinations in Anatomy and Physiology at a meeting of the Board of Examiners on the 6th inst., and when eligible will be admitted to the Pass Examination, viz.:—

Anderson, John, student of the Edinburgh School.
Bull, Edwin G., of the Edinburgh School.
Dixon, Craig, of the Edinburgh School.
Fehrsen, Frederick J., of the Aberdeen School.
Ford, Richard W., of St. George's Hospital.
Fowler, Charles H., of St. Bartholomew's Hospital.
Giles, William B., of University College Hospital.
Holland, Edward W., of the Bristol School.
Hornibrook, William A., of the Middlesex Hospital.
Hughes, Thomas M., of the Charing-cross Hospital.
Parker, Robert L., of the Edinburgh School.
Powell, Henry A., of University College Hospital.
Sarkies, Sarkies Carapiet, of Calcutta and St. Thomas's Hospitals.
Steuart, William, of the Edinburgh School.
Swabey, L. William, of St. George's Hospital.
Swindells, John A., of the Liverpool School.

The following gentlemen passed on the 7th inst., viz.:—

Bagley, Samuel, student of the Manchester School.
Bernays, Augustus C., of the Heidelberg School.
Biss, Cecil Y., of St. Bartholomew's Hospital.
Chaffey, Wayland C., of St. Bartholomew's Hospital.
Damant, Arthur J., of St. Bartholomew's Hospital.
Johnston, Edward C., of the Birmingham School.
Mennell, Zebulon, of St. Thomas's Hospital.
Oswald, Robert J. W., of the Charing-cross Hospital.
Price, Edward M., of University College Hospital.
Simpson, Robert P., of the Edinburgh School.
Swale, Harold, of St. Thomas's Hospital.
Wright, George F. C., of University College Hospital.

Of the forty candidates examined, twelve having failed to acquit themselves to the satisfaction of the Board of Examiners, were referred to their Anatomical and Physiological studies for three months. Amongst the visitors present at this examination were Drs. George Bennett, F.R.C.S., of the University of Sydney; Edwin Powell, Professor of Clinical Surgery, University of Chicago; Mr. W. E. Cant, F.R.C.S., of the Bristol School.

The following were the questions on Anatomy and Physiology submitted to the candidates at the Primary Examination on the 2nd inst., when they were required to answer at least four (including one of the first two) out of the six questions, viz.:—1. Upon what evidence is our knowledge of the functions of the anterior and posterior roots of the spinal nerves based? 2. Describe the structure of the mucous membrane of the stomach, and the composition and uses of the gastric juice. 3. Describe the sterno-clavicular and acromio-clavicular joints, enumerating the parts in relation with them. 4. Trace the obturator nerve from its origin to its distribution, and mention any varieties occasionally met with. 5. Describe the relations of the flexor longus pollicis muscle in the forearm, and also the dissection necessary to expose that part of it. 6. Describe the origin, course, distribution, and anastomoses of the arteries and veins of the thyroid body.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, November 1:—

La Page, Clement, Nantwich, Cheshire.
Peacock, Henry George, Melton, Suffolk.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Allinson, Henry Calthrop, King's College Hospital.
Craddock, Frederick Hurst, St. Bartholomew's Hospital.

APPOINTMENT.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Lawton, Herbert Alfred, L.R.C.P. Lond., M.R.C.S.E.—Medical Officer of Health to the Poole Urban Sanitary Authority for three years; Medical Officer of Health to the Poole Port Sanitary Authority for one year; and Medical Officer to the Borough of Poole Fever Hospital.

NAVAL, MILITARY, &c., APPOINTMENTS.

India Office.—Her Majesty has been pleased to approve of the following admissions to her Majesty's Indian Medical Service. To be Surgeons dated March 31, 1877:—Bengal: William Owen, Walter Gillies, David Morton Jack, Walter Conroy, George Jerome Kellie, John Gatcha

Hancock, Dharmadas Basu, Alexander William Mackenzie, Jeremiah Mullane, M.D., Douglas Mullen, M.D., Robert James Taaffe, Ernest Laurie Robinson, James Alexander Nells, William Beatty Smith, Aylmer Martin Crofts, James Crofts, M.D., William Coates, M.D., Joseph Blood. Madras: Thomas King Rogers, Henry Augustus Fitzroy Nailer, Donald Elcum, George Charles Bouton, Nityananda Chatterjie. Bombay: William Keith Hatch, Hormasji Dadabhoi Masani, Kanoba Ranchoddas Kirtikar, Behary Lall Dutt.

BIRTHS.

FOSTER.—On October 24, at Grosvenor House, Edgbaston, the wife of Balthazar Foster, M.D., F.R.C.P., of a daughter.

GIBBON.—On November 1, at Derby-road, Northend, Portsmouth, the wife of Surgeon-Major E. A. Gibbon, L.K.Q.C.P. Ire., of a son.

TAYLOR.—On November 1, at Kingsclere, the wife of Herbert Taylor, M.D., of a daughter.

MARRIAGES.

BOYD—VAN SOMEREN.—On October 8, at St. Andrew's Kirk, Madras, Sydney Boyd, Esq., of Rangoon, fourth son of Alexander Boyd, Esq., of 76, Bedford-gardens, Kensington, to Helen Lechmere, fourth daughter of W. J. Van Someren, M.D., Deputy Surgeon-General, Indian Medical Service.

CLEGHORN—MOSSOP.—On September 8, at Picton, New Zealand, George Cleghorn, M.R.C.S., of Blenheim, to Harriett Louisa, eldest daughter of Mr. Charles Mossop, of 46, Cannon-street, solicitor.

MACCALL—TOLMÉ.—On November 5, William Neil Maccall, M.D., of Manchester, to Louisa Frances, only surviving daughter of the late Thomas Hurry Tolmé, of 1, Fen-court, Fenchurch-street, and Linden-gardens, W.

PEACEY—MARRIOTT.—On November 1, at Christ Church, Forest-hill, William Peacey, M.B., of Lewisham, to Caroline Constance, daughter of T. J. Marriott, Esq., of Perry-hill, Catford.

SIMPSON—SWINBORNE.—On November 1, at the Independent Chapel, Coggeshall, Thomas Simpson, M.R.C.S. Eng., of Coggeshall, to Emma, youngest daughter of Thomas Chalk Swinborne, of Mount-park, Coggeshall.

URQUHART—CAIRD.—On October 31, at Genoch, Wigtonshire, Andrew J. Urquhart, M.B., of Kirkcudbright, to Helen Crokat, daughter of Alex. McNeil-Caird, Esq.

WILES—SIVEWRIGHT.—On November 1, at Christ Church, Trinity, Edinburgh, Julius Wiles, M.R.C.S. Eng., Surgeon-Major Rifle Brigade, to Maria, daughter of the late C. K. Sivewright, Esq.

DEATHS.

DUNN, ROBERT, F.R.C.S. Eng., at 31, Norfolk-street, Strand, W.C., on November 4, aged 78.

KERSHAW, ROBERT, M.R.C.S., Secretary of the London Hospital Medical College, at 4, Alexandra-villas, Finsbury-park, on November 5.

LINDLEY, JOHN, M.R.C.S. Eng., at Strand-terrace, Derby, on November 3.

VON LINHART, WENZEL, M.D., Professor of Surgery at Würzburg University, etc., at Würzburg, on October 22, aged 56.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

EAST SUSSEX, HASTINGS, AND ST. LEONARDS INFIRMARY.—Third Assistant-Surgeon. Candidates for the office must be Fellows or Members of the Royal College of Surgeons of London, Dublin, or Edinburgh. Applications, with testimonials, to the Secretary, endorsed "Application for Assistant-Surgeon," on or before November 10.

LIVERPOOL ROYAL INFIRMARY.—Resident Medical Officer. Candidates must be unmarried. No person is eligible who is not on the Medical Register of Great Britain, and who does not possess at least one medical and one surgical diploma, licence, or degree recognised by the Medical Council. Applications, with testimonials, to the Chairman of the Committee, on or before November 20.

MIDDLESEX COUNTY LUNATIC ASYLUM, COLNEY HATCH.—Assistant Medical Officer in the Female Department. Candidates must be registered, single, and not less than twenty-five years of age. Applications, on a printed form, which may be obtained of the Medical Superintendent of the Female Department, at the Asylum, with not more than three testimonials of recent date, to John S. Skaife, Clerk to the Committee of Visitors, on or before November 10.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—House-Surgeon. Candidates must be unmarried, and hold a registered medical and surgical qualification. Applications, with qualifications and testimonials, to the Secretary, on or before November 19.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Bakewell Union.—The Matlock District is vacant; area 8673; population 5377; salary £20 per annum.

Mere Union.—The First District is vacant; area 19,008; population 4548; salary £105 per annum.

Tavistock Union.—The Tavistock District is vacant; area 11,660; population 7781; salary £55 per annum. Also the Workhouse, salary £35 per annum.

APPOINTMENTS.

Brixworth Union.—Edward B. S. Perkins, L.S.A., to the Sixth District.

Burton-upon-Trent Union.—Clement Palmer, M.R.C.S. Eng., L.R.C.P. Edin., to the Barton-under-Needwood District.

Chorlton Union.—Richard Fullerton, M.B., L.S. Dub., Assistant Medical Officer at the Workhouse.

Eastry Union.—Walter Dixon, M.B., C.M. Edin., to the Eythorne District.

Manchester Township.—Charles F. Diggle, M.R.C.S. Eng., L.S.A., as Assistant Medical Officer at the Workhouse Hospital.

Thame Union.—Timothy W. Lee, M.R.C.S. Eng., L.S.A., to the Thame District.

LIQUOR ARSENICALIS IN PRICKLY HEAT.—A "frequent contributor" to our contemporary the *Indian Medical Gazette* states that he has obtained most excellent results frem the internal administration of liquor arsenicalis in prickly heat. He gives the remedy in the ordinary doses and with the usual precautions. As not a few persons in England suffer much in hot weather from an affection much resembling prickly heat, the remedy is deserving of trial.

DUQESNEL'S MEDICINAL PENCILS.—These are made in the following manner:—Take equal parts of guttapercha, and the medicinal subtance (such as alum, tannin, etc.), and having heated the former to about 100° C., in an iron or copper morter, mix the two thoroughly together, and then roll the mixture into cylinders by means of glass or metal plates. The pencils thus formed, when brought into contact with the mucous membranes, leave upon these a portion of the medicinal principles which they contain.—*Union Méd.*, November 3.

THE NEW MEDICAL DEPUTIES.—The last Chamber comprised thirty-nine medical Deputies, only one of whom belonged to the Right. Of these thirty-nine, five only have not been re-elected, one of these being the notorious Naquet, whose absence is very opportune at this crisis. Two new members have been elected—viz., M. David, Republican, and Baron Larrey, the only medical Bonapartist, as M. Bourgeois, of Venice, is the only Legitimist, of the present Assembly. In the alphabetical list furnished by the *Progrès Médical* we observe the names of MM. Paul Bert, Cornil, Laussedat, and Roussel. In the present Chamber the medical Deputies are therefore thirty-six in number.

RECOVERY AFTER POISONING WITH TEN GRAINS OF MORPHIA.—Dr. Dobrachotow relates the case of a lady of weakly frame, twenty-five years of age, who, on account of cardialgia, took on the evening of May 10 the whole of a mixture consisting of ten grains of acetate of morphia, and five drachms of bitter-almond water. At the end of five hours violent vomiting set in, the skin was pale, cold, and dry, the lips and nails were blue, the pupils contracted to the size of a pin's head, and the gaze unintelligent. Answers were only to be obtained rarely, and with trouble. The pulse varied from 28 to 32, and was small but regular; the respiration, from 4 to 6, was whistling and superficial. In spite of the stimuli employed, the pulse fourteen hours after the poisoning had decreased to 12, and the respirations, with râles, to 2. The pupils first dilated after the administration of one-tenth of a grain of sulphate of atropia subcutaneously, and the same quantity by the mouth, besides sixty drops of tincture of belladonna. After a prolonged sleep, the patient awoke on the morning of May 12 in a state of great debility, but otherwise in a good condition. From May 13 to 16 she suddenly forgot several times a day what had happened the day before, or referred it to ten or fifteen years back, and *vice versâ*. Since then she has completely recovered.—*Petersburg Med. Woch.*, October 20.

COMPOSITION AND QUALITY OF THE METROPOLITAN WATERS IN OCTOBER.—The following are the returns (by Dr. Meymott Tidy) of the Society of Medical Officers of Health:—

Names of Water Companies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, etc.	Nitrogen: As Nitrates, etc.	Ammonia.		Hardness. (Clarke's Scale).	
				Saline.	Organic.	Before Boiling.	After Boiling.
Thames Water Companies.	Grs.	Grs.	Grs.	Grs.	Grs.	Degs.	Degs.
Grand Junction .	18·90	0·045	0·090	0·000	0·007	12·6	3·3
West Middlesex .	19·00	0·043	0·090	0·000	0·008	13·7	3·3
Southwark and Vauxhall . .	19·50	0·058	0·097	0·002	0·010	13·7	3·7
Chelsea . .	18·10	0·054	0·165	0·000	0·009	13·2	3·7
Lambeth . .	20·40	0·047	0·135	0·000	0·009	14·8	3·3
Other Companies.							
Kent . . .	26·10	0·010	0·285	0·000	0·004	20·0	5·1
New River . .	17·40	0·018	0·109	0·000	0·007	12·6	2·8
East London .	19·60	0·040	0·099	0·000	0·007	14·3	3·3

Note.—The amount of oxygen required to oxidise the organic matter, nitrites, etc., is determined by a standard solution of permanganate of potash acting for three hours; and in the case of the metropolitan waters the quantity of organic matter is about eight times the amount of oxygen required by it.

The water was found to be clear and nearly colourless in all cases but the following, when it was very slightly turbid—namely, in that of the Lambeth, Southwark and Vauxhall, and the Grand Junction Companies.

THE PARIS ACCLIMATATION SOCIETY.—M. Albert Geoffroy St. Hilaire has just concluded, on the part of this Society, an agreement with the Municipality of Marseilles, whereby the Jardin des Plantes of that city shall be transformed into a succursal of the Paris Jardin d'Acclimatation. The Paris Society alrcady possesses a similar very fine succursal on the island of Hyères. These two succursals are intended to serve as places of transition for plants from hot climates, which it is desired to acclimatise in France. At Marseilles, as well as at Hyères, these will thus find a special climate intermediary between their own original climates and the climate of Paris.—*Révue Scientifique*, October 20.

THE climate of Swatow is one of the healthiest and most delightful in the world. The summer months are not very hot; the maximum of the last six months (July 29 and 30) was 88°, and on the nights following these days the mercury fell to 79° and 81°. It is always so here; the days are hot, but there is enough fall at night to make the air pleasantly cool, yet not enough to produce chills. Even in the hottest weather there is daily a refreshing sea-breeze which gives bloom to the cheeks and vigour to the frames of the most feeble. I have seen delicate children brought here almost dying, who have got well and strong in a short time; and delicate adults who could hardly exist at home, or in other parts of China, quickly gain strength in this genial climate.—*Dr. Jamieson, in the Chinese Customs Gazette.*

POOR-LAW MEDICAL OFFICERS' ASSOCIATION.—At the meeting of the Council of the Poor-Law Medical Officers' Association, on Tuesday last, the following resolution was agreed to:—"That this Council has seen with much satisfaction the action of the Local Government Board in directing their Inspector, Mr. Long, to attend a meeting of the West Bromwich Board of Guardians for the purpose of urging upon them the reconsideration of the case of Mr. Downes, who, it will be remembered, was refused superannuation allowance by this Board after thirty-nine years' continuous service, without any complaint ever having been made against him, and he having reached the advanced age of seventy-six. The Council also begs to express its regret that this generous procedure on the part of the central authority should fail of success."

THE NEW SUPPLEMENTARY CHAIRS AT THE PARIS FACULTY.—The greatest agitation prevails in the professorial world of Paris with regard to the somewhat high-handed appointment of the new Professors without consulting the Faculty. This body has not only sent in a strong protest, but has determined to contest the right of the Minister to make the appointment, carrying the matter before the Council of State if necessary. The *Union Médicale* reminds the Faculty of its determined resistance to the re-establishment of the *concours*, and its refusal a few years since of several new chairs, which M. Waddington, then Minister, offered it, and considers its present opposition somewhat inconsistent with its former procedures. The *professeurs-agrégés* have also sent in their protest against the appointments, on the ground that two of the six chairs are given to persons not *agrégés;* and, although they do not deny that it is not a legal necessity to fill chairs by *agrégés*, they urge that not doing so is to injure vested interests by disappointing legitimate expectations.

CRYSTALLISED EGGS.—We do not remember to have met with "crystallised eggs"—at least, not to our knowledge—but perhaps some of our readers may have. At any rate, the *Druggists' Advertiser*, New York, in speaking of the immense egg traffic of America, tells us, in the following quotation, together with some old things that are unquestionably true, some new things:—"The perishable nature of eggs has naturally detracted from their value as a standard article of diet. The peculiar excellence of eggs depends on their freshness. But lately the process of crystallising has been resorted to, and by this process the natural egg is converted into a vitreous substance of a delicate amber tint, in which form it is reduced seven-eighths in bulk compared with barrelled eggs, and retains its properties for years unimpaired in any climate. In this form, eggs may be transported without injury, either to the equator or to the poles, and at any time can be restored to their original condition by simply adding the water which has been artificially taken away. The chief egg desiccating companies are in St. Louis and New York. No salts or other extraneous matters are introduced in the process of crystallising, the product being simply a consolidated mixture of the yolk and albumen. Immense quantities of eggs are prepared in the spring of the year by liming. Thus treated, they are good for every purpose except boiling. It is a common fraud for some dealers to palm off eggs so treated as fresh, so that imposition is easily practised. In the desiccating process, however, the difference becomes apparent, as from four to five more limed eggs are required to make a pound of eggs crystallised than when fresh are used, and eggs in the least tainted will not crystallise at all."

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—Bacon.

Aristarchus.—It would, no doubt, be desirable that Major Bolton, or some other authority, should be armed with the same power of proceeding against the water companies when they supply water insufficiently filtered and containing organic matter, as the Metropolitan Board of Works is over the gas companies, as shown in the recent case of the Commercial Gas Company. The Metropolitan Board called upon the Gas Company to show cause why a distress warrant for £400 should not be issued against them for having, on eight separate days, supplied gas of a less purity than allowed by the Act of the Company. The impurity was proved by the gas examiner of the Board. Various technical objections were raised on behalf of the defence, but they were overruled, and the distress was issued for the amount of penalties incurred.

Athletic.—The virtues of coca during muscular exercise have been exemplified, with the best results, in Canada, by the La Crosse Club of Toronto, after a trial of a prolonged character. Most of the best players of Canada belong to this club. For a period of eighteen months the playing members have accustomed themselves to secure a drachm, or a drachm and a half, of the Chilian leaves, and to chew them at intervals previously to and during a match. On one occasion especially, when the club had to meet men well trained to outdoor exercise, it was observed, during an interval for rest, that while the members of the club, most of whom were engaged in sedentary employment, were as elastic and apparently as free from fatigue as at the commencement of the match, their opponents were quite exhausted. A sensation of heat and dryness of the throat was experienced soon after commencing the coca-chewing, but that yielded at once to a gargle of water, and no ill effects were subsequently experienced.

A. A. L.—St. Thomas's Hospital has an income of £42,000 a year.

Cosmo.—The result of the recent French elections shows that there will be thirty-six medical men in the present Chamber of Deputies, against thirty-nine in the last.

Canine.—The Dogs Act, now in force, more or less, was passed in 1872.

Chemicus.—The prizes for the model for the Liebig monument, to be be erected in Munich, are, for that adjudicated the best 2000, the next best 1500 marken—£100 and £75. They are to be sent to Berlin—"An den Kastellan der Königlichen Akademie der Künste"—between June 1 and 15 next.

An Abstainer.—The Chief Constable of Manchester in a recent report showed that during the last year the arrests in that town for drunkenness on Saturdays numbered 2869; and on Thursdays, when they were fewest, 759. Of the intervening days the numbers varied, increasing and decreasing with tolerable regularity. It is noteworthy that during the recent trade dispute at Bolton the apprehensions for drunkenness decreased by 30 per cent.

Neptune.—It is stated that more than two-thirds of the mortality at known ages occurs in the merchant navy when under thirty years of age. The Parliamentary paper on scurvy, 1871, showed how health can be preserved on the longest voyages by the supply of potatoes preserved in molasses. One case is mentioned in which a British crew, soon after leaving Aden for Callao, became subject to this malady, and the captain persuaded each man to eat daily a raw potato which had been preserved in molasses. Fermentation having taken place in the molasses, the taste is said to have been that of chesnuts. The result was that the disease was completely eliminated, and the ship arrived at Callao with the crew in perfect health.

A Matron.—The total daily supply of milk for London, is estimated to be 70,000 gallons.

Theorist.—"When Bishop Berkeley said 'There was no matter'—
And proved it—'twas no matter what he said;
They say his system 'tis in vain to batter,
Too subtle for the airiest human head;
And yet, who can believe it?"

Mr. John Birkett.—At a meeting of the Council of the Royal College of Surgeons on the 7th inst., this gentleman, who now occupies the President's chair, was unanimously re-elected a member of the Court of Examiners, his term of office having expired. Mr. Birkett, who is the Government Inspector of Provincial Medical Schools, is also a prize essayist, having carried off the Jacksonian Prize in 1848 for his work on "Diseases of the Mammary Glands, Male and Female, and Treatment thereof."

Weather Statistics.

The sixth annual report of the Meteorological Office of the Dominion of Canada, published at Toronto, is issued. It gives full meteorological statistics for the whole dominion, and an account of the way in which the work is carried on in the central office.

COMMUNICATIONS have been received from—

Mr. W. E. Poole, London; Dr. William Squire, London; Dr. Thomas Barlow, London; Mr. Teevan, London; Dr. Alexander Yule, Sussex; Dr. Bruce, London; Mr. John Chatto, London; Mr. Lawson Tait, Birmingham; Mr. T. M. Stone, London; Mr. B. R. Wheatley, London; Dr. J. Marion Sims, Paris; Dr. Ross, Manchester; Dr. Sutherland, London; Mr. Lownes, Liverpool; Dr. Chevers, London; The Secretary of the Apothecaries' Hall, London; Dr. J. W. Moore, Dublin; Mr. Griffith, London; Professor Virchow, Berlin; Dr. Monaghan, Accrington; Dr. C. M. Tidy, London; The Secretary of the Harveian Society; Dr. J. W. Barnes, London; Mr E. L. Hussey, Oxford; Mr. W. Robertson, Royal Aquarium, Westminster; Mr. Balmanno Squire, London.

BOOKS AND PAMPHLETS RECEIVED—

Richard Hughes, L.R.C.P. Edin., The London School of Homœopathy: a Lecture—A. B. Shepherd, M.A., M.D., F.R.C.P., Gulstonian Lectures on the Natural History of Pulmonary Consumption—Surgeon-General T. Longmore, C.B., F.R.C.S., Gunshot Injuries—Broadmoor Criminal Lunatic Asylum Annual Report for the Year 1876—John Smith and Co.'s Physicians' and Surgeons' Visiting List for 1878—John M. Woodworth, M.D., The Safety of Ships and of those who Travel in them; The General Subject of Quarantine, with particular reference to Cholera and Yellow Fever—Dr. M'Call Anderson, Lectures on Clinical Medicine.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Cincinnati Clinic—Brief—New York Druggists' Advertiser—Edinburgh Medical Journal—Obstetrical Journal of Great Britain and Ireland—La Province Médicale—Archives Générales de Médecine—Bicycling Times—Gazeta Medica da Bahia—Guy's Hospital Gazette—Monthly Letter of the English Anti-Tobacco Society—Union Médicale et Scientifique du Nord-Est—Analyst—Journal of Anatomy and Physiology—Richmond and Louisville Medical Journal.

APPOINTMENTS FOR THE WEEK.

November 10. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

12. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Medical Society of London, 8½ p.m. Dr. Drysdale, "On Pigmentary Syphilitic Affections in the Female." With cases.

13. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Royal Medical and Chirurgical Society, 8½ p.m. Mr. Barwell, "On a Large Aneurism of Aorta, Innominata, &c., treated by Double Distal Ligature." Mr. Morrant Baker, "On Removal by Operation of a Hairy Mole occupying half the Forehead."

14. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex. 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

Epidemiological Society, 8½ p.m. Inaugural Address by the President (Surgeon-General John Murray).

15. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

Harveian Society, 8 p.m. Dr. Broadbent, "On a Case of Acute Dementia in a Child; Recovery." Mr. Osman Vincent, "On a New Treatment of Lumbar Abscess."

16. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

Medical Microscopical Society, 8 p.m. Mr. J. Needham, "A Case of Hydrophobia."

VITAL STATISTICS OF LONDON.

Week ending Saturday, November 3, 1877.

BIRTHS.

Births of Boys, 1396; Girls, 1271; Total, 2667.
Average of 10 corresponding years 1867-76, 2339·8.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	776	671	1447
Average of the ten years 1867-76	748·4	713 8	1462·2
Average corrected to increased population ...	...	...	1565
Deaths of people aged 80 and upwards ...	...	...	46

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	12	9	...	3	1	3	1	2
North	751729	5	12	25	3	7	...	13	...	5
Central ...	334369	...	2	15	1	1	2	3	...	1
East	639111	...	13	19	2	5	1	6	...	5
South	967692	4	9	14	3	8	...	6	3	5
Total	3254260	9	47	82	9	24	4	31	4	19

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29 880 in.
Mean temperature	49 1°
Highest point of thermometer	61·9°
Lowest point of thermometer	36·7°
Mean dew-point temperature	43·0°
General direction of wind	S.W.
Whole amount of rain in the week...	0·04 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, November 3, 1877, in the following large Towns:—

Boronghs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Nov. 3.	Deaths Registered during the week ending Nov. 3.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2667	1447	61·9	35·7	49·1	9·50	0·04	0·10
Brighton	102264	43·4	73	35	59·1	39·4	48·8	9·34	0·39	0·99
Portsmouth ...	127144	28·3	86	39	59·6	42·0	50·6	10·34	...	...
Norwich	84023	11·2	67	36	59·5	42·8	49·7	9·83	0·98	2·49
Plymouth	72911	52·3	47	46	60·0	42·0	51·2	10·67	0·81	2·06
Bristol	202950	45·6	147	90	61·0	37·5	49·2	9·55	0·85	2·16
Wolverhampton ...	73389	21·6	62	39	59·0	33·8	46·0	7·78	0·42	1·07
Birmingham ...	377436	44·9	343	187	...	...	...	...	...	...
Leicester	117461	36·7	95	45	60·0	37·8	48·4	9·11	0·85	2·16
Nottingham ...	95025	47·6	55	20	59·2	37·3	48·0	8·89	0·81	2·06
Liverpool	527083	101·2	347	244	62·2	42·4	49·7	9·83	0·58	1·47
Manchester ...	359213	83·7	282	171	...	...	...	...	...	...
Salford	141184	27·3	127	69	58·8	38·8	48·4	9·11	0·82	2·08
Oldham	89796	19·2	68	49	...	...	...	...	...	...
Bradford	179315	24·8	131	72	58·6	43·0	49·4	9·63	1·17	2·97
Leeds	298189	13·8	226	114	61·0	42·0	50·4	10·22	0·84	2·16
Sheffield	282130	14·4	236	122	58·5	40·0	48·9	9·39	0·86	2·18
Hull	140002	38·5	110	51	57·0	39·0	47·7	8·72	0·53	1·35
Sunderland ...	110382	33·4	101	43	60·0	42·0	50·4	10·22	0·23	0·58
Newcastle-on-Tyne	142231	26·5	128	49	...	...	...	...	...	...
Edinburgh	218729	52·2	144	85	57·0	39·7	49·2	9·55	0·54	1·37
Glasgow	555933	92·1	405	223	57·0	41·2	49·8	9·89	0·73	1·85
Dublin	314666	31·3	208	162	63·4	35·2	50·5	10·28	0·37	0·94
Total of 23 Towns in United Kingdm	8144940	38·3	6205	3438	63·4	33·8	49·2	9·55	0·66	1·68

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·88 in. The lowest reading was 29·44 in. on Monday evening, and the highest 30·24 in. on Thursday afternoon.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

A CLINICAL LECTURE

ON PROGRESSIVE CHOROIDITIS IN CONNEXION WITH ACQUIRED SYPHILIS.

By JONATHAN HUTCHINSON, F.R.C.S.,
Senior Surgeon to the London Hospital, and Surgeon to the Moorfields Ophthalmic Hospital.

Gentlemen,—The family history of Mrs. P. is that she married at twenty, and had an infant born dead about a year later. Her next lived nine months, was puny, and died. Then followed several healthy children. I put direct questions to her, and she told me that she was not aware that her husband or her children had ever had any indications of venereal disease. She showed me, however, some large, irregular, pigmented scars on her own shoulders, which were left by serpiginous ulcers five years ago. About these I had no doubt that they were syphilitic. Thus, we may take it as probable that she has never had primary symptoms, but, at the same time, as certain that she has in some way become tainted.

Now as to her eye-symptoms. In both eyes there are remains of very extensive choroiditis. It is seventeen years since her left began to fail. It became dull. It has for three years past been practically blind. She can just, at the extreme periphery, see large objects, but cannot count fingers. In this eye the disorganisation is very extensive, and the disc is waxy. There are a few slender iritic adhesions.

The right eye began to suffer for the first time, so far as she is aware, three or four years ago. She then came under Mr. Tay's care, at the London Hospital. It has steadily deteriorated ever since the first beginning of the attack; probably it had begun to fail some time before she noticed it, but it is certain that there was an interval of some ten years at least between the disease in the two eyes, or at any rate before she became aware that her right was materially affected. I must state, as regards other nerve-symptoms, that she has never had any kind of fit, convulsion, or paralysis. She is often giddy, "so that the room goes round." She also suffers from "a very nasty pain across the head." She is fairly healthy-looking, but pale.

There are some peculiarities in the eyes in this case, to which I must now advert. In the left eye there are not merely separate patches of absorption and exposure of sclerotic, but extensive diffuse thinning of choroid and pigmentation of retina, also numerous white lines and grey-white streaks and flame-shaped patches, as if from the organisation of new material. The disc, as I have said, is waxy, and the retinal vessels are very much diminished. In the other eye the conditions are comparatively trifling, but a patch near the yellow spot has caused much interference with sight. The patches in this eye are mainly near the middle of the fundus. The disc is of good colour.

With this case fresh in our minds, in which one eye failed ten years before the other, let me now ask your attention to one which is in some respects very remarkable. A gentleman was one morning led into my room by his wife, a lady apparently twenty years his junior. From the helpless way in which he was led in I supposed him almost blind, and was much surprised when he assured me that he sometimes regained his sight sufficiently "to read the newspaper." He was florid, stout, and apparently in excellent health. Although he did his best to be candid, he was not in some matters a good witness, for his memory for dates was but imperfect. His right eye diverged somewhat, and I found that it was really almost blind; at any rate, he could not count fingers with it. He was very anxious that I should believe that a slight blow on this eye received in the dark more than twenty years ago was the cause of his failure of sight. He admitted, however, that for some months after the accident he could see perfectly, and that then it was the other eye which first failed, so I could not attach much importance to this. He said that his failed sight was an old matter, and that he had not come to me about that, but rather about a general nervousness which had crept over him during the past twelve months. After I had sent his wife out of the room, he said at once, "You are on the right tack, doctor; I have been married two years, and have been getting nervous ever since." He added that he was now accustomed to spend twelve hours of the day in bed, and that an act of intercourse left him weak for six or seven days after. He had become a little uncertain on his legs, and could not go upstairs easily, as he felt afraid of falling. There had, however, been no very definite symptoms, and his feet were neither numb nor cold. He had not experienced stabbing pains in his limbs. His sight had during the last year got a little worse, and he was now obliged to depend upon his wife's reading to him, whereas in former years he had read "acres and acres." His sight, he said, varied much, being tolerable on some days, and almost lost on others. He just managed $\frac{20}{70}$, and read with low glasses (No. 6). "It is curious," he remarked, "that I can see little things better than big ones; and often after making a bargain, having examined the sample carefully, I run over a chair because I cannot see it." This expression clearly pointed to integrity of the yellow spot, and disorganisation of the rest of the fundus. He had central vision only, and could see only those objects which he carefully looked at. I have not yet told you that his age was forty-eight, and that he dated the first failure of sight back five-and-twenty years. So far as he could remember, his first symptom was that he ran against things at night, and had a mist before him. The condition increased steadily, so that in a year or two he was almost blind. The right eye was the one first to suffer, but the left soon followed. During the time the sight was failing he was in good health, and had no brain-symptoms whatever. He was treated throughout by a very distinguished physician and surgeon in the West of England, and also had the advantage of Mr. Bowman's advice on one occasion. Between the years 1854 and 1858 he was, as far as he can remember, almost blind. He could not read in the least, and used to grope his way about by feeling. Rather suddenly in the latter year he began to improve, and he attributes this improvement to his having one night got tipsy. It was a thing that he was not used to, and to his astonishment next morning he found that he could see persons in the street. After this he had some relapses, and the improvement was very irregular; it was, however, ultimately so considerable that in a year's time he could see to read. "Rum, with orange-juice," was, he asserts, his best remedy. Here, however, comes a fallacy in therapeutics; for his memory is very treacherous, and he admits that he is not sure that it was not about this time that he consulted Mr. T., who told him he had taken plenty of tonics and had better now try alteratives, and, in fact gave him a course of mercury. "No one," he says, "ever did me so much good as Mr. T." To shorten our story, the man, who had been more than two years nearly blind, regained sight in the left eye sufficiently to read easily; and from 1858 to 1875 (the date of my notes) he read his newspaper regularly, and conducted successfully a large business, which required sharp sight for small objects. His right eye, we must note, never improved at all; so that there was a definite want of symmetry, which removed the case to a distance from tobacco-amaurosis, and the more usual forms of neuritis. He had, moreover, never smoked, and no cerebral symptoms of any kind had ever been present.

At this stage of my investigation of the case, I used the ophthalmoscope, and found a state of diffuse disorganisation from choroido-retinitis, greater, almost, than I had ever before seen. In the right eye it involved every part of the fundus, the stroma of the choroid and the epithelial layer being absorbed, and the sclerotic showing through everywhere. Accumulations of pigment in minute dots, in specks, and in fine lines, like bone corpuscles, were everywhere seen. The disc was waxy, and its edges ill-defined, and the retinal vessels reduced to mere threads. In the left were similar conditions, with the difference that at the yellow spot was a small, irregular patch of choroid and retina still intact. In this also, the atrophy in other parts near the middle of the fundus was not so far advanced, and ill-defined roundish clouds of grey-white deposit might be recognised in the choroid. In both eyes there was posterior polar cataract—a central opacity from which thick lines branched like spokes round the middle of a wheel.

The choroido-retinal changes resembled those of retinitis pigmentosa in the abundance of minute pigment accumulations in the retina, and in the waxy disc and diminished central vessels, but it differed from it in the absorption of the choroid and the vary various forms and sizes of pigment masses, some of which were of considerable size. There was, moreover, no evidence of zonular arrangement, the pigment being irregularly scattered over the whole fundus. Having found these conditions, I felt certain that the case must be one of syphilis, and reverted to my inquiries on this head. "Have you really never had a chancre?" "Oh yes! I once had one, a very, very little one; it was nothing—only a matter of a few days." "But had you also a very little rash on the skin after it, and a very

slight sore throat?" "I had no rash whatever; but, now I remember, I had a sore throat." "Are you sure that your sore throat was from the disease?" "Yes, for Dr. —— said so, and gave me a wash and a brush to paint it." I relate this colloquy *ipsissimis verbis*, for it was absolutely all that I could get as to syphilis. He did not appear ever to have had a single reminder of any kind. He knew that Dr. —— gave him iodide of potassium, but he could not remember to have had a single spot on his skin. It was within two or three years of this occurrence that his sight first began to fail. Although the quantity of evidence was but small, yet its quality was good, and I have no doubt that he had syphilis, and that the choroiditis followed it. He spoke clearly as to the sore throat and the iodide of potassium; and I may add that he did not show any indications of inherited taint.

Thus, then, we have before us a case in which, within a few years of a very mild attack of syphilis, subacute choroiditis sets in, affects both eyes, and in the course of a year reduces the patient almost to blindness. After this, very possibly under specific treatment, one eye improves, and ability to read is regained, and for nearly twenty years things remain without change. Then, in connexion with sexual loss of tone, increased difficulty in sight is experienced. Finally, we may say that the changes in the choroid closely simulate those of retinitis pigmentosa, and that secondary cataracts, such as occur in the latter, are in process of formation.

The case, so far as the choroidal changes go, is precisely similar to what occurs in the worst forms of inherited syphilis. It is, unfortunately, not very uncommon, as I have elsewhere stated at length, for young adults, who have previously recovered from keratitis, to lose sight almost wholly by chronic choroiditis with diffuse atrophy, pigment accumulation in the retina, and secondary cataract. In acquired syphilis it is more rare. Before we leave the case, let me beg you to take note upon what a fragile fragment of evidence the proof of our diagnosis rests. Had this gentleman chosen to deny the history of his "very little chancre," which occurred a quarter of a century ago, it would have been impossible to confute him; for, excepting the choroiditis, he had suffered nothing whatever in the shape of tertiary symptoms. He might easily have forgotten the chancre, or might have been so convinced that it was "nothing" as to have not thought it worth while to admit it. If a denial had once escaped his lips, it would never have been withdrawn, and we should have been left to grope, if not in hopeless error, at any rate in doubt and uncertainty. Let us keep this fact in mind in other cases of diffuse choroiditis in which specific history is denied. Without giving you time to forget it, I will relate to you yet a third case, and with it I must conclude the lecture.

I show you here portraits of the two eyes of a man named H., who was under care at Moorfields in 1873. In both the choroid is very extensively disorganised, but in the left the patches are larger than in the right. It will be seen from the portrait that the greater part of the choroid at the back of the eye was more or less diseased. There are very large tracts from which the pigment epithelium has been removed, and on which the stroma is so far altered that the network of large choroidal vessels has, in many parts, a greyish-white, instead of a bright red colour, while the capillary network is in these parts probably quite destroyed. Besides these large atrophic areas, there are numerous round patches showing various degrees of change, and in most cases a good deal of pigment accumulation. The disc and retinal vessels healthy. The yellow-spot region is involved. In the portrait of the other eye, which had only lately failed, the most striking feature is the presence of very numerous, rather ill-defined yellowish patches, many of them more or less pigmented in the centre; they vary much in size and shape, and some have become confluent. They differ much less from the colour of the surrounding choroid than do the atrophic patches in the other eye, and the smallest of them might easily be overlooked: the pigment at their centres is brownish and uniform, not in isolated coal-black dots. These patches are, no doubt, recent inflammatory deposits in the choroid. At the lower right hand part of the portrait are, however, some patches of older date, more abruptly defined, and showing dots and rings of coal-black pigment. The newest deposits are in the more central parts of the fundus—a fact which accounts for the recent failure of sight in this eye. The disc and retinal vessels are healthy. It is the disseminate or patchy form rather than the diffuse, but the conditions are mixed, and there is extensive diffuse thinning in some parts. In the left, near the yellow spot, there are traces of the remains of blood-clot. Now, H., who was thirty-nine years of age, and a married man, although he admitted occasional exposure to risk before marriage, denied that he had ever contracted any form of venereal disease. He showed no signs of inherited taint; nor could I make out any history of secondary or tertiary symptoms. He had been married sixteen years, but his wife had never been pregnant. His left eye had, he said, been defective for four years before admission, and was getting worse; in the right he had not noticed any symptoms until a week or two before his admission. He appeared to be in good health. Probably the date of the beginning of the disease was more remote than he thought; for as regards the right eye the changes were quite certainly of old standing. Now, although the history of syphilis is in this case absent, yet the changes are so closely similar to what were present in the two preceding, and in many others which I shall have to mention, that I cannot help believing that he must have suffered from that disease.

ORIGINAL COMMUNICATIONS.

REMARKS ON

TWO CASES OF WRITER'S CRAMP.

By W. R. GOWERS, M.D.,

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MANY cases are supposed to be instances of writer's cramp which are merely examples of general or local weakness, revealed by the act of writing, but recognisable in all other actions in due proportion—*i.e.*, in proportion as they involve delicate co-ordination and are demonstrative in character. In the following two cases the spasmodic element was so conspicuous, the difficulty was so extreme in the act of writing, and was limited so nearly to that act, that there can be no question as to the applicability to them of the term "writer's cramp." They illustrate points of some importance in the etiology, symptoms, and treatment of the affection.

Case 1.—*Writer's Cramp after much Writing—Inutility of Treatment—Ultimate Complete Recovery on Rest.*

A clerk, aged thirty-four, who had had two epileptic fits in youth, began to notice difficulty in writing, a year before he came under observation. He had written during ten hours a day for the preceding twenty years. At first the difficulty was felt only after he had been writing for some time. Two months after he first noticed the difficulty in writing, he found that other delicate operations were not well performed with the right hand; had to leave off shaving himself, for instance. He never noticed any pain or discomfort in the arm. When seen, writing with the right hand had become almost impossible. He grasped a pen well, but on commencing to write the firmness of the grasp increased, and the thumb gradually became more and more flexed, the tip rising higher and higher on the pen, until, after forming a few letters, he had to stop to readjust the thumb. He had had some electrical treatment at the suggestion of a physician whom he consulted, but on inquiry it appeared to have been faradisation. He had also practised rhythmical movements. The voltaic current from the spine to the muscles was ordered, and was carefully applied for six weeks. Not the slightest improvement resulted—indeed, the patient was of opinion that he was rather worse than better for the applications; they were therefore discontinued, and the patient was strongly advised to learn to write with his left hand, that he might give his right hand a long and complete rest. He did so, and in a few weeks, being a persevering man, was able to write sufficiently well with the left hand to resume his occupation as a clerk. He took internally small doses of bromide and quinine. Three months after beginning to use the left hand, his handwriting with the right showed a very distinct improvement; the thumb remained extended for a longer time. Four months later he could write a few words without the least difficulty. A year after first being seen he could write well; the difficulty in using the hand for other purposes had disappeared, and his use of the left hand was not in the least interfered with. He was then allowed gradually to resume the use of his right hand in writing. After a few months he did the whole of his writing with it, and experienced no inconvenience, his handwriting being as good as ever. In reply to a recent inquiry he states that he

still writes entirely with his right hand, and experiences no difficulty in its use, although he has now used it exclusively for two years.

Case 2.—Writer's Cramp after a moderate amount of Writing—Recovery under Rhythmical Movements—Relapse and Persistence in spite of all Measures—Ultimate Change in Electrical Irritability of Muscle and Nerve.

The patient, who was a clerk in a public office, first found a difficulty in writing in the early part of 1872. His previous health had been good, but he was thin, and somewhat excitable in manner. An uncle had been epileptic, and subsequently to the patient coming under observation a brother died with characteristic symptoms of general paralysis of the insane. During the year preceding the failure of writing power, a family lawsuit had occasioned the patient much anxiety. The amount of writing he had done was not excessive. The first manifestation of his affection was that after writing for a little time his hand would begin to shake, and would suddenly jerk off the paper. This increased, until in three months writing was scarcely possible. He then gave up work and went to a gymnastic establishment at Brussels, where he remained for six months, going through a course of special treatment. At the end of that time he was, as he thought, well; he could write as freely as ever. He came back to England, and again had to suffer severe anxiety on account of the illness of his wife; and during this trouble, before his return to work, his handwriting again failed, and in a week was as bad as ever. He was first seen a month after the relapse. On taking up a pencil and attempting to write, all the muscles of the fingers which were in use seemed to pass at once into a state of spasm. As soon as the first movement of flexion was made, the flexor muscles contracted energetically, and the extensors, to keep the fingers in their place, had to be strongly contracted also. The *appearance* was as if the contraction of the extensors was voluntary, to counteract the excessive action of the flexors. The opposition was not, however, well balanced, and some tremor resulted. By partly supinating the wrist, so that he could fix it on the table, he could write a little better; and the same result was obtained by locking the two outer fingers of the right hand with those of the left, and thus giving a very firm support close to the writing-fingers and thumb. Even then, however, the fingers were cramped, and writing was difficult and awkward. The character of the writing was unaffected by the passage of the constant current through the muscles. As far as was ascertained by examination and questioning, no other movement of the hand was interfered with. He was a good pianist, and could play the piano without the slightest difficulty. No separate movement of the hand or fingers was interfered with. The electric contractility of the muscles was not noted.

The treatment advised was a daily application of the voltaic current, at first alone, afterwards in combination with rhythmical movements, in the method found useful by my friend Dr. Poore, and he was ordered to practise occasionally regular movements of the wrist and fingers. This treatment was very thoroughly carried out. When seen he was writing a little with his right hand, fingers locked; but after a short time, there being no improvement, he was ordered to rest the hand entirely, and learn to write with his left hand. This he did very readily, having acquired in a few weeks sufficient facility to do his official writing with that hand. At first, when writing with his left hand, the fingers of the right hand moved in alternate flexion and extension synchronously with the movements of those of the left. The treatment was carried on assiduously for several weeks after he ceased entirely to write with his right hand, but without the slightest improvement; and after it had been tried for two months the treatment was discontinued.

The patient was not seen again for four years. He had continued during that time to write with his left hand, and he did so with perfect facility, so that he had been in the habit of writing thirty letters a-day, of moderate length, without fatigue. He had never experienced the slightest tendency to cramp in the use of the hand. During the whole of the four years he had not written at all with his right hand: nevertheless the difficulty remained unchanged. Although he had used the hand for every other purpose except writing, including shaving and playing daily on the piano, he was conscious of no difficulty in any other operation, with the exception of scratching out with a penknife, in which the position of the fingers is almost the same as in writing. When he tried to write, the spasm was exactly the same as at first. The thumb became at once strongly flexed; the flexor tendons in front of the wrist were felt to become extremely tense, and gradually the position of the wrist changed—it became more and more extended, the fingers and thumb being held very tightly on the pen. As the wrist became over-extended, the tightness of the flexor tendons was less obvious, partly, perhaps, from the effect of the changed angle of the wrist. When the wrist had become over-extended, he brought it back into its former position, and made a few more letters, but the same spasmodic strife between flexors and extensors returned, the wrist gradually became over-extended, and he had to leave off.

The nutrition of the hand and arm appeared to be the same as of the other, but there was a marked change in the electrical irritability of the muscles compared with those of the other side. The flexors of the wrist and fingers, the muscles of the thumb and little finger, all presented a very marked diminution in their irritability to faradisation on the affected side. A slighter diminution was recognisable in the extensors and interossei. In the flexor muscles the contractility to the voltaic current was altered in the same manner as the faradic contractility, but in a slighter degree. The nerve-trunks, median and ulnar, presented the same diminution in faradic irritability as did the muscles. No change in irritability could be found in the biceps muscle; there was a slight change in the sensitiveness. Faradisation of the muscles was felt less acutely than on the other side, and the same change was noted to the faradic sensitiveness of the skin away from the muscles: a current applied to the tips of the fingers, which could just be felt distinctly on the left, was unfelt on the right side. No diminution of sensibility could be detected by the ordinary tests. The power of the muscles was not measured.

These cases present the characteristic spasmodic element in the disease, and in each case the difficulty was limited to the act of writing, and to certain acts involving a similar co-ordination of the same muscles which are employed in writing. The explanation of such cases which seems to me the most satisfactory is that which is adopted by Dr. Reynolds, in his article in the "System of Medicine," and which refers them to a morbid state of the centres involved in the act of writing. No doubt a primary local disease may sometimes be followed by a condition analogous to writer's cramp, but it does not follow that the influence of the local disease has been solely local.

On the view that writer's cramp is essentially a central affection, the change in the irritability in Case 2, and which, as Dr. Poore has pointed out, is very common in writer's cramp, may be interpreted as an example of the change of nutrition which results from long-continued functional disturbance. Every functional disturbance of the nervous system has, no doubt, an organic basis. The fact that a long-continued functional affection, such as writer's cramp, is attended with an obvious alteration in electrical irritability is thus a demonstration of the underlying or attendant molecular change. Electric irritability is a test of nutrition. A change in irritability, even if slight, means a change in nutrition, although perhaps not one that would be obvious on ordinary histological examination. There is reason to believe that depression of irritability in nerves is attended by molecular changes such as in extreme degree is revealed to the microscope by the segmentation of the myelin of acute degeneration. This depression is commonly preceded by exaltation of irritability. In some other cases of functional disturbance a similar increase of irritability may be found—a condition probably indicative of irritative changes. Such a condition of exalted irritability is found, for instance, in chorea.(a) In the absence of any evidence of primary local disease of nerve, the change in nutrition is, according to current views, to be ascribed to a corresponding change in the nutrition of the nerve-cells of the spinal cord, secondary to the irritative influence of the primary morbid process, wherever that may be situated. It is thus comparable to the similar change in irritability which follows an irritating lesion in some regions of the cerebral hemisphere, causing hemiplegia.

The pathology of writer's cramp as a disease of nerve-centre receives an interesting physiological illustration in some of the facts observed by Romanes in the nervous action of the Medusæ. He found that portions of the apparently homogeneous tissue

(a) *British Medical Journal*, August 25, 1877, page 251.

of a jelly-fish are paths of nervous action, and that if the nerve-force were hindered by an incision from traversing its usual path, repeated stimulation would sometimes, when continued for a little time, open up a new path. That is to say, tissue not functionally, but "potentially" nervous might be rendered functionally active by the breaking upon it, at a given point, of waves of nerve-force. This may be taken as an illustration of the way in which new combinations of nerve-action are physiologically possible. A morbid proneness to permit a similar development of new tracks of action, of new associations of action of connected and often-excited cells, and even of abnormal action within the cells themselves, is probably one element in the pathology of writer's cramp. The morbid condition which thus permits the over-action is indeed best conceived, as Dr. Ringer has suggested, as a diminished resistance to action. There is long-continued and frequent stimulation of nerve-elements which have a proneness to suffer the nutritive degradation by which their "resistive force" is lessened, and the stimulation which should result in balanced muscular contraction causes an unbalanced cramp.

The influence of predisposition to neurotic affections on the occurrence of writer's cramp was exemplified in each of these cases—in the one, in the patient's own history, he having suffered from epileptic fits; in the other, in the family history, an uncle having been an epileptic, and a brother a general paralytic. A similar predisposition may often be seen in cases of this affection. Of still greater interest, however, is the degree of the exciting cause, in these two cases, in relation to their subsequent course. The patient who recovered had written ten hours a day for twenty years; while the other, who did not recover, had done only a very moderate daily amount of writing. *Cæteris paribus*, the amount of predisposition varies inversely as the exciting cause of a disease: the less the excitant needed, the greater must be the predisposition; and here, as in many other (although not in all) instances, the degree of the predisposition, rather than the degree of the exciting cause, has to be our guide in a prognosis as to ultimate recovery.

Lastly, these cases illustrate a point of treatment which is, I think, of great importance—that the sufferer should learn to write with his left hand. Whatever may be the value of various methods of treatment, there can be no question that the most important element in each method is rest; and the first case suggests that sometimes rest may be more effectual alone than when combined with adjuvant methods of treatment. But the only way in which rest can be secured, in a large number of cases, is by the patient learning to write with his left hand; for many, if not most, of the sufferers from writer's cramp are those who gain their living by writing. The cessation of writing means often insufficient food, and (what is worse still) the mental distress which, as Case 2 shows, has so powerful an influence on the occurrence of the affection. A man of average industry and perseverance can learn, in the course of a few weeks, to write legibly with his left hand, and in the course of a few months he can write sufficiently fast to resume the duty of a clerk. The writing is upright or its slope reversed, but the style is not ungraceful. Thus rest, absolute, from writing and similar actions, can be given to the right hand; and thus, as in Case 1, recovery may be permitted, or, as in Case 2, if recovery does not take place, the patient is enabled for a time at least (it may be a long time, as in this case) to earn his living.

But to this the objection may be raised that the sufferer will acquire writer's cramp in his left hand, and that his last state, with a bilateral affection, will be worse than his first. I do not think, however, that the latter statement would be justified by facts. A patient who is unable to write on account of writer's cramp in both hands is in no worse condition than one who is unable to write because he has writer's cramp in one hand, and has not learned to write with the other, provided that other movements than writing are not interfered with by the spasm. Of course, if a spasm began in the act of writing, and then spread to other movements of the left hand as well as the right, the consequence of the use of the left hand for writing would be serious; but I believe the chance of such a result to be so small as not to be worth consideration. It is remarkable how limited the cramp may remain. This is shown by Case 2, in which other movements involving delicate co-ordination, and frequently performed, such as playing on the piano, are not interfered with. I know a gentleman who has been for years the subject of writer's cramp; he has stopped his writing, and, although equally unable to draw with a hard pencil, remains able to (and does constantly) paint with a camel's hair brush.

But I think that the danger of an affection of the left hand has been exaggerated. No doubt it sometimes occurs, but I have not myself, out of a good many cases of writer's cramp and allied affections, met with any instance in which the left hand has become affected when used; and Case 2 shows that even where the conditions seem most favourable for such an extension, so many years may pass without its development that it is now hardly probable that it will occur at all. For in this case there was not only a most powerful predisposition, but the bilateral association of the centres and the morbid excitability of the affected centre were strikingly illustrated by the movements of the right hand synchronous with those of the left during the patient's early efforts to write with his left hand. And yet the patient has been able to earn his living for several years by the use of his left hand, and even to fulfil a specified term of work. A case in which common associated movements occurred when the left hand was used, and in which it was employed for writing without detriment, is recorded by Dr. Poore.

ON CHINESE HÆMATOZOA. (a)

By PATRICK MANSON, M.D.,
of Amoy.

(*Continued from p.* 515.)

Filaria Sanguinolenta.

I EMPLOY this name on the authority of Dr. Lewis, who adopts it from Schneider. The latter applied it to a filaria found embedded in the walls of the stomach of dogs, the description of which, Dr. Lewis says, applies very closely to the animal found by him in the œsophagus, thoracic aorta, and neighbouring parts of the pariah dogs of Calcutta. Dr. Lewis's description nearly corresponds with what I have observed in Amoy, and I have no doubt the parasites are identical. In the following notes I will confine my remarks strictly to what I have myself observed.

Some idea of the extent of its prevalence may be formed from the fact, that of thirteen dogs slaughtered for the purpose of procuring specimens of this parasite, nine contained the living animal in different stages of development, or showed traces of its former presence. So that I think I may safely say that all dogs who have attained any considerable age are or have been its host, though the degrees of infection and accompanying lesions vary from that of the most trivial description to those of the utmost gravity.

As to its presence being recognised during life, Dr. Lewis has always found it associated with free embryo filariæ in the blood, such as I have described as belonging to *Filaria immitis*, and he looks upon these embryos as the progeny of *Filaria sanguinolenta*. He is quite aware of the possibility of his being mistaken, but he thinks it very unlikely, as in several instances in which Filaria sanguinolenta and embryo filariæ were present together, he pursued his search into all the principal bloodvessels for other forms of mature filariæ, such as might have given birth to the free embryos, but without finding any. Still, I think he is in error, and for the following reasons:—Embryo filariæ are found in the blood where there may be no aortic tumours; among the thirteen dogs just referred to, there were seven which, although containing Filariæ sanguinolentæ or exhibiting traces of their presence, yet had no free embryos of any sort in the blood—at least, I did not find them; whereas, when Filaria immitis was present in the heart, free embryos were found in all but two cases. The two exceptions almost amount to a proof in themselves, for in one case unimpregnated female Filariæ immites were found without any male worm, and in the other a solitary male, while aortic sanguinolenta tumours were present, and breeding sanguinolenta females were found in the œsophagus. There are other reasons, which will appear by-and-by, why we should not consider the free embryos often associated with it as the progeny of Filaria sanguinolenta. I conclude, therefore, that beyond perhaps difficulty in swallowing, produced by the mechanical action of a filaria tumour in the œsophagus, there is no reliable symptom by which Filaria sanguinolenta can be detected during life. If the fæces were carefully searched,

(a) From the *Customs Gazette*.

and perhaps the urine also, eggs might be found, and constitute certain evidence. Again, as to the habitat of Filaria sanguinolenta, I have found specimens embedded in characteristic tumours in the walls of the thoracic aorta, in the walls of the œsophagus, in the loose cellular tissue in front of the latter, and in the pleura; never elsewhere. The lesions it produces are very characteristic. On opening the thorax of an affected animal, and drawing the heart and left lung over towards the right side, the straight part of the thoracic aorta may be seen to be studded with small tumours ranging in size from a small pea to a bean, and the anterior and lateral surfaces of the œsophagus bulged out by tumours perhaps as large as a walnut; and where several of these are in juxtaposition, a large lobulated tumour may conceal the œsophagus altogether. To the touch these tumours are hard, though at points there may be a feeling of deep fluctuation. If the aorta is excised and split open, its inner surface is found, at the points corresponding to the tumours on the outside, to be more or less deeply sacculated, the inner coat roughened, and the outer coats thickened. In the latter, worms at different stages of development (I have not found them very large in this situation) may be found, or perhaps the sacculation and external bulging may only be evidence that a worm had once been there, but has disappeared. When the worm has reached a certain stage in its development, a minute orifice can be seen on the inner surface of the tumour, communicating with the cavity containing the animal. Through this hole a purulent-looking fluid can be expressed; this, on microscopic examination, is found to be loaded with characteristic ova, and cells resembling those of ordinary pus. The tumours in the œsophagus occupy the muscular wall, and generally are much larger than those of the aorta. On the inner surface of the œsophagus a small hole is, as a rule, to be seen, perhaps several, communicating with the cavity of the tumour, and through this the purulent egg-laden fluid can be easily expressed; sometimes, and by no means rarely, part of the mature filaria protrudes through this hole and hangs loose in the channel. I have found, connected with the œsophagus, mature tumours embedded as I have just described in the muscular walls, similar tumours cretified and enclosing fragments of a long dead filaria, small pedunculated tumours of filarian origin projecting into the channel, and long tunnels burrowing between the coats, in some part of which a parasite can be found. In addition to these, the more frequent situations, the animal may be found in large or small glandular-looking lumps in the areolar tissue of the posterior mediastinum, or encysted between the costal and pulmonary pleuræ. In all these situations I have found them, and all in the same dog. When small, the parasite is found alone, closely invested by the peculiar tissue it seems to create around itself, lying as it were in a tunnel; but when mature, it is found loose in a large tumour, in company with one or more (eighteen I found in one instance), all encapsuled in a common and perhaps cretified cyst, and floating in a purulent fluid.

The mature female worm measures from three to four inches in length, by about one-sixteenth of an inch in breadth; the male is shorter by an inch or more, and can be distinguished from the female by the simple incurvation at the tip of his tail. The colour in both sexes is a dark pinkish-red. Rolled between the fingers, the body is found to be firm and hard, and when stretched yields, but does not rupture readily. The Filaria sanguinolenta exhibits similar movements to the Filaria immitis, but they are more active.

The coverings of the mature Filaria sanguinolenta are two—the integument, a delicate transversely-striped membrane; and the fibro-muscular, consisting, as in Filaria immitis, of strong coarse longitudinal fibres.

The alimentary canal extends the whole length of the body. The mouth is placed at the very extremity of the head, and is easily distinguished from that of Filaria immitis by its six well-marked lips. These lead to a narrow pharynx, which expands into a straight and capacious œsophagus, about one-third of an inch in length, which terminates in the intestine by a valvular arrangement similar to that in Filaria immitis. From this point the alimentary canal passes, in company with the uterine or spermatic tubes, in a tortuous course towards the anus, before reaching which it expands considerably, to contract again as it opens finally on the surface of the body, some little distance from the extremity of the tail. The walls of the alimentary canal are muscular, and are kept apart in places by a dark granular material, the food of the animal.

The reproductive organs of the female resemble, in their arrangement, very closely those of Filaria immitis. The vagina opens near the junction of the œsophagus and intestine, and after a short convoluted course divides into the two uterine tubes. These expand, and running backwards and twisting round the alimentary canal at intervals, near the caudal extremity gradually taper down to fine ovarian tubules. The latter do not expand again, as in Filaria immitis, but preserve the same calibre throughout their whole length, winding round the alimentary canal and each other in a very intricate pattern. I have shown that the Filaria immitis is viviparous; the Filaria sanguinolenta, on the contrary, is oviparous. I have not studied the various stages in the development of the ovum, but, as observed in the purulent-looking fluid I have described as exuding from the mature filaria tumour, it is seen to be of a cylindrical form, the ends of the cylinder being rounded off. It measures about $\frac{1}{750}$th of an inch by $\frac{1}{1500}$th. The embryo is visible in most eggs, doubled up in the interior, and if a little pressure is applied to the covering slide, the shell can be burst and the animalcule expressed. As thus observed, the embryo measures about $\frac{1}{200}$th of an inch in length, and resembles in form that of Filaria immitis, though rather more truncated at the caudal extremity and exhibiting no movement.

As to the reproductive organs of the male, if the under surface of the tail is examined, two rows of papillæ are seen on each side of the orifice of the sheath of the spicules and the anus, four in front of them, arranged in two lines parallel to the long axis of the body, and two behind placed obliquely. Viewed laterally, these papillæ are seen to have long pedicles. At the very extremity of the under surface of the tail is a clear space shaped like a rose-leaf, and in the centre of this are two more, but very minute, papillæ. The penis is represented by two spicules, one very long attached farther up the body than the other, the shorter. In the specimens I have examined, the spicules were retracted, but the delicate outline of a sheath could be traced to a common opening in front of the anus, through which they are, I suppose, protruded. The tendons of a retractor muscle can be seen attached to the deep end of each spicule. I could not make out the connexion of the vas deferens with the spicules and papillæ, but doubtless it exists. Traced upwards, a point is reached where the vas deferens contracts very abruptly and the testicle begins; this extends to near the junction of the intestine and œsophagus, where the tube becomes doubled on itself, very much as in Filaria immitis; only the doubling is much longer, extending backwards for nearly half the length of the testicle, and when carelessly viewed giving rise to the idea that the testicle, like the uterus, is double. The spermatic fluid I have not examined.

The mode by which Filaria sanguinolenta obtains access to the tissues is made sufficiently clear by an examination of the tissues it attacks. From its being found in and near the œsophagus, we are justified in inferring that the embryo is swallowed, that it attaches itself to the walls of this tube, pierces them, and buries itself in the muscular coat, where a fibrous covering is formed around it; or perhaps its journey is continued a very little farther, and it enters the walls of the thoracic aorta, or the posterior mediastinum. From all of these situations I have extracted specimens, varying in length from a few lines (in the immature animal) to upwards of three inches (in the pregnant female). Small worms are most frequently found in aortic tumours, and on this account I incline to think either that they do not often attain maturity there, or that they leave it for the more favourable situation of the œsophagus. Immature worms are single, and lie closely invested in their tunnels; the mature are always in company, sometimes in considerable numbers, and float loose in a fluid enclosed in a cyst. I infer from this diversity of arrangement at these two stages in the animal's history, that when the sexual organs have arrived at a certain point of development, the parasite resumes its perambulations, seeking out one of the opposite sex. In this way many are brought together, as, where once a track is formed, others, on coming across it, are likely to follow it. I have seen an œsophagus dissected in various directions by long tunnels, at the end of which I found a parasite. When the sexes come together the female becomes impregnated, a small aperture is formed in the cyst leading to the channel of the œsophagus or aorta, and through this ova are poured into the alimentary canal or circulation; the female, more certainly to accomplish this, sometimes protruding her tail through the hole.

Is there any connexion between Filaria immitis and Filaria sanguinolenta? Considering that both are very frequently found in the same dog, and intimately connected with the circulation, some might be tempted to suggest that they are of the same species, in different stages of development. But a glance at the physical characters of each is sufficient to establish the impossibility of this. I give below, arranged in the

form of a table for the sake of the contrast, the principal points of difference.

	Filaria immitis.	Filaria sanguinolenta.
	Viviparous; active embryo $\frac{1}{100}$″ in length.	Oviparous; motionless embryo $\frac{1}{200}$″ in length.
Length . . .	Never under six inches	Never over four inches.
Colour . . .	Milky white	Reddish pink.
Mouth. . . .	Simple	Six-lipped.
Male	Corkscrew-like tail; spermatic tube tapers gradually to testicle	Tail, a simple incurvation; vas deferens ends abruptly by a constriction.
Female . . .	Uterus contracted abruptly to form ovarian tubes, which again expand to gradually taper to short terminal tubules	Uterus gradually tapers down to ovarian tubules, which are long, and do not again expand.
Habitat. . .	Venous system	Arterial system and alimentary canal.

I believe there are three serious morbid conditions produced by Filaria sanguinolenta:—

1. Stricture of the œsophagus, more or less complete. This most frequently occurs when several large tumours are formed, especially when they are grouped together near the cardiac end of the tube, the most frequent locality. Regurgitation of food and slow starvation will be the consequence, unless the tumours diminish in size by the escape of their contents or death of the filariæ.

2. Pleurisy. This is not uncommon in dogs here, and I think is often caused by the bursting into the pleura of a tumour which does not find vent for its contents by opening in the usual way into the œsophagus or aorta. I have found very distinct evidence of this occurrence in one instance. In it, worms were found crawling about amongst recent adhesions in the serous cavity.

3. Paralysis of the hind legs. This is also common here, and is, I believe, caused by plugging of the capillaries of the spinal cord by ova escaping into the aorta. The brain is not affected, as the filaria tumours are seldom, if ever, situated on the cardiac side of the arteries proceeding to the head. Other affections are doubtless produced by the ova in the intestine, kidneys, and other viscera, but I have no knowledge of them or information to offer on this very interesting and important point.

(*To be continued.*)

Guttapercha Tissue.—Dr. Chamberlain gives an account in the *New York Medical Record*, September 29, of a guttapercha tissue, which is rolled out as thin as fine French writing-paper, being almost transparent, with a satiny lustre. It is far cheaper than oiled silk, perfectly pliable, and slightly elastic. It is unaffected by the heat of the body, but softens at a somewhat higher heat. It is insoluble in water, but soluble in ether, chloroform, and alcohol. It is especially suited for wounds or lesions of the hands, forming a neat, light, clean, impervious dressing, allowing the hands to be put into water. Adhesion of cut surfaces and resolution of infiltrated deposits take place very quickly and kindly. If a broad patch of the skin is to be shielded from the air—*e.g.*, a scalded surface or a patch of eczema—a piece of the tissue somewhat larger is laid on the surface, and sealed in position by tracing the margin with a camel's-hair pencil dipped in chloroform, precisely as a covering-glass to a microscope-slide is adjusted.

New Member of the General Medical Council.—Glasgow has received another compliment from the Crown. Professor Lister's removal to London necessitated the resignation of his appointment as one of the Crown representatives on the General Medical Council; and the *London Gazette* informs us that "her Majesty has been pleased to appoint Dr. Andrew Fergus, President of the Faculty of Physicians and Surgeons of Glasgow, to be for five years a member for Scotland of the General Council of Medical Education and Registration in the United Kingdom, in the place of Joseph Lister, Esq., resigned." The appointment appears to be in every way a good one. Dr. Fergus holds a well-known and eminent position in Glasgow, and he is, we have understood, in what we should call here general practice. If so, it is certainly not a subject for regret, to say the least; for the general practitioners—the vast bulk of the profession—may justly demand to be much more strongly represented in the Council than they have hitherto been.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

CASES OF HEART DISEASE—THE RELATION OF PYREXIA AND SPLENIC EMBOLISM.

Case 1.—*Mitral Disease—Pyrexia of Hectic Type—Splenic Embolism and Enlargement—Cerebral Apoplexy.*

(Under the care of Dr. GEE.)

Mary Ann B., aged ten years and a half, was admitted, under Dr. Gee, on December 6, 1875. Both parents were dead (the father from heart disease); and the history given of the child was very imperfect. She was stated to have had St. Vitus's dance twice, but it was not known how long before admission. During the ten weeks that the friend who brought her had had charge of her, the child had been short-breathed, had had pain in her "left side," in her calves, ankles, and wrists, but no swelling or redness of the joints had been noticed.

On Admission.—The child walked upstairs, but looked very pale and feeble; there was no cyanosis. Heart: Visible impulse in second and third left spaces close to the sternum; also in fifth space external to nipple, where it feels heaving; no thrill; cardiac dulness for half an inch in second space close to sternum; right limit at right edge of sternum; left limit at one finger's breadth to left of left nipple; there was a high-pitched apex-systolic murmur conducted into the axilla; there was no fulness of jugulars; the pulse was full, hard, and regular, under 100; respiration quiet; breath-sounds natural; no anasarca; nothing abnormal detected in abdomen. For three days the child had diarrhœa, and a trace of albumen in the urine. The temperature ranged from 98° in the morning to 101° and 102° in the evening, and it was difficult to account for this pyrexia. There was no evidence of any alteration in the heart-sounds; the chest was fairly resonant; the abdomen was a little full, but no rose spots could be seen; the tongue was covered with a thin dryish white fur.

December 13.—It is noted there is no wandering; the bowels are now confined, the tongue is slightly furred, moist; pulse only 96. There is a little resistance in the left hypochondrium (? splenic); no tenderness there; no rose spots; and the child's aspect is positively not typhoidal. (For temperature *vide* end of case).

29th.—The child had some pain in the right foot. There was a little puffiness on the dorsum, just in front of the ankle.

January 3.—Yesterday and to-day the child has complained of pain in the belly. The pain is localised to the splenic region. Now the spleen extends three fingers' breadth below the margin of the thorax in the left nipple line, and is very tender on palpation; the edge is distinct. There is relative dulness in the axilla from the fifth rib downwards, and in the back from the angle of the scapula downwards (? splenic). There is no definite change in heart-signs, except a suspicion that the murmur at the apex is softer than it was. The child has no cough. There is a very little rhonchus at the left base, but it clears up when she takes a deep breath. She has had no vomiting and no rigor. Her tongue is nearly clean. She looks very sallow. The puffiness, redness, and tenderness of the dorsum of the right foot continue.

6th.—The tenderness in the splenic region is much less.

7th.—There are some ill-defined "swellings" to be felt on the surface of the spleen—two at least. The blood examined under the microscope seemed natural except for a great number of minute sparkling white molecules, the number of which certainly seemed diminished by the addition of ether.

11th.—There has been no pain in the left hypochondrium for one week until this morning. The spleen is not so easily felt; and there is no visible swelling, which there was before. The pyrexia continues. She has been taking ext. ergotæ liq. ℳx. ter die.

29th.—The lungs were examined again and again, with a view to the possibility of tuberculosis. It was thought that at the right apex there was some high-pitched prolonged expiration; but there were no adventitious sounds. There was some dulness at both posterior bases, regarded as hepatic and splenic. The spleen extends three fingers' breadth below the thoracic margin; the anterior edge comes as far forwards as the left nipple line. There is no tenderness. The child has had occasional vomiting.

February 7.—Great pain yesterday afternoon; made the child scream out. Referred it to her belly (left side and in the middle), but said it was different from the old pain. (? some local peritonitis). She places her hand over splenic region, and to the right of and below the navel, as the spots where she now has pain. Cannot bear to be touched; looks pale and feeble; has vomited several times. No difference in heart-signs, except that the second sound at left base is very accentuated; and that the apex-murmur is now well heard at the left back. The murmur is purely systolic; there is no suspicion of presystolic murmur. Pulse 132, regular, of fair volume.

8th.—The excessive tenderness below the navel has gone; there is only tenderness now in the old place over the spleen.

20th.—Complained in the morning of headache, and in the course of the day vomited two or three times some yellow stuff. At 12.45 p.m., when seen by Mr. Cant, the House-Surgeon, the child was sitting propped up; looked excessively pale—collapsed, in fact; took no notice of anything; when asked, said she had a bad pain in her head; was placed in horizontal position, and soon afterwards became unconscious; then the left forearm became rigidly flexed, whilst the right arm worked round in a horizontal circle on the bed, there being no flexion either of right wrist or elbow. After a few minutes the right forearm became rigidly flexed as well as the left; the pupils closely contracted; insensibility of the conjunctivæ. The face was not drawn at this time, and the limbs remained extended. Subsequently the child came to, and called for a basin; then, according to the nurse's statement, became convulsed in mouth, arms, and legs; at 2 a.m. had rattles in the throat, and at 3 a.m. died.

Temperature.

	Morning.	Evening.		Morning.	Evening.
Dec. 6, 1875	100·4°	101·4°	Jan. 14, 1876	99·8°	100·4°
7	98	100·6	15	99	103
8	98	102	16	99·6	100·4
9	101·6	102·4	17	99	102
10	99·2	101·4	18	96·8	102·4
11	98·8	100	19	99	102
12	98	101·8	20	98	99
13	99	100·4	21	99	100·6
14	99	101	22	100	101·4
15	98	100	23	100	99·2
16	97·4	—	24	99	102·6
17	97·6	96·8	25	99	102·6
18	97·6	99	26	99	102·4
19	97	97·8	27	100·4	101
20	98	99·6	28	99	102
21	—	99·4	29	99	101·4
22	97·6	100	30	99	102·6
23	97·8	100	31	99	102
24	98	99	Feb. 1	98·6	102
25	98	100	2	99	103
26	97	99·8	3	99	102·4
27	97·4	102·4	4	99	103
28	98	102	5	98	102·4
29	98·4	103·4	6	98	102
30	99	98·2	7	98·4	102
31	100	102	8	98	102
Jan. 1, 1876	100	101·6	9	100	102
2	99	101·6	10	100	102
3	101·4	103	11	99·4	100·4
4	99	101·8	12	99·8	102·2
5	98·2	102·2	13	99	102
6	97	100·4	14	98·6	101·8
7	97·6	102	15	99·8	102
8	97·8	102·6	16	99	101·8
9	97·4	102	17	101	101·8
10	99	102	18	101·4	102
11	99·6	101	19	99·4	98·6
12	98	101	20	101·8	102
13	99·6	102·4			

Post-mortem Examination, twenty-four hours after Death.—Rigor mortis slight. Head: There was a little loose clot in the superior longitudinal and other sinuses. A little blood in the meshes of pia mater covering right hemisphere; much more abundant on the right lateral aspect. Over the island of Reil there was a thickness of half an inch of coagulated blood. In removing the brain a clot the size of a walnut burst through a rough fissure on the side of the right tempero-sphenoidal lobe. It is possible that from this source the blood inside the pia mater had escaped, though no direct connexion could be traced. The blood was especially alongside the branches of the middle cerebral. That vessel and a great many of its branches were carefully traced, but no rupture, nor aneurism, nor atheroma, nor thrombus was discovered. The laceration of the temporo-sphenoidal lobe was the only one found on the exterior of the brain. On opening up the ventricles there was a clot found in each, and extending into the third and fourth ventricles. The corpora striata and optic thalami seemed natural. There was a small laceration external and posterior to the right optic thalamus. The rest of the brain was natural, and nothing could be detected wrong with the vessels. Thorax: The heart was not so big as had been expected; it weighed only four ounces. The pericardium was adherent to the left costal pleura at one spot, accounting for the apex-beat being felt distinctly external to the left nipple-line. There were old adhesions of the two layers of pericardium, but they were not very firm. The left ventricle was of about natural thickness. There was contraction of the mitral orifice, with some small vegetations. Also there were some vegetations on the endocardium of the left auricle. No ulceration. Lungs: No apoplexies; a little œdema. In the middle of the right upper lobe there was a small group (about six) of racemose fibrous tubercles; none elsewhere. No consolidation. Glands round right bronchus showed old caseous change. Left lung œdematous, but no consolidation and no tubercle. Glands round left bronchus natural. Abdomen: The dulness at the left posterior base was due mainly to the spleen, which extended quite up to the spinal column; but a little of it was due to the left lobe of the liver, which extended across above the spleen. Spleen greatly enlarged; weighed eleven ounces and a half; very flabby and soft, but not diffluent; not so soft as a pyæmic spleen; it was of a chocolate-brown colour. The Malpighian bodies were white and round, bigger and plainer than usual. There were four infarcts in the spleen, two at the hinder end and two in front; each of them the size of a Spanish chesnut. To the most anterior one there was an adhesion of the great omentum, which probably corresponded with the attack of local peritonitis that the child had. These infarcts were of a dirty brown colour; the one last referred to was the most recent. Liver large and flabby. Kidneys enlarged; eight ounces and a half together; capsule stripped easily; there was some general cloudiness; two large infarcts in each. Intestines and genital organs natural.

Case 2.—Mitral Disease—Ulcerative Endocarditis—Cerebral Embolisms—Splenic Embolisms—Pyrexia.

(Under the care of Dr. CHEADLE.)

Annie I., aged eight, was admitted May 25, 1877. Father had suffered from acute rheumatism. This child three years before was stated to have had St. Vitus's dance. After one month she got whooping-cough, then the St. Vitus's dance went away. The whooping-cough lasted two months, and was followed by rheumatic fever, which disabled her for four months. Never right since. Has continued pale and has not made flesh. She had been under observation as an out-patient for nine months, with mitral regurgitation. There was nothing special about her except marked anæmia, and once or twice syncopal attacks, until five weeks before admission. She then suddenly began to vomit, and complained of pain in the forehead. Vomiting continued for twenty-four hours, on and off, and she had also pains "all over." Then for two days the mother said she became blind, and was convulsed in arms, legs, and eyelids. When brought to the out-patient room the child was pyrexial, but no change in her physical signs could be made out. The mother refused to leave the child in then. A few days afterwards she had another fit, and subsequently was delirious and semi-maniacal. When examined in the out-patient room there was no physical sign to account for the child's pyrexia, with the exception of some tenderness below the left margin of the thorax. And although the edge of the spleen could not be felt, t was considered possible, in the light of the first case, that the fever might possibly be due to splenic embolism, and splenitis set up thereby. The fits, which had passed off without leaving any paralysis, and the delirium, were considered possibly to have been due to temporary blocks in some of the small cortical vessels.

The patient was admitted on May 25. The following report is abstracted from the notes of Dr. Garlick, Registrar:—"The child has considerable dyspnœa; requires to be propped up in bed; leans on to left side; alæ nasi, however, do not work; respirations 60; pulse 132, regular, full, not very compressible; face chlorotic; has vomited several times; tongue moist, with patches of fur. Cardiac region bulged; apex-beat sixth space, outside nipple; impulse heaving, but not strongly so;

has a long systolic apex-murmur; sounds at base muffled; posterior bases of chest resonant; a few coarse râles; abdomen distended; liver and spleen not palpable; no œdema of feet or any other part; temperature 104·2."

26th.—Morning temperature 103·2°, evening 104·6°; pulse 148; respirations 64. Bowels moved six times; urine faintly acid, no deposit, a trace of albumen. At 5 p.m. some tremor was noticed in the back of the left hand, the right arm became rigidly extended, and there was internal strabismus of the right eye. At 7 p.m. there was some twitching of the right side of the face and the right arm, whilst the left side was not moved; this lasted ten minutes. At 8.30 there was again convulsion of the right side of the face and the right arm, the left side remaining unmoved; the legs were not noticed. There was no change to be detected in the fundus of either eye when examined ophthalmoscopically. At 10 p.m. it was found that the left side of the body and the left side of the face were paralysed.

27th.—Morning temperature 103·6°, evening temperature 104°; pulse 144; respirations 56; pulse 168. Bowels moved ten times; motions green and offensive, passed in the bed twice during the night. Urine also passed in the bed, in fair quantity, as far as can be judged. Now perfectly conscious; rather irritable; constantly begging for drink and ice; lips and tongue dry; the latter covered with thin brown fur: exceedingly pale; the left hemiplegia continues—the lower part of the face, and, to a slight extent, the left orbicularis palpebrarum, and the left arm and leg; sensation natural; tongue deviates to the left; no strabismus; pupils equal (dilated by atropine); sees and hears equally on the two sides; speech natural; swallows well now; said sometimes to choke a little. Chest: A good deal of rhonchal fremitus; left side does not expand so much as right. Abdomen full; no tenderness; *tâche cérébrale* appears after a short time.

28th.—Morning, temperature 104·4°, pulse 142; respirations 68; evening, temperature 105·2°, pulse 156, respirations 64. Bowels moved four times. Had a restless night; is sensible, but not so sharp as she was yesterday; left hemiplegia continues; speech is a little thick; extreme thirst.

29th.—Morning, temperature 103°, pulse 152, respirations 64; evening, temperature 104·8°. Bowels moved twice. Speech still thick; takes little notice, but answers rationally; hemiplegia as before; the left eyelid does not close completely; sometimes eyeballs not parallel; still the abdomen is full, but the spleen is not felt; edge of liver just below thoracic margin. There is a little œdema of the left foot.

30th.—Morning, temperature 104·6°, pulse 152, respirations 60; evening, temperature 105·4°; speech indistinct; swallows badly; coughs when liquids are taken. Pulse continues full, regular, and incompressible. The heart's impulse is noted today as low as the seventh space, and two inches outside the nipple line, but is felt best in the fifth and sixth spaces. There is also impulse at the epigastrium. There is no murmur except the apex-systolic one, but the second sound at the base is weak and muffled. There is now venous pulsation in the neck, and slight cyanosis with the pallor. The œdema has disappeared from the left foot. The abdomen is resonant in the flanks. There is a trace of albumen in the urine.

31st.—Morning, temperature 104·2°, pulse 136, respirations 68. Extreme pallor; profuse sweating; abdomen distended. Became unconscious at 2 p.m., and died shortly afterwards.

Post-mortem, twenty-four hours after Death.—Head: The right middle cerebral at its point of division blocked by a pale and adherent firm thrombus. No changes discovered in the other vessels. Brain generally very pale. No softening or hæmorrhage to be found. Left lung adherent; adhesions old; some congestion at the base. Right lung adherent; a little tough consolidation of the anterior portion of the middle lobe (? old). No apoplexies or other changes. Heart: Both layers of pericardium adherent; weighs twelve ounces and a quarter; right side almost healthy. Left side—auricle dilated and hypertrophied. Above the anterior division of the mitral valve there is an irregular area the size of a shilling on the auricular endocardium. In parts it is ulcerated with sharp-cut edges; in other parts there are small adherent polypoid masses. The area has a shaggy, worm-eaten appearance. There are also two small swollen areas situated at the junctions of the two divisions of the mitral. One area has ulcerated a little in the centre. The mitral valve is thickened and shortened; the edges present small polypoid masses; there is no ulceration. Loosely attached in the auriculo-ventricular aperture there is a firm pale clot the size of a hazel-nut. On section there is softening in its centre. Mitral orifice measures three inches and an eighth. Left ventricle is hypertrophied and dilated. No ulceration of endocardium. The aortic valves nearly healthy. Liver natural; weighs twenty-four ounces. Kidneys weigh together six ounces; a small red infarction on the surface of one. Spleen weighs three ounces and three-quarters: the lower two-thirds of the organ consist of a thin-walled sac, full of dark red grumous fluid. Within this cavity there is a piece of splenic tissue remaining, the size of a chesnut; this contains softening infarctions. In the upper third of the organ there is a small yellow infarct. The splenic artery, where it enters the spleen, is blocked by pale adherent thrombus.

Notes.

In vol. v. of the *Clinical Society's Transactions* there is a paper by Dr. Andrew on a case of wide daily range of temperature in rheumatism with disease of heart and infarctions of spleen. The main facts are the following:—A boy, aged sixteen, who had had rheumatic fever two years before, and again three weeks before admission to Victoria-park Hospital, was admitted with signs of mitral disease and enlargement of spleen. The spleen enlarged during the first three weeks of his stay in the hospital, and then diminished. There was no excess of white corpuseles in the blood. He had marked dyspnœa, unattended by sufficient physical signs of lungs or pleuræ to account for it. There was extreme anæmia, muscular weakness, and drowsiness. There was pyrexia of the hectic type, and when the spleen was at its largest the diurnal range of temperature was widest—viz., from 98·8° in the morning to 105° in the evening. There were no rigors.

At the post-mortem there were large, soft, reddish-brown vegetations on the free edge of, and auricular surface of, the mitral valve. The spleen was enlarged, and presented infarcts in various stages. There were some infarcts in the kidneys. The lungs presented nothing abnormal except slight congestion posteriorly.

It was with the foregoing paper in view that Dr. Gee was led to associate the pyrexia of Case 1 with splenic embolism, and enlargement consequent thereupon. Although at first there was a little diarrhœa, there were no rose-red spots to justify a suspicion of typhoid. With respect to the other common cause of persistent pyrexia, although it is true that some very slight evidence of tubercle was found post-mortem in the right lung and the right bronchial glands, yet this was obviously of old date; it was, in fact, cicatricial.

In Case 1, the endocarditis, although probably progressive, was not ulcerative in character, and the pyrexia could not be attributed to it *per se*. The varying enlargement of the spleen, which was at times visible as well as palpable, and apparently on one occasion sufficiently irritating to set up some local peritonitis, appeared to be the cause of the pyrexia, in the absence of anything else which could satisfactorily explain it. Other points of interest in this case are:—1. The enlargement of the spleen backwards and upwards as well as downwards. In children the spleen often extends right back to the spinal column, and posterior splenic dulness may be easily mistaken for pleuritic effusion. 2. The anatomical peculiarity of the left lobe of the liver extending across and above the spleen. 3. The adhesion of the pericardium to the costal pleura, thereby bringing the heart's apex forwards to the chest-wall, and leading to the suspicion of an amount of hypertrophy which not exist. 4. The distinctly systolic character of the murmur, along with a moderate degree of mitral regurgitation. The source of the cerebral hæmorrhage remained a mystery. No aneurism and no disease of vessel could be made out.

In Case 2 the endocarditis was of the ulcerative form; and to this fact the pyrexia might possibly be referred by some, but it is a question whether, even in ulcerative endocarditis, the pyrexia is not due to the discharge of emboli into the blood-stream and the inflammatory disturbances set up by these emboli in the organs wherein they lodge. In a clinical leeture by Dr. Cayley, published in this journal November 10, the term "infecting endocarditis" is suggested, because in the case which forms the text of Dr. Cayley's lectures there were symptoms of ulcerative endocarditis without ulceration, and because "one of the most prominent results is the infection of the blood with some morbid poison." In the light of Case 1 it seems reasonable to believe that the condition of the spleen was responsible for part of the child's pyrexia in Case 2. On that organ fell the brunt of the patient's troubles; and the severity of the disturbance set up by the embolisms may be measured by the evidence of hæmorrhagic softening of the lower two-thirds of the organ. It is of interest to note that in this case the edge of the spleen could not be felt below the thoracic margin, and the tenderness felt once or twice in the left hypochondrium was the only suggestion of local trouble.

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Medical Times and Gazette.

SATURDAY, NOVEMBER 17, 1877.

PROFESSOR VIRCHOW ON THE PENGE CASE.

Some member of the English medical profession, believing that at the present time the state of public opinion amongst us is unfavourable to the formation of a thoroughly unprejudiced judgment on the Penge trial by an English medical man, has furnished Professor Virchow, of Berlin, with the details of the post-mortem examination, and of the opinions expressed on it by the doctors present at the time, and by Drs. Payne and Greenfield and others afterwards, and has begged him to act as a kind of umpire, and declare into which scale he throws the weight of his universally recognised authority. Professor Virchow has responded to the appeal in the article a translation of which is given elsewhere in our pages, though we propose to lay the gist of it here also before our readers.

In the first place, he emphatically declares that our system of post-mortem examination for forensic purposes is faulty in the extreme, and he reiterates the words which we ourselves employed in an article published in this journal of October 6 page 392—that the late trial "shows the utter folly of leaving, such inquiries in the hands of men not specially trained to, and skilled in conducting them," and confirms our further remark that "it is high time the system of medical evidence in criminal cases were reformed."

Passing on to the post-mortem examination of Harriet Staunton's body, he makes two main objections to the forensic value of the medical report on it, and the deductions from the latter—viz., that on the one hand the autopsy was not made with sufficient care and thoroughness, nor the written description (*Protokoll*) of it drawn up with the necessary accuracy; and that, on the other hand (if we understand him rightly), the imagination was allowed too much play in the testimony of those gentlemen who came forward to oppose the plea of the prosecution that death was due to enforced abstinence from food.

Speaking of the first objection, Professor Virchow calls special attention to the discrepancies between the joint report furnished by the committee who made the post-mortem at which Dr. Wilkinson was present, and Dr. Wilkinson's own notes of the latter. The first stated that "adhesions were found" between the arachnoid membrane and the pia mater, "showing the existence of previous inflammation"; and the second, that "there was no trace of meningitis, *no adhesion*, and no effusion."

Professor Virchow's comment here is:—"What must the judges, statesmen, and the public generally think of experts (*Technikern*), who not only cannot state the facts accurately, but who give different descriptions of facts which they observed in common!"

Turning next to the question, whether the so-called "tubercular deposit" in the pia mater (joint report) or arachnoid (Wilkinson) was really tubercular, and, if so, whether it was the true cause of death, Professor Virchow cleverly avoids giving a decided opinion for or against "tubercle," though he rather implies that the latter might have been nothing but Pacchionian corpuscles, or, in his nomenclature, "arachnoidal warts." He expresses himself, however, with great plainness as to the theory that Harriet Staunton died of tubercular meningitis. He says (*loc. cit.*)—"I can only state that neither my own personal experience, my acquaintance with German criminal trials, nor my knowledge of forensic literature, would justify me in concluding that a single deposit of tubercle, even of the diameter of twenty-one millimetres, was the cause of a person's death—least of all if it were situated on the surface of the convexity of the left cerebral hemisphere." He goes on to say that the reports of the autopsy do not allude to any changes in the adjacent parts of the brain, to any fresh inflammatory alteration in the neighbourhood of the deposit, or to the existence of any exudation; and he asserts that "the well-marked congestion of the brain and its membranes," to which reference is made, "must have been described very differently from what they were, especially in a corpse six days old, to be accepted as a proof of general inflammation of the brain and its membranes."

After some caustic observations on the terminology adopted in the reports of the post-mortem, and on the way in which Drs. Payne and Greenfield assumed that Mrs. Staunton's death was due to meningeal tuberculosis, and attempted to explain the symptoms observed during life, and especially the loss of flesh and wasting, on this hypothesis—Professor Virchow refers to his second objection to the medico-legal conduct of this unhappy case, on the ground that the two witnesses just named, in their zeal for their hypothesis of tuberculosis, allowed the *possibility* (the italics are Virchow's) of food having been purposely refused to be thrown completely into the background, or, more accurately speaking, to be quite lost sight of. "The human fancy is only too apt to overlook all the possibilities which actually occur in nature and in the course of human existence. . . . Hence we older men are ever warning the members of future generations not to enter too minutely into all those possibilities which their fancy pictures when they are called on as physicians to give a technical opinion, and not to get outside the question of the cause of death and the circumstances under which death itself took place, and to embrace in their decision the whole series of biological events which led up to it, and which form the proper (judicial) domain of the judge and jury."

We shall give the remainder of the article in Virchow's own words, which can hardly be too often repeated:—"Did Harriet Staunton," he asks, "die of tubercle of the arachnoid? Certainly not, if Dr. Wilkinson's report is correct. Perhaps, if Dr. Longrigg's account is reliable. But are we called on to decide whether the first or second opinion is the right one?

"If Harriet Staunton died of arachnoidal tuberculosis, her wasted condition *may* have been due to the latter. But it is still somewhat difficult even to prove the *possibility* of its

having been so. As a fact, a body-weight of seventy-four pounds is very small, remarkably small indeed for a person of thirty-five years. Dr. Greenfield is quite aware of this, and hence inclines to the view that Harriet Staunton was already mentally diseased and the subject of general paralysis before she became tuberculous. Such a contingency is also possible, but whether it is, cannot be decided by the autopsy, but only by the evidence of witnesses who can testify to the course of events during life; and in default of such evidence (for what is before us is quite insufficient for the purpose) there is always the possibility remaining that the patient was intentionally deprived of food. Yes, even if the existence of mental disease were proved, this possibility would, as this particular case stands, still appear admissible. Hence the medical verdict offered to the court should have been—"Not proven." (*Das ärztliche Urtheil musste demnach in der Gerichtsverhandlung lauten: Non liquet.*) Such is my unprejudiced opinion; may it help in some slight degree to clear up the views which have been expressed (on this case) on the other side of the Channel, and to introduce there also order, certainty, wise reserve, and the knowledge which springs from previous study (*vorbereitete Kenntniss*) into forensic practice."

PARTIAL BALDNESS.

The pathology of Alopecia areata, or Area Celsi, has of late years attracted much attention among dermatologists, and various attempts—not very successful, it must be admitted—have been made to explain the formation of circumscribed smooth, more or less circular, hairless patches on the scalp and other hairy regions of the body. The latest contribution to this question is a lecture by Dr. P. Michelson, of Königsberg (Prussia), in No. 120 of Volkmann's *Sammlung Klin. Vorträge*, in which the author unreservedly rejects the idea of a parasitic origin for Alopecia areata (Gruby, Malassez), and regards the disease as due to arrest of growth in the hair itself, "leading," as Bärensprung puts it, "to a more scanty production of the cellular elements out of which it is developed." The structural alterations in the root of the hair—loss of its bulbar swelling, absence of defined cellular elements in the root-sheath, fibrillary splitting of the shaft in a longitudinal direction, etc.—described by Michelson and others (curiously enough, no allusion is here made to the papers of Duckworth and Bristowe), are not characteristic of Alopecia areata, but are met with in other diseases in which the nutrition of the hair is interfered with. What is it that causes these alterations in the case of Area Celsi? Will the neurotic theory explain them? and "must," as Duhring says ("Diseases of the Skin," 1877), "the fall of the hair be viewed as a state of perverted innervation, and can the suddenness of the attack be only accounted for by regarding the nervous system at fault?" Michelson answers that, in the first place, the symptom of *diminished sensibility* of the affected skin, which is usually regarded as a proof of perverted innervation, is not constant, and he gives the details of some careful observations on a case of his own, in which the sensibility was, on the contrary, *increased*. The headache, which not unfrequently accompanies the development of the affection, he also regards as not improbably due to a chronic inflammatory process in the soft tissues of the head, and he points out that the instances of loss of hair or baldness following injuries of nerves will not bear very close examination, and that this symptom is not mentioned as having occurred in any of the numerous cases in which section of nerves has been performed by modern surgeons. Further, it is not certain that those alterations in the growth of hair and the nutrition of the skin, which have been reported as following gunshot injuries of nerves (Weir-Mitchell, Fischer, and others), and which have been referred to lesions of "trophic" nerves, are really due to the latter, for it has been shown by Kölliker that some at least of these alterations occur if a limb is, as was the case in the above instances, confined for a long period in a close-fitting (plaster of Paris) bandage.

In any case only quite a small percentage of nerve-lesions is followed by alopecia; and to explain the occurrence of such a symptom as the general diffuse baldness, which is sometimes met with, by a neurotic agency, it would be necessary, as Michelson says, "either to accept the hypothesis of a gradual implication of all the 'trophic' nerves of the skin, or else that of a trophic centre in the brain or spinal cord, which becomes the seat of a gradually progressive disease."

The existence of such a centre is absolutely hypothetical, and by no means probable, and the evidence in favour of a lesion of "trophic" nerves is also extremely slight. Hence Michelson concludes, and we think justly, that "the neurotic origin of Alopecia areata is, in the present state of medical science, an unproven hypothesis." He confesses, however, that he is unable to substitute for it a better one, but he agrees with Hutchinson that one element in the causation of the disease is "a lowering of the general nutrition of the body." Another element (purely hypothetical) may possibly be a diminution in the calibre of the bloodvessels, which would explain the remarkable pallor of the affected skin; and, lastly, the *disappearance of the subcutaneous cellular tissue, and thinning of the skin itself*, which is a nearly constant symptom (according to Michelson), may constitute an earlier stage of the same process which ends in loss of hair, though, of course, until we know why the subcutaneous tissue, etc., atrophies, we are no nearer the true explanation of the origin of the disease than we previously were.

It is evident from the foregoing that Alopecia areata is still an unsolved mystery. Whether careful microscopic examinations of sections of the *skin* in the diseased area, which are much needed, will eventually throw any light on its *rationale*, we cannot say, but persons with a love for original investigation may be reminded, in the words of an anonymous English author, with which Dr. Michelson closes his lecture, that "there is no subject that more invites the study of those who would fain leave science more advanced than they found it."

THE GOLDEN-SQUARE HOSPITAL.

It will be remembered by our readers that the award recommended by the Distribution Committee of the Hospital Sunday Fund to be made this year to the Hospital for Diseases of the Throat was withheld by the Council in August, on the ground of an impending investigation into certain charges against the management of that charity. The committee of investigation was appointed at the request of H.R.H. the Prince of Wales, the patron, and consisted of the Duke of Grafton and the Earls of Clarendon and Dunmore, with Sir William Gull, it is said, as an adviser. Since the inquiry, and it may certainly be held as a result of it, H.R.H. the Prince of Wales has withdrawn his patronage from the Hospital, and the Marquis of Bute has resigned the presidency, while shortly or just before it some members of the committee and of the staff of the Hospital sent in their resignations. And it may be added, as a fact of apparently some significance, that Sir William Jenner some time ago resigned the office of consulting physician. All this must, unless explained away, produce a very unfavourable impression on the public with regard to the management of the Hospital, but we have hitherto declined to take any notice of the matter till it should come before us in some authentic shape, by the publication of the report of the Committee of Investigation, or by some action on the part of the Hospital Committee. As yet, however, both parties have, as far as the public are concerned, remained silent. On the 5th inst., however, the Council of the Sunday Hospital Fund, at their meeting, took into consideration a request made by the Committee of the Hospital to be allowed to send a deputation to be heard in explanation of certain charges of mismanage-

ment which had been the subject of inquiry by what we may call the Prince of Wales' Committee. The Council felt bound to go into the matter, as the Distribution Committee, whose award they had temporarily withheld, had virtually ceased to exist, and it therefore rested with themselves to finally decide the matter after considering the official report of the Committee of Inquiry, which was laid before them. This was read, and, after a short discussion, the Council agreed to the following resolution:—"That this Council, having heard read to them the report of the Committee appointed to investigate certain charges made against the management of the Hospital for Diseases of the Throat, and signed by the Duke of Grafton and others, resolve that, in existing circumstances, the award recommended by the Distribution Committee be not sanctioned by the Council." It was ordered that a copy of the resolution should be sent to the Committee of the Hospital, with the information that the Council declined to receive the deputation. We do not know whether the report of the Committee of Inquiry will now be made public by them, or not; but we confess that we hold a strong opinion that it ought to be, in justice to the public who support the Hospital, and in justification of the Committee of Inquiry, and of the Hospital Sunday Fund Council. The results of the investigation have already been very serious, and the prosperity and status of the Hospital cannot but be still more gravely injured if the present silence on the whole matter is maintained. If the Hospital is not to sink deeply in the regard of the public and the profession, the cloud at present hanging over it must be cleared away. Why do not the present Committee of Management, or the present Professional Staff, or both, demand the publication of, or make public, the report of the Committee of Inquiry, and refute the charges made against the management; or show that where, if anywhere, defects or errors were proved, they have been remedied? If neither the Committee of Management nor the Staff care to move in the matter, the public have surely a right to know why the management of a public charity has been so gravely impugned.

THE WEEK.

TOPICS OF THE DAY.

It is not satisfactory to find, from the Thirty-first Annual Report of the Commissioners in Lunacy, that there has been no check to the steady increase of insanity in England and Wales. Ever since the year 1859 there has been a steady and almost uniform rise in the number of insane persons, at the rate of about 1000 a year, and the total has now increased from 36,762 to 66,636. The last year's returns give an increase (considerably above the average) of 1720, and the result is noticeable from the fact that in the preceding year the number had fallen to the lowest ever recorded—viz., to 1123. The most favourable year before 1875 was 1865, when the recorded increase was only 1155; and the highest total was reached in 1869, when it amounted to 2177. The insane, in fact, are fast gaining ground upon the sane; and whereas the general population augments only at the rate of 1½ per cent., that portion of it which is of weak or deficient intellect is found to be increasing at the rate of fully 3 per cent. The class of the community which contributes most largely to insanity is the poorest, which fills the pauper asylums. In 1859 there were 31,782 persons in these latter establishments, and 4980 in private asylums, or, roughly speaking, about six of the poor to one of the rich. On the first day of the present year the figures were respectively 59,039 and 7597, making the proportion nearly eight to one. In only one year (1868) has there been a decrease in either class, and then it amounted only to fourteen in the private houses, counterbalanced by an increase of 1929—or more than 300 above the average—in the pauper lunatics.

Amongst the uneducated classes there are several kinds of wager prevalent, but we are inclined to think the following history unique. At an inquest held at Leicester on the body of a man named Ira Humphries, aged twenty-seven, it was elicited that the deceased, a stone-cutter, was at a house called the "White Swan" in company with others. He made a wager with another man that he would eat a certain quantity of raw meat; some raw beef was fetched from a butcher's, and the deceased ate it, but soon after became very unwell. He was taken to a chemist's for advice, and then returned to the "White Swan," and shortly afterwards was found lying on the floor near a furnace in the back-kitchen, quite dead. It was supposed he was suffocated; there was, however, no evidence to show that death arose from other than natural causes, and a verdict to that effect was returned. Query: Are these wagers relics of the horribly barbarous ages in which our grandfathers lived, or are they developments of the all-improving powers of national education?

The members of the Noxious Vapours Commission, of which Lord Aberdare is the chairman, have recently visited Swansea, and have inspected and taken evidence as to copper and other works. During the past weeks the Commissioners have held sittings in London, and have commenced the consideration of their report.

The Volunteer Sick-Bearers' Association has now commenced its work, with the object of providing for the reserve forces a medical or ambulance department within themselves (without interfering with the combatant strength of the various regiments), by instructing the medical officers and two or more men per company in the most important duties of attending to sick and wounded men in the field. It is intended to instruct those who are willing to attend, in the primary dressing of wounds, the methods of stopping profuse bleeding, and removal of wounded men from the field to ambulances in the rear, thus saving valuable lives, which, without such aid, must necessarily be sacrificed. The first of a series of lectures and drills will be given at the rooms of the Society of Arts, Adelphi, on Friday, November 23, at seven o'clock, and will be followed by three similar lectures on the evenings of November 30 and December 7 and 14, after which it is expected they will be continued at the Albany-street Barracks Riding-school, Regent's-park. None but members of the Volunteer Force are eligible for admission, and all particulars may be obtained of Mr. A. Maclure, jun., 97, Queen Victoria-street, E.C.

A death is reported to have taken place at Lincoln on the 5th inst. from the administration of ether. Miss Steele, daughter of the late Captain Steele, who had resided for some years in the house of Dr. George May Lowe, of Lincoln, was about to undergo an operation for cancer. The ether was administered by Dr. Mitchinson, in the presence of Dr. Lowe and Mr. Septimus Lowe. The result of the post-mortem examination showed hidden organic disease fully sufficient to account for death.

The President of the Local Government Board last week received a deputation from the inhabitants of the parish of Wilmslow, with reference to the scheme of the Rural Sanitary Authority of the Altrincham Union for the sewerage of the district, and the proposal to constitute Wilmslow a local government district.

The spread of education, and consequently of common sense, if sure, is certainly very slow. At a meeting of the York Board of Guardians, held last week, it was stated that an outbreak of scarlet fever had occurred in the Walmgate district owing to the practice of "waking" the dead which prevailed amongst the Irish who inhabited that quarter. In one fatal case a "wake" had been held over the body of a child whose death had resulted from scarlet fever, and, notwithstanding a warning from an official, had been kept up for three or

four days. Fifteen or twenty cases of scarlet fever had followed in the district. If there is no law at present in existence to deal with this indecent and senseless practice, it is certainly time that legislation stepped in for its prevention.

The report of the Sanitary Committee of Guardians of the City of London Union upon the small-pox epidemic of this year is noticeable from the fact that it proves, on the very best testimony, how general vaccination and revaccination have become, in spite of inflammatory efforts on the part of sundry agitators to prevent such a desirable state of things. The Committee on being appointed immediately placed themselves in communication with the six district medical officers, and amongst other precautions it was suggested that house-to-house visitation was most desirable, as a means of ascertaining not only if the vaccination of any children had been omitted, but also what unsuccessful cases were apparent in the adults, and to impress upon the people generally the necessity of re-vaccination. One of these district medical officers, Mr. Alder Smith, states that in the public schools in his district—four in number—he examined 492 boys and girls, and found only six who had no marks, and seven with bad ones requiring revaccination. The very small number of children found unprotected in these schools clearly shows that the people, as a rule, have been well vaccinated, and reflects credit on the satisfactory manner in which the public officers of the City of London Union have carried out their duties in this respect. This is corroborated by the return recently issued by the Metropolitan Asylums Board, which shows that from October, 1876, to September, 1877, only ninety patients were admitted to the small-pox hospitals from the City of London Union.

Sunday last in Dublin was devoted to the annual collection for the local hospitals. Earnest appeals were made in all the Protestant and Dissenting places of worship in the city and county on behalf of these charities. The churches were in general well filled, considering the weather, which was very inclement. The result of the appeal has not yet reached us. In the Jewish Synagogue the collection was made on the previous day, and £27 was subscribed. As in the three previous years, the Roman Catholics declined to join the scheme, and consequently the hospitals which are under their management do not participate in the result of the collection.

The Medical Officer of Health for Bradford, Mr. Butterfield, in his last report made several suggestions in reference to the treatment of persons afflicted with scarlet fever, pointing out the necessity of taking ample precautions to prevent the spread of the disease. It appears that recently numerous cases of scarlet fever have occurred in the town, and it is of importance that the utmost care should be exercised to prevent the occurrence of an epidemic of this disease. The town, however, is provided with an establishment which is set apart specially for the treatment of fevers of all descriptions, and as it will therefore be possible to isolate the earlier cases, the medical officer, if properly supported, should have no difficulty in dealing with the threatened outbreak.

At the annual meeting of the Royal Albert Hospital, recently held at Devonport, Mr. Tremayne, M.P., said that no one could dispassionately examine the evidence which public returns supplied, without coming to the conclusion that the Contagious Diseases Acts were beneficial, and ought to be extended to all populous places. The great difficulty they laboured under was that, although they could stamp out disease in their own districts, the Acts could not prevent the importation of disease from outside the area of their operations. Admiral Willes, C.B., said he should be glad to see these Acts universally applied; but Mr. Tremayne, in reply, observed that he did not go so far as that, but only to places where there were large aggregations of people; and he hoped the animosity against them in some quarters would be removed. The opinion of a large meeting in these views was unanimous, several other influential speakers bearing testimony to the excellent results from this Act of the Legislature.

An unfortunate sectarian difficulty would seem to have arisen in connexion with the nursing arrangements of the Glasgow Royal Infirmary. A charge has been made of undue preference and partiality being shown in the appointment of nurses of the Roman Catholic persuasion to the nursing staff of the Infirmary. At first this charge was met with an authoritative denial, which it was thought would be sufficient to allay the apprehensions of the West of Scotland Protestant Association; but subsequently, for the satisfaction of the public, it was determined to institute a thorough investigation, and the result has now been circulated. The report of the House Committee, to whom the task was confided, would appear to rebut any charge of undue preference in the selection of Roman Catholic nurses; and it is to be hoped, for the welfare of a large and very useful institution, that these religious differences, which are by no means of an important nature to the physical well-being of the sick in the Infirmary, will now be definitely set at rest.

Our readers will not have failed to notice the recent trial at the Northampton Assizes, in which a gross charge was brought against a surgeon; fortunately the testimony of several eminent medical witnesses, who all came forward to give their evidence gratuitously, succeeded in saving the reputation of an innocent man. But the moral of this case, which we would strongly impress upon all medical men and dentists, is, never to administer an anæsthetic without the presence of assistants or witnesses. If this rule had been adhered to, the charge to which we allude could never have been made, or, bearing in mind the valuable evidence given by Dr. B. W. Richardson at the trial, if made could instantly have been rebutted.

Dr. William Wright, for many years Resident Medical Officer of the General Dispensary, Pontefract, was last week found dead in his sitting-room at that institution. The unfortunate gentleman had been attending his patients as usual during the day, and had shown no symptoms of being indisposed.

PRECAUTIONS AGAINST HYDROPHOBIA AND MAD DOGS IN FRANCE.

M. Proust, a candidate for the vacancy in the Section of Hygiene in the Académie de Médecine, read before that body on the 6th inst. a paper—"Results of the Official Inquiry Concerning the Cases of Hydrophobia observed in France from 1850 to 1876." He terminates his memoir with the following conclusions:—1. Cauterisation being up to the present time the sole prophylactic known, it would be of interest to obtain a statistical account, not only of the caustics employed, but also of the manner in which they were applied, and the exact time which had elapsed between the rabid inoculation and the cauterisation. 2. The contagious transmission often taking place by means of little pet dogs, whose sickness at first gives rise to no distrust, an instruction having for its object the making generally known the early symptoms of the disease, would prove of great efficacy against this form of the contagion. The dog is not only dangerous when, according to the happy expression of Professor Bouley, it has lost its reason, and is only dominated by the ferocious dispositions which the disease has engendered. It is more perfidious while the sentiment of affection is still vivid, and, with its slaver already in a virulent condition, it dangerously caresses more than usual individuals with whom it is familiar. The opinion so prevalent that rabid dogs always and necessarily manifest a horror of water, is absolutely false. So untrue is it, that they have been known to traverse rivers in order to attack flocks of sheep which they have seen from the opposite bank. 3. The provisions of the sanitary police should be always rigorously applied in winter as in summer, and that alike against suspected dogs and those actually rabid. The

measures employed should be: the obligatory wearing of an official collar, the seizure and slaughtering of all stray dogs and of dogs unprovided with collars, the slaughtering of rabid dogs, and the slaughtering or sequestration for eight months of all suspected dogs. Notice should also be given that in case of accidents or death being caused by rabid dogs, their proprietors may, by the French law, be prosecuted, independently of their liability to civil action for damages.

THE EFFECTS OF FARADISATION IN HYDROPHOBIA.

In a note, communicated by M. Bouley, read at the Académie des Sciences, at its meeting on October 29, M. Mennesson relates the case of a young veterinary surgeon who contracted hydrophobia at an autopsy that he had the imprudence to conduct while having some excoriations on his hands, which came in contact with the saliva contained in the buccal cavity. About three months after this inoculation symptoms of hydrophobia manifested themselves with fearful intensity; but the point of interest in the case is the palliative effect that was produced by faradisation. This was practised by applying one of the poles to the nape of the neck, and the other to the sole of one of the feet. Immediate relief ensued, a remarkable calm succeeding to the excessive excitement, the patient being able to converse and drink water without the spasms occurring which its sight or contact had hitherto induced. The action of the current causing great pain, it was, at the request of the patient, interrupted, and the convulsions at once returned, as fearful as ever. The patient's sufferings lasted for two days, only temporarily relieved whenever the application was made, and he then suddenly expired. The relief in this case was so decided that it forms an encouragement for future trials of faradisation in the region of the bulb.

As this case was only presented, and not observed or reported, by Professor Bouley, we may freely remark that the report is so imperfect and wanting in scientific accuracy that the case is curious rather than anything else. It would have been important had we been informed how soon after death the autopsy of the dog was made, for it would be very instructive to know how long after death the saliva of a rabid animal retains its specifically poisonous quality. The form of faradisation used appears to have been the "general faradisation" so largely employed by Drs. Beard and Rockwell, of New York; and we may remark that in the second edition of their large work on Electricity, published in 1873, they suggest a trial of electricity in the treatment of hydrophobia; but they, naturally, suggest *central galvanisation*, rather than faradisation. We need hardly add that faradisation tetanises the muscles.

RABIES AND HYDROPHOBIA.

We are informed that the Scientific Grants Committee of the British Medical Association, at a meeting held on Wednesday, appointed a Committee consisting of Mr. Callender, Dr. Burdon-Sanderson, Dr. T. Lauder Brunton, and Mr. Ernest Hart, to organise an investigation into the causation, pathology, and treatment of rabies and hydrophobia; and the Committee of Council of the Association have granted the sum of £100 towards the expenses of the inquiry. It is understood that the inquiry will be divided into various heads. Under the first, an investigation will be made into the locality and order of succession in time of the registered deaths from hydrophobia in this country during the last few years; and this will form the basis of an attempt to trace the history of various local epidemics with the aid of such medical men, medical officers of health, and veterinary surgeons as may be found to be in possession of facts relating to such epidemics. The pathology of rabies will be investigated by the aid of a microscopic and chemical research to be carried on by eminent pathologists and physiologists; and, for this purpose, post-mortem specimens will be requested from those whose duty it becomes to make the necropsy of fatal cases of hydrophobia and rabies. Special directions will be issued as to the best means of preserving for microscopic examination those parts of the nervous system and the salivary organs of which the examination is most likely to afford the necessary information. The tabulation and investigation of any methods of treatment which have seemed to afford a hopeful prospect, and the investigation of the action of remedies to which efficacy has been attributed, will form the subject of the third part of the inquiry. The investigation is one which appears to be urgently called for; and the assistance and co-operation will be invoked, not only of specially skilled experts in histological and chemical investigations, but of those members of the profession generally who have had recently, or who may have during the progress of the inquiry, cases either of rabies in the dog or of hydrophobia in man.

THE ADMISSION OF VISITORS TO FEVER HOSPITALS.

Mr. Hopkins Walters, M.R.C.S., has recently reported a case to the Local Government Board which affords a sad illustration of the evils which arise from carelessness in admitting visitors to patients in fever hospitals. In July last a domestic servant named Rosa Ball was admitted into the fever hospital at Stockwell, suffering from scarlet fever. After her admission she was attacked with small-pox. During her illness she got a fellow-patient to write to her father in the country, informing him of the fact. He went to the hospital, and was admitted to see his daughter without being told of the nature of the disease from which she was suffering. After leaving he went home, and almost immediately fell sick of small-pox. His wife was first attacked, and then six other persons, four of the cases terminating fatally. Mr. Walters is of opinion that there was great neglect of duty somewhere, especially with regard to Mr. Ball having been admitted without, in the first instance, being informed that his daughter was ill with small-pox; and also because proper and necessary precautions were not taken whilst he was in the hospital with a view to prevent him from catching the disease. It would be wrong in all cases to refuse to admit the nearest friends of patients in fever and small-pox hospitals, but the dangers connected therewith should be clearly pointed out, and, as far as possible, precautions taken to prevent the spread of contagion.

AMERICAN AMENITIES.

Charges of plagiarism are not unknown among ourselves, but in this, as in so many other things, our American cousins certainly beat us hollow. In the *St. Louis Clinical Record* the following recently appeared under the heading of "Honours to an American":—"Several of our contemporaries are giving great prominence to Dr. Sayre's very flattering reception in England. It seems that Dr. Sayre went to England to advertise his (*sic*) method of treating spinal curvature. He intends to publish a book describing his (?) processes, and expects a large sale under an English copyright. This would be all very well—in fact, just as it should be—if Dr. Sayre had ever invented anything, which he never did, so far as we are informed. 'Dr. Sayre's hip-joint splint' was invented by Dr. Davis. 'Dr. Sayre's plaster-of-Paris jacket' was invented and first applied by Dr. Bryan, of Lexington, Kentucky. 'Dr. Sayre's method of self-suspension in rotary-lateral spinal curvature' was invented by Dr. Benj. Lee, of Philadelphia. 'Dr. Sayre's Lectures on Orthopædic Surgery' were by Dr. Louis Bauer, formerly of Brooklyn, New York, now of St. Louis. As a plagiarist and 'father of other men's ideas,' Dr. Sayre is without a rival. We are glad to see that our English cousins delight to honour such representative Americans (Heaven save the mark!) as P. T. Barnum and L. A. Sayre. *Vive le humbug!*"

The charges made against Dr. Sayre are so wholesale and gross, that we should not notice them had they not been quoted by so respectable a journal as the *Philadelphia Medical Times*, with the remark that, "if true, they ought to be generally known, and, if not true, ought to subject the editor of the *Record* to damages for libel"; and not even then, had they not been partially noticed by one of our English contemporaries, and been deemed worthy of a reply by Dr. Sayre himself. In the following number of the *Philadelphia Medical Times*, that of October 27, Dr. Sayre declares that each and every one of the charges "is wholly and absolutely false," and he refutes them *seriatim*. In answer to the first, he refers to the *Transactions of the American Medical Association* for 1860, pages 505 to 508, and to his "Orthopædic Surgery and Diseases of the Joints," and points out that the specifications of Dr. Davis's splint, which was patented, show that it is entirely different from his own, which was given to the profession. Secondly, he refers to his own works in proof that he has done full justice to Dr. Bryan. Thirdly, he remarks that in his work on Spinal Curvature, just published in England, he has noticed that "the late Professor Mitchell, of Philadelphia, used to treat cases of lateral curvature by suspending them under the arms, and causing them to suspend themselves by the hands," and that Dr. Benjamin Lee "was the first person who caused his patients to practise *self-suspension*," etc. And fourthly, he remarks that his book on Orthopædic Surgery was published from stenographic notes of his lectures, taken at the time of delivery, and that "most of the lectures were upon cases presented at the time in the lecture-room, and which Dr. Bauer could never have seen, as he at the time lived in St. Louis." If Dr. Sayre's friends in England think that any answer to the charges made against him was needed, they will certainly deem his refutation complete and satisfactory.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

At the meeting of the Council of the Royal College of Surgeons, on the 8th inst., several important questions were taken into consideration. The report of the Committee on the dental diploma or licence of the College was adopted, with the important amendment that lecturers on dental anatomy and physiology may be members of the College only, or licentiates in dental surgery only. It will be remembered that in commenting on this subject, some time ago, we insisted that the College could not cast such a slight on the value of their own dental licence as to declare that its possessors are unfit to be lecturers and teachers in the subjects examined in by candidates for it. Mr. Simon's proposals, that the rule that only Fellows of the College shall be eligible as examiners in anatomy and physiology, shall be rescinded, and that further it is desirable to appoint separate examiners for each of the two subjects, were referred to a committee, who are to consider the matters and report to the Council. The first proposal, which, we believe, is grounded on the fact that the majority of the lecturers on physiology in London schools are physicians, appears to involve a principle and to be rather for consideration by the Council than by a committee. And as to the second, we should fear that an examiner who devotes himself only or mainly to physiology would be likely to expect too wide or too deep a knowledge of the subject from the average student. Though physiology is one of the foundations of medical science, no large knowledge of it can be well asked for from the great majority of candidates—the candidates for the minimum qualification to practise. We shall not be surprised, however, to hear that both proposals are held over for the consideration of the Committee of Reference and the examiners of the Conjoint Scheme. The representatives of the College on the Committee of Reference are appointed, as will be found stated elsewhere in our columns. At an extraordinary meeting of the Council, Mr. John Birkett, the President, was re-elected on the Court of Examiners.

REPORT ON THE HEALTH OF THE POLICE FOR THE YEAR 1876.

The report of the Chief Surgeon on the health of the Metropolitan Police Force for the year 1876 calls, as its author admits, for little comment. The rate of sickness, as measured by the daily loss to the service, is exactly the same as last year, the number of cases being slightly greater, but their average duration somewhat less. The year was marked by no peculiar hardship of service, or peculiarity of weather, or epidemic disease, as the outbreak of small-pox, which commenced in London in the latter months of 1876, only contributed three cases, and any further effects from this epidemic will be shown in the records for the succeeding year. The practical inferences to be gathered from this and previous reports are—that under the present system (which is confessedly not one of the strictest medical supervision) the daily average loss from sickness is a little over 3 per cent., and cannot be reduced below that rate; that the nature of the cases of sickness is, as a general rule, not severe, the duration being short, and the death-rate low (about 5 per cent.); and that the rates of men who receive pensions on account of sickness or physical infirmity is, as nearly as possible, 2 per cent. per annum. The principal causes of unfitness amongst the men invalided were rheumatism, rheumatic gout, and sciatica; age, long service, and debility; and phthisis, and disease of the lungs.

THE UNIVERSITY OF LONDON.

A requisition, addressed to the Chairman of Convocation of the University of London, to summon an extraordinary meeting of Convocation, has, we believe, received a certain number of signatures among the graduates. The subject proposed to be brought before the House is the desirability of obtaining a new Charter, which shall include radical changes in the constitution of the Senate, as well as other important reforms. We have not previously taken any notice of this requisition, as we believe its appearance highly inopportune in the present aspect of affairs in the University of London; and, in referring to it now, we would strongly urge the promoters of the requisition to refrain from further action in the matter during the approaching crisis. The ordinary meeting of Convocation is held early in January, and on that occasion the Annual Committee will present their report on the conference with Senate, and the whole subject under discussion will be regularly re-opened.

THE COMMITTEE OF REFERENCE OF THE CONJOINT SCHEME.

Half of the number of medical authorities concerned in the formation of the Conjoint Examining Board for England have elected their representatives on the Committee of Reference. Sir James Paget and Mr. Simon have been appointed representatives of the Royal College of Surgeons. Mr. Bradford and Dr. Corfe have been elected by the Society of Apothecaries; and Dr. G. H. Philipson and Dr. G. Y. Heath have been chosen to represent the University of Durham. The representatives of the Royal College of Physicians have not yet been appointed, nor have we heard who will be sent to the Committee of reference by the Universities of Oxford and of Cambridge.

The Berlin Hospitals in 1876.—The eleven hospital establishments received, during 1876, 30,217 patients, of whom 23,260 were discharged cured or improved, and 4110 died, giving a mortality of 13·5 per cent., 2857 patients remaining in the hospitals at the end of the year. The Charité, by far the largest establishment, received 13,705, of whom 1263, or 9·2 per cent., died; and the University Clinical Hospital received 1015, with a mortality of 14·4 per cent. In the Augusta Hospital, with 911 patients, the mortality rose to 18·5 per cent.; in the Lazarus Hospital, with 914, it rose to 23·6 per cent.; and in the General Town Hospital, with 4134, to 24·3 per cent.—*Deutsche Med. Woch.*, October 27.

THE SENATE AND CONVOCATION OF THE UNIVERSITY OF LONDON.

On Wednesday, the 14th inst., the deputation appointed by the Annual Committee of the University of London, to present a memorial on the subject of the differences between the two bodies, waited on the Senate at its ordinary meeting. The deputation consisted of Mr. Abbot, B.A., Dr. Curnow, Dr. Hilton Fagge, Dr. Tilbury Fox, Mr. McDowall, B.A., B.Sc., and Dr. Pye-Smith; and Dr. Tilbury Fox was spokesman. The following are the words of the memorandum laid before the Senate:—

"In pursuance of a resolution passed at an extraordinary meeting of Convocation, held on July 27, 1877, the Annual Committee of Convocation beg to submit to the Senate the following resolution, passed at the same meeting:—

"Resolved—'That this House regrets that the Senate has, by adopting a permissive Act of Parliament (Act 39 and 40 Vic., cap. 41), without reference to or consultation with Convocation, materially altered the constitution of the University, and has thus practically superseded the privileges of Convocation.'

"In proposing this resolution the following points were urged:—

"1. That the question submitted for discussion was not that of the admission of woman to the degrees of the University, but one affecting the privileges of Convocation only.

"2. That the Senate was legally justified in adopting the Act in accordance with the opinion of the law officers of the Crown; but,

"3. That, having regard to the permissive character of the Act, and the circumstances under which it was adopted, the Senate ought not to have exercised the powers conferred upon it by that Act.

"It was contended—

"That by the terms and intentions of the Charter, no fundamental change should be made in the constitution of the University without the joint action of the Senate and Convocation, and that the proper mode of effecting such change should be by obtaining power by means of a new or supplemental Charter asked for by the Senate and approved by Convocation.

"That a fundamental change would be effected in the constitution of the University by the adoption of the Act. That the opinion of the law officers of the Crown to the contrary was based upon the assumption that there was a 'slip' in the proviso of Section 1; whereas, in fact, women admitted to degrees in the University under the Act would not be excluded from, but would enjoy, the full privileges of graduates, including admission to Convocation. This contention was supported by the opinions of Mr. Farrer Herschell and Mr. Montague Cookson.

"That, by giving effect to the Act, the Senate would be dealing with one Faculty of the University in an exceptional manner, and would do in the medical what it could not do in other Faculties without application for a new Charter, which would require the consent of Convocation.

"That the Act being a purely permissive one, and applying to a number of other licensing bodies, there was the less necessity for the Senate to take so important a step as its adoption without consultation with Convocation.

"Lastly, that the action of the Senate was felt to be the more imperious to the privileges of Convocation, because it speedily followed the passing of the resolution contained in Minute XI. of the meeting of Convocation on May 8, 1877, which was as follows:—

"'That this House is of opinion that it is inadvisable for this University to admit women to the degrees in medicine before it shall have considered the general question of their admission to the degrees of all Faculties.'"

Our readers are already acquainted with the opinion of Mr. Farrer Herschell, Q.C., referred to above, as it was published at some length in the *Medical Times and Gazette* for August 4. Mr. Montague Cookson, Q.C., gives his opinion under three heads—First, that under Russell Gurney's Act, if it be adopted by the University of London, the word "graduate," as used in the Charter, has received a statutory extension, so as to include females on whom medical degrees have been conferred. Secondly, that members of Convocation are entitled to take part in the government, management, or proceedings of the University. And, thirdly, that the proviso contained in Russell Gurney's Act, and which has been alluded to above, does not neutralise the operation of the Act in the Charter, so far as relates to the right of women admitted to medical degrees to be regarded as members of Convocation, and to exercise all the privileges which, in the case of male members, that position involves. Before stating his opinion on the third and last head, Mr. Cookson says: "The words (of the proviso) are—'No person who but for this Act would not have been entitled to be registered shall, *by reason of such registration*, be entitled to take any part,' etc. Now, any woman holding a medical degree within Section 15 who may take part as a member of Convocation in the proceedings of the University, will do so, not by reason of being registered under the Medical Act, but by virtue of Sections 15 and 21 of the Charter, which confer this power upon her as holding the very degree which constitutes Convocation-membership; and all the proviso says is that registration shall not confer the title. It does not say, 'the degree shall not, anything to the contrary in the Charter notwithstanding.' To this it may be objected that if this be so the proviso is wholly inoperative, for that in none of the Universities or corporations to which it was intended to apply was there any connexion at the date of the passing of the Act, between registration under the Medical Act and the right to take part in the proceedings of the University or Corporation. Assuming this to be the fact, there is nothing unreasonable or absurd in supposing that such a connexion might be created thereafter, for it might well be that actual practice in medicine (which involves registration as a medical practitioner) might be made a qualification for the management of a medical Corporation, such as the College of Physicians, or the College of Surgeons. It is true that if a statute is manifestly intended to be remedial it must be so construed as to give the most complete remedy which the phraseology will permit; but this is not a remedial statute, but an enabling statute, which, *primâ facie*, is to be liberally construed; the proviso on the contrary being a disabling proviso, and therefore not to be enlarged beyond what the words necessarily import. There being nothing ambiguous or absurd in the Act, it is, in my opinion, to be construed according to its ordinary grammatical construction, without reference to any supposed motives which dictate the proviso, and without changing the words 'by reason of such refutation' into the words 'by reason of such grant of qualification,' or any other words not of equivalent meaning."

To this memorial the Chancellor returned a reply, which had previously been approved of by the Senate. The Senate, Earl Granville said, had agreed to receive the deputation from Convocation, and trusted that the conference might have the best results. The subject of the difference between the Senate and Convocation was the question of the admission of women to degrees in medicine. On more than one occasion Convocation had approved of the admission of women to all Faculties, and had recommended that a new charter should be obtained by which such admission might be secured. Convocation had disapproved only of the admission of women to degrees in medicine alone. The Senate, on the other hand, had passed a resolution to admit women to degrees in medicine under Russell Gurney's Act. In this difficulty the course which the Senate proposed to follow was that the University should proceed with a resolution passed by the Senate last summer—to apply for a supplemental Charter which should admit women to degrees in all Faculties. The Senate trusted that this proposal would meet the wishes of Convocation, and that Convocation would co-operate with the Senate in carrying the proposal into effect.

Having received this reply, or a reply of which this is the substance, the deputation withdrew, and will report the proposal of the Senate at a meeting of the Annual Committee this (Friday) evening.

In the present state of relations between the Senate and Convocation of the University of London, we would, as far as possible, refrain from strong comment upon the foregoing reply. But we must say that we miss in it two points to which we expected that reference would have been made. First, the Senate has carefully remained silent on the question of the right of Convocation, and has adroitly returned to the old ground of the admission of women to the University. There is not a single word of regret that the Senate should have forgotten or disregarded the constitution of the University, and set at nought the expressed wish of Convocation in a matter vitally affecting its interests. And, secondly, the reply of the Chancellor contains no definite promise for the future. The Senate asks the co-operation of Convocation in carrying

out a measure which may satisfy both bodies, but it does not undertake that it shall cease to proceed under Russell Gurney's Act. The future is all uncertainty. The Senate itself is divided on the women's question. Convocation is equally unsettled on the same subject. And, as we notice in another column, there is at this moment a strong feeling among many of the graduates, that when the University sets about modifying its Charter, it should have a new and not a supplemental one; and that this new Charter should effect radical changes in the constitution of the Senate itself. It is, to say the least, extremely improbable that all the difficulties will be cleared away to the satisfaction of the Senate. But, as long as these difficulties are not settled, the Senate has it in its power to proceed, if it see fit, to carry out its standing resolution to adopt Russell Gurney's Act. From previous experience we must not be surprised if the Senate should do so in the event of serious opposition to their alternative proposal. The deputation from Convocation should have insisted upon receiving a distinct promise from the Chancellor that the old difficulties should be swept away before new ground was taken up. When the Senate had renounced Russell Gurney's Act, and had thus conciliated Convocation, it could have proposed the application for a supplemental Charter with an easy conscience and with the assurance of the earnest co-operation of Convocation. As it is, we fear that Convocation will not be able to meet the Senate in its proposal with that consciousness of being treated with consideration and justice which is indispensable for successful co-operation.

RECENT ROYAL WARRANTS FOR MEDICAL OFFICERS OF THE AUXILIARY FORCES.

From Royal Warrants published in this month's Army List, nearly affecting the profession, it would appear that officers now holding appointments as assistant-surgeons and acting assistant-surgeons in the Auxiliary Forces, will in future be styled surgeons and acting surgeons respectively.

The relative rank of surgeons in the Yeomanry, Cavalry, and Volunteers is determined by the same rule as that which governs the relative rank of surgeons of the Regular Forces, except that acting surgeons will always rank as lieutenants, irrespective of their length of service.

Surgeons of Yeomanry, Cavalry, and Volunteers, appointed before October 1, 1877, under previous regulations, will continue to hold the relative rank of major.

A medical officer of Militia, who has not elected to be placed on the departmental list, under the Royal Warrant of July 12, 1876, will remain in the same position in regard to pay and personal allowances, whenever his services may be required, as that which he occupied before the date of the Warrant, and he will not be promoted beyond the rank of surgeon.

In the event of both medical officers in a militia regiment being qualified for the rank of surgeon-major on the departmental list, they may be promoted to that rank; but the junior will be borne as supernumerary in the regiment until absorbed.

Militia medical officers on the departmental list will carry on their duties under the Director-General, Army Medical Department, to whom they will make all communications, and from whom they will receive instructions, through the principal medical officer of the district in which they are serving.

They will be eligible for duty in, and for charge of, both dieted and non-dieted station hospitals.

Medical officers of the Militia on the departmental list will, when in receipt of full pay, be liable to perform any medical duties that may be required of them at the places where their respective regiments are stationed, without additional remuneration. Claims made by them for duties in respect of which payment is allowed by regulation will accordingly be accompanied by certificates showing that they were not in receipt of full pay during the periods for which such claims are respectively made.

When the head-quarters of Militia regiments to which medical officers of the Militia on the departmental list are attached are not at the head-quarters of brigade depôts, they will attend the permanent staff of the regiment, receiving the allowance granted to Militia medical officers for the necessary expenses of medicines under former regulations.

When the regiments to which they are attached are assembled for training, mobilisation, or for summer manœuvres, they will accompany their regiments, and, when their regiments are trained at a brigade depôt, or at a station where there is a military hospital, they will draw whatever instruments, medicines, etc., may be required from the Army Medical Department, submitting their requisitions through the principal medical officer of the district to which their corps belongs.

When the regiment to which a Militia medical officer is attached is not at the head-quarters of a brigade depôt, and when an Army medical officer is not available, he will examine recruits enlisted for it, receiving 2s. 6d. for each recruit examined by him, up to and not exceeding £1 a day.

A Militia medical officer will be eligible to examine recruits for the Army, receiving the usual allowance for each recruit finally approved by a medical officer of the Regular Army.

When serving on full pay and allowances they will not receive any remuneration for examining recruits either for the Army or Militia.

Exchanges between medical officers attached to Militia regiments, and transfers from one regiment to another, will be permitted, if recommended by the Director-General, Army Medical Department.

When Militia recruits called out for preliminary drill are stationed at the head-quarters of a brigade-depôt, or when an Army medical officer is available, the services of the Militia surgeon will not, as a rule, be required.

If Militia recruits are called out for preliminary drill where the services of an Army medical officer are not available, the Militia surgeon will be required to take charge of them.

When a Militia regiment is trained at the head-quarters of a brigade-depôt, or when there is a station hospital, the sick will be treated in the military hospital.

When a Militia regiment is trained away from the head-quarters of a brigade-depôt, a non-dieted hospital under the charge of the surgeon of the regiment will be opened for the treatment of the sick, except under special circumstances, when reference will be made to the Director-General of the Army Medical Department.

The usual stoppage returns for militiamen who are treated in hospital will be forwarded by the medical officer in charge.

Militia recruits passed by an Army medical officer will not be rejected by a Militia medical officer. Should the latter consider a recruit ineligible, the case will be referred to the principal medical officer of the district.

When the adjutant of a Militia regiment proceeds to out-stations periodically for the enrolment of recruits, he will, if there is no Army medical officer available for the duty, or no private medical practitioner qualified to pass the recruits at the several out-stations, be accompanied by the medical officer of the regiment, who, if on the departmental list, will receive his regimental pay for each day he is actually absent from head-quarters, together with travelling expenses and personal allowance.

A Militia medical officer on the departmental list will for the future receive allowances at departmental rates, according to his relative rank as previously laid down.

All future appointments of medical officers to Volunteer corps will be to the rank of surgeon, which will be the only substantive rank of medical officer in the force.

When more than one medical officer is allowed to a corps, or to the staff of an administrative regiment, only one such officer (a surgeon) will in future have substantive rank. The other officer, or officers, as the case may be, will have the rank of acting surgeon only.

Corps that are not entitled to a medical officer of substantive rank will, on the occurrence of a vacancy, be allowed a medical officer with the rank of acting surgeon.

A Royal Warrant has also been issued, in which it is stated that it has been deemed expedient to extend the regulations under which certain payments are authorised to be made to civilian medical practitioners engaged to take charge of troops, and authority is accordingly given to the Secretary of State for War to vary such payments from time to time as he may consider necessary.

We have considered it advisable to publish the clauses of these several Royal Warrants *in extenso*, as they will no doubt be interesting to many of our readers, whose interests they will materially affect. We believe we are correct in stating that the present is the first occasion on which any provision has been made for recognising the status of medical officers of Volunteer regiments.

VIRCHOW ON THE PENGE CASE.

(*Concluded from page* 524.)

THE course of the proceedings in the Penge Case has been such that the real controversy turned on the question whether meningeal tuberculosis was present; and, if present, whether this was the cause of death. What say the experts on this point? In the protocol we find it stated, "There were some small patches of rough millet-seed-like deposit in the meshes of the pia mater, *probably tubercular*." Dr. Wilkinson says, "The brain and membranes were healthy, with the exception of a small recent patch of tubercular deposit upon the arachnoid membrane, on the upper part of the left hemisphere, about the size of a fourpenny-piece."

The only fourpenny-piece I possess measures twenty-one millimetres in diameter. This is not inconsiderable, and in Germany scarcely anyone would call such a tubercular deposit a small one. But what are we to think of a method of note-taking (protocolling) where one eye-witness mentions a single such deposit, giving at the same time the situation in which it was found, while the others (eye-witnesses) describe "some," that is, several!

Doubts arose during the trial, as to whether this change, which was not further described or examined, and which in the Notes was entered as "probably tubercular," really was tubercle, or whether it was not simply Pacchionian bodies, or, as I would suggest, arachnoideal growths. The experts, however, unanimously and decisively declared that these questionable bodies were tubercular, and English critics accepted this view. Indeed, Drs. Greenfield and Payne, chiefly on the strength of these statements, conclude that death resulted from meningeal tuberculosis, or from tubercular meningitis. But this is certainly assuming that the original statement of "some" such deposits is the correct one. I do not venture to decide whether the single deposit, which was only subsequently described by Dr. Wilkinson, would suffice for them: I can only say, for my own part, that neither as the result of personal experience, nor of my acquaintance with German criminal proceedings, nor, finally, from any knowledge of the literature of the subject, should I consider myself justified in attributing a fatal significance to a deposit of tubercle, even though it were twenty-one millimetres in diameter, and least of all when situated on the surface of the convexity of the left cerebral hemisphere. Whether it were in the meshes of the pia mater, or situated on the arachnoid, in neither case could it have any considerable thickness. And, concerning any change of the surrounding brain-substance or of any exudation, or indeed of any recent inflammatory change of neighbouring parts, not only is no mention made, but the contrary is definitely protested. The "well-marked" congestion of the brain and its membranes would have to be described in quite another manner than it is, in order to be able to deduce, more especially six days after death, the signs of a general inflammation of the brain and its membranes. The statements in the protocol concerning the membranes of the brain are indeed such that we lose all confidence in the anatomical skill of those who drew it up. Their arachnoid "or fibrous (and serous) membranes enclosing the brain," and the pia mater distinct from these, "or internal membrane of the brain itself," sufficiently indicate that these gentlemen did not arrive at any clear ideas concerning these membranes. A few of our elder brethren would find it rather difficult to steer clear through the confusion of ideas concerning the arachnoid and pia mater, but, as a rule, we can make out from their protocols what they really mean. But in the Penge Case this is indeed difficult. It is difficult to come to an understanding with a man who first of all calls the arachnoid a fibrous membrane, and who then, in order to soothe his scientific conscience, immediately adds that it is also a serous membrane. One easily comes to the conclusion that he is not exactly the man to find those fine sub-miliary tubercules (granulations) which frequently lie hidden within the pia mater at the bottom of the sulci.

I may just take this opportunity of stating that some years ago, in a short essay on "Hæmatoma of the Dura Mater," I discussed, historically, the question of the arachnoid and pia mater and the identity of the two membranes, and also endeavoured to establish the tautology of the double appellation. (*Würzburger Verhandlungen*, 1857, Bd. vii., page 134). If one could decide to abolish completely the term—parietal layer of the arachnoid—which for pathological teaching is not only superfluous, but even prejudicial, there would be nothing to prevent our uniting the visceral layer with the pia mater, and then it would suffice to speak of the superficial and deep processes of these membranes. *Arachnitis superficialis* and *Arachnitis profunda* would convey all one could wish to express.

Now, according to Dr. Wilkinson's statement, there really was no arachnitis profunda in the Penge Case, and Harriet Staunton could not reasonably have died from a single deposit of tubercle, even if it had been situated *in*, and not, as he asserts, *on* the arachnoid. On the other hand, according to the Notes, a chronic arachnitis profunda, and also a multiple tuberculosis, were undoubtedly proved. According to this, as the *Lancet* has it, Harriet Staunton may have suffered from general progressive paralysis, and, as Dr. Greenfield believes, may finally have died from meningeal tuberculosis. This is possible; but can it be substantiated, and in such a manner as to warrant a definite medical opinion being given? Should any medical expert with a good conscience venture to express any opinion at all on a basis of such conflicting statements as these? I think not. At the trial, Dr. Longrigg states, "There were *old adhesions* between the internal and external membranes, with a deposit of tubercular substance in the lining membranes." It is impossible to reconcile this foregoing statement with that of Dr. Wilkinson. Now, can we accept the bare statement of this witness, that the (as stated by himself) single deposit of tubercle in the arachnoid was recent? With equal assurance he tells us that the *tubercular deposit* in the apex of the left lung was inactive; and yet in the Notes it is stated, "a small patch about one and a half to two inches square contained tubercular deposit (grey and hepatised)."

Here another extraordinary definition of size occurs. A patch of one and a half to two square (surely he means cubic) inches should not be described as small; and if the within-contained mass were recognised as grey and hepatised, no one in Germany would venture offhand to describe this hepatisation as inactive. At every point we see that these medical witnesses have not learnt terminology. They speak a medical language, partly of their own invention, partly from hearsay, and their listeners may make out of it whatever seems to them to be right.

The opinion of Dr. Greenfield in his first communication to the *British Medical Journal*, page 496, was very much to the point; he says:—

"The incomplete and imperfect manner in which the facts are recorded, makes it almost impossible to form any decided opinion as to their true nature, based upon the description given. Thus, in the description of the small millet-seed-like bodies in the membranes of the brain, no mention is made either of their position with regard to the upper and under surface, or of their relation to the vessels—points which are of great importance in deciding upon the nature of such bodies in doubtful cases, where no other tests can be applied."

But in his second communication, in the *Lancet*, Dr. Greenfield, as Dr. Payne had before him, throws off his cautious tone. Not only does he accept the meningeal tuberculosis as certain, but infers from it the symptoms, death, and especially also the emaciation. Hence *the possibility* that there may have been deprivation of food is forced quite into the background, or, more strictly speaking, is entirely set aside.

And, to my thinking, herein lies the second chief objection which may be taken to these proceedings. All novices in medico-legal post-mortem examinations take a delight in conjuring up from the post-mortem evidence, whenever it is possible to do so, the whole circumstances of the death, and sometimes also the (connexion of) events—even to details—of the latter part of life. In this "Wissenschaft des Scharfsinns" (science of acumen), as Caspar loved to call it, nothing affords so great a pleasure as the complete reproducing of the facts of a case from isolated (phenomena) appearances (found) in the dead body. How often we experience this among our young medical jurists! With what pleasure do they allow their imaginations to wander, in order to think out the various possibilities to their minutest points, and then with their scientific facts before them to adopt a choice between them! But human imagination only too easily falls short of the possibilities which nature and human life actually realise. This or that manifestation, in spite of all our care, is overlooked, or wrongly

interpreted, and acumen loses itself in wrong or uncertain paths. Hence, let us elders ever strive to warn the workers of the rising generation, in cases where the technical opinion of the medical man is demanded, not to minutely detail all those possibilities which are present to the imagination, nor to drag in the whole combination of biological science, when judging of the causes or the mode of death, which after all is properly the domain of the judge and of the jury.

Did Harriet Staunton die of arachnoideal tuberculosis? Certainly not, if the report of Dr. Wilkinson is correct. Possibly, if the statements of Dr. Longrigg are right. Are we, however, called upon to decide whether the former or the latter is in the right?

If Harriet Staunton did die of arachnoideal tuberculosis, her emaciation might be due to tuberculosis. But it is somewhat difficult to prove even this *possibility;* a weight of seventy-four pounds is, in truth, very little—remarkably little—for a person thirty-five years of age. Dr. Greenfield is himself quite sensible of this, and hence he is inclined to admit the assumption that the woman was already suffering from mental disease and general paralysis before she became tubercular. This is also possible, but it cannot be demonstrated by an autopsy. It can only be ascertained from witnesses who are able to report what took place during life. In the absence of such depositions—for those they had were altogether insufficient—the possibility of her having been starved remains uncontradicted. And even if mental disease had been proved, as the case now stands, this possibility would still be admissible. Medical opinion, therefore, at the trial ought to have been: *Non liquet.*

Such is my candid opinion. May it in a small degree assist in reconciling opinions across the Channel, and in bringing about the introduction into forensic practice of special knowledge, method, trustworthiness, and a wise reserve.

FROM ABROAD.

Prognosis and Treatment of Diphtheria.

Dr. Lewis Smith, Clinical Professor of Diseases of Children at Bellevue Medical College, observes (*American Journal of Medical Science*, October) that the endemic persistence of this disease in some localities, as New York, and its frequent epidemic outbreaks in country villages and towns, have aroused great attention as to its nature and treatment. No disease also, he adds, stands more in need of all the light which science and experience can throw upon it, not only on account of the divergence of views which prevail respecting it, but because of the frequency with which the prognosis is belied. This uncertainty of prognosis, he believes, depends much upon the fact that diphtheria terminates fatally in several distinct ways, so that while the patient may seem safe with respect to the more manifest and common conditions of danger, a fatal result may still occur from some unseen and unsuspected cause.

Death may result from (1) diphtheritic blood-poisoning; probably also from (2) septic poisoning, produced by absorption from the under surface of decomposing pseudo-membrane—especially when this is extensive, deeply embedded, and attended by an offensive effluvium. Cervical cellulitis and adenitis, which may cause very considerable swelling of the neck, appear to be often, if not usually, due to septic absorption from the lower surface, the inflammation extending from the absorbents to the glands and connective tissue. Considerable swelling of the neck, therefore, seldom occurs in diphtheria or scarlatina without manifest symptoms of toxæmia, and is to be regarded as a sign of its presence. (3) Obstructive laryngitis; (4) uræmia; (5) sudden failure of the heart's action, either from the anæmia and general feebleness, from granulo-fatty degeneration of the muscular fibres of the heart, which is liable to occur in all infectious diseases of a malignant type; or from ante-mortem heart-clots. (6) Suddenly developed passive congestion and œdema of the lungs, probably due to feebleness of the heart's action, or to paralysis of the respiratory muscles. Death may occur from this cause during what seems to be convalescence. The physician is less likely to err who bears in mind the possibility of these various terminations; and Dr. Smith believes that the condition of the urine is too infrequently and too superficially examined, seeing that it often contains a large quantity of albumen.

"Among the symptoms which render the prognosis unfavourable are repugnance to food, vomiting, pallor, with progressive weakness, and emaciation from the blood-poisoning; a large amount of albumen, with casts in the urine, showing uræmia, to which the vomiting is sometimes, but not always, attributable; a free discharge from the nostrils, or occlusion of them by inflammatory thickening and exudation, showing that a considerable portion of the Schneiderian membrane is involved; hæmorrhage from the mouth or nostrils; and obstructed respiration. One, at least, of these has been present in most of the fatal cases which have fallen under my observation."

It is remarkable, Dr. Smith observes, that concerning a disease which has been so long under widespread and able observation, such wide discrepancy of opinion as to treatment prevails. This has arisen in part by the different views taken of the nature of the disease, but still more is due to the unreliability of the statistics of treatment, owing to the very varying types the disease presents even in the same epidemic, so that while some cases resist all measures, others scarcely require treatment at all. He believes that the germ-theory of diphtheria has done immense harm by concentrating attention so much on local and general antiseptic treatment, which, as far as his experience goes, proves of little use; and he is of opinion that the fact of the treatise in Ziemssen's Cyclopædia, which propagates this doctrine, having been published before Sanné's more useful book, has led to great mischief. Experience has, however, brought on a reaction, and practitioners are beginning to learn that constitutional treatment is of as paramount importance in diphtheria as it is in scarlatina. As the result of his own large experience, he lays down the following propositions:—1. In ordinary cases the poisonous principle of diphtheria enters the blood through the lungs, and after an incubation, varying from a few hours to seven or eight days, gives rise to the symptoms of the disease. 2. Facts do not justify the belief that the system can be protected by antiseptic or preservative medicines given internally. 3. There is no known antidote for diphtheria, in the sense in which quinia is an antidote for malarial disease. 4. Diphtheria, like erysipelas, has no fixed duration. It may cease in two or three days, or continue for as many weeks, the specific poison acting more intensely at the commencement than at a later period; so that diphtheritic inflammation—as laryngitis, *e.g.*—is more severe and dangerous at an early period than when the disease has continued a few days. 5. The indication of treatment is to sustain the patient by most nutritious diet, tonics, and stimulants, employing other measures as adjuvants as the indications arise, the same rules of treatment being for the most part appropriate as are applicable in scarlatina. Local treatment should be unirritating and designed to prevent putrefactive changes and septic poisoning. Irritants which produce pain lasting more than a few minutes, or which increase the area or degree of redness, are hurtful, and increase the extent and thickness of the pseudo-membranes.

The most nutritious and easily digested food should be given, the preservation of the patient's inclination for food being of vital importance. Beef-tea, or the expressed juice of meat, milk, with farinaceous substances, etc., should be given every two or three hours, or to the full extent without disturbing digestion. Failure of appetite and refusal of food are justly regarded as most unfavourable signs. In malignant diphtheria or scarlatina patients are allowed sometimes to slumber too long without nutriment. It is the slumber of toxæmia, and should be interrupted by feeding at stated times. *Stimuli*, as observed by Sanné, are indicated in proportion to the gravity of the case; and while mild cases do well without alcohol, this is required in all cases of a severe type, and should be given in large and frequent doses, wherever pallor or loss of appetite, or of strength and flesh, indicates danger. Of *tonics*, none answer the purpose better than cinchona and quinia. Concerning the doses of the latter, the greatest difference of opinion prevails, according as its antipyretic or its tonic effects are sought to be obtained. But high febrile action calling for antipyretic doses of three, five, or more grains are seldom observed after the first forty-eight hours, while at a subsequent period the tonic dose of two grains every two or four hours will be found sufficient. Great difference of practice also prevails with respect to iron, some using it exclusively in large doses, while others employ moderate doses as an adjuvant to vegetable tonics. The formula which Dr. Smith prefers, say

for a child five years old, is the following :—℞. Quiniæ sulph. ʒss., elixir adjuvantis or elixir taraxaci co. ʒij. Give one teaspoonful every two to four hours, and one teaspoonful of the following hourly between—℞. Tinct. ferri chlor. ʒij., pot. chlor. ʒij., syrup ʒiv. The tonic effect of the iron is not impaired by the chlorate of potass, which is added on account of its action on the inflamed surface. The citrate of iron and ammonia alone, or combined with carbonate of ammonia, may be given in two-grain doses, in syrup, instead of the above, when the inflammation of the fauces has considerably abated or is moderate. As the disease begins to abate, the intervals between the doses may be lengthened, but the tonic should not be entirely discontinued until the patient is far advanced in recovery, on account of the dangerous sequelæ which originate in an impoverished condition of the blood.

The object in *local treatment* should be to reduce the inflammation of the mucous surfaces, and destroy the diphtheritic poison and contagious properties in the pseudo-membrane, and to destroy the septic poison, and prevent its absorption should any form. Forcible removal of the pseudo-membrane, irritating applications, the use of a sponge or other rough instrument for making the applications, should be avoided as likely to do harm. These should be made with a large camel's hair pencil, or (better for most of the mixtures employed) with the atomiser. The hand atomiser, like Delano's, which is cheap and of simple construction, is very useful, but the constant spray of the steam atomiser is more effectual, and is preferable in some cases. Dr. Smith employs the following mixture :—1. Salicylic acid ʒss., glycerine ʒij., lime-water ʒviij. 2. Carbolic acid gtt. xxxij., glycerine ʒij., lime-water ʒvj. 3. Carbolic acid gtt. xxxij., chlorate of potash ʒiij., glycerine ʒiij., water ʒv. Half a dozen or a dozen compressions of the bulb of the hand atomiser cover the surface of the throat more effectually with the liquid than can be done by several applications of the brush, and it is usually not dreaded by the patient. Diminution in size of the pseudo-membrane under the use of the spray is a favourable sign; but if it do not diminish, its presence can do little harm if properly disinfected. In many cases the spray suffices for local treatment, but this mixture (carbolic acid gtt. viij., liq. ferri subsulph. ʒij.-ʒiij., glycerine ʒj.), applied by a large camel's hair pencil, is also very effectual, converting the pseudo-membrane into an inert mass, and putting a stop to all movements of the bacteria which swarm in it. It may be used two or three times a day between the spraying, or oftener without this. *Pseudo-membranous laryngitis*, the most formidable symptom of diphtheria, is best treated by the spray. Of twenty-five cases treated by Dr. Smith, seven recovered by inhalation of spray, and two by tracheotomy. When the *Schneiderian membrane* is especially affected, being more sensitive than the fauces, it requires a milder treatment. The best consists in injecting into the nostrils, by means of a small syringe, every third or fourth hour, one or two teaspoonfuls of a mixture formed of carbolic acid gtt. xxiv., glycerine ʒij., and water ʒvj., using it of the temperature of the body, the head being thrown back, and the eyes covered with a cloth.

Benjamin Barrow, F.R.C.S., Justice of the Peace and Alderman of the Borough of Ryde, has been elected, for the fourth time in succession, Mayor of that town.

Natural Science Teaching at Cambridge.—The Vice-Chancellor of the University of Cambridge, Dr. Atkinson, on resigning his office on November 3, spoke of the progress of scientific teaching in the University. The efficiency of the University as a school of natural science has been greatly promoted, Dr. Atkinson stated, during the past year by the erection of the new buildings for the department of comparative anatomy and physiology. Although the whole building is not yet completed, many of the rooms are already in use, and the accommodation which is thus provided for both teachers and students will be of the greatest advantage. In connexion with this subject, Dr. Atkinson referred to Professor Clerk Maxwell's announcement that the Chancellor of the University, his Grace the Duke of Devonshire, has now completely equipped the Cavendish Laboratory with all the apparatus and instruments which the Professor considers that a first-class institution of this kind ought to possess. This munificence, continued so steadily and ungrudgingly for a number of years, is but one of the many proofs which the Chancellor is constantly giving of his unwearied care and concern for the welfare of the University.

PROVINCIAL CORRESPONDENCE.

IRELAND.

Dublin, Nov. 7.

The Opening of the Session 1877-78 (*continued*): House of Industry Hospitals; Meath Hospital and County Dublin Infirmary; Catholic University School of Medicine; Mater Misericordiæ Hospital.

Since I last wrote to you on the subject of the opening of the present session, introductory addresses have been delivered in such other of our Schools and Hospitals as still cling to this mode of inaugurating each succeeding period of medical study.

On Thursday, November 1, the clinical session of the Richmond, Whitworth, and Hardwicke (House of Industry) Hospitals was opened by Dr. Robert D. Lyons. His address partook of the nature of practical advice to the students, and dealt principally with the plan of conducting the clinical work in the hospitals during the ensuing session, together with a description of the system of case-taking which would be pursued.

The 127th session of the Meath Hospital and County Dublin Infirmary was inaugurated on Monday, the 5th inst., by Dr. Arthur Wynne Foot, Senior Physician to the Institution. Having offered a few words of welcome and encouragement to the students—of welcome to the new arrivals, of encouragement to all,—Dr. Foot spoke of Dr. Graves's system of clinical teaching, first practised in the Meath Hospital. In introducing this, the leading theme of his address, he said :—"The indispensable necessity and the vital importance of hospital attendance are due to the fact that it is in such a place alone, where every form of illness and injury is collected, you can acquire that familiarity with the ways of the sick, and with the management of disease, which are the attributes and the essential qualifications for a medical life. Elsewhere you may *hear* about diseases, or may read about them; but it is here you can *see* them, and you will soon find out how much more lasting and vivid are your impressions of disease when formed from attentive observation of the originals than when they are grounded on what are at the best but hearsay descriptions, or paper copies. What the laboratory is to the chemist, the field to the botanist, the studio to the artist, the gymnasium to the athlete, the hospital is to the student of medicine or surgery.

"Here you can see at work that enemy with whom you will have to fight a life-long battle. The name of Death, synonymous with terror and mystery, is enough to make the bravest pale. If you would have the power to preserve your self-possession and composure when engaged with him in some hurricane of trial, when a distracted mother screams to you to save her child or her husband from his tiger-spring, mixing threats and entreaties, commands and prayers, in a wild tempest of grief and horror—life and your reputation both at stake—do not neglect the only place where you can acquire practical experience of his power, where you can learn the subtle turns and twists of the grim assailant—his sudden, treacherous springs, his stealthy, insidious approaches,—where you can learn to recognise him in his disguises, for, pirate-like, he hides his pale ensign often under the rosy mantle of a damask cheek, and, like a basilisk, looks out through the glittering eyes of his intended prey!" He continued—

"The dominant genius of Graves established here the great and true principle of teaching by *action*. The essential feature of this system is the allowing any pupil so inclined, and who is sufficiently advanced, to undertake the care of patients in the hospital under the direction and superintendence of the attending physician. Such working or "practising pupils," as he loved to call them, have the opportunity of finding out by their own powers what is the matter with the patient, and of suggesting treatment, and have the privilege of carrying out in detail the management of the case while the patient remains in hospital. Nothing can be better adapted than this method of clinical teaching for the instruction of a beginner, or for the improvement of a more advanced student."

Speaking of his hearers' prospects in life, the lecturer observed—"There are two reasons why it is especially unlikely for medical men to amass great fortunes—one is that so large a portion of their time and skill is lavished upon those who are *unable* to repay them; the other is the generosity, often almost romantic, which is so characteristic a quality of the medical

mind." But, "by patient perseverance in well-doing you will not fail to attain the position Providence has thought best for you. There are numerous spheres of action for a medical life, all of which, whether humble or lofty, duty faithfully done, with singleness of purpose, can illuminate with a divine light, the reflection, however dim, of an eternal sun. In many a quiet country churchyard in this land the grass grows green over the ashes of medical men whose good and useful deeds were unknown much beyond their dispensary districts; for often it happens that 'the world knows nothing of its greatest men.' They lie at rest from laborious duties which were oftener repaid with the blessings of those who were ready to perish, or the song of joy from the widow's heart, than with any form of pecuniary recompense. The active benevolence of such men's lives speaks from their quiet graves, to those who have an ear to hear it, the same language as the marble statues of the more famous heroes of a larger stage of duty. The light radiating from the faithful life of the humblest practitioner contributes to the lustre of the medical firmament, just as the minor constellations of the sky support the zenith stars of the first and second magnitude in forming the glittering beauty of the starry heavens."

These few paragraphs, I can assure you, do but scant justice to Dr. Foot's masterly and most classical address.

On the afternoon of Monday, the 5th inst., Dr. John A. Byrne, Dean of the Medical Faculty in the Catholic University of Ireland, delivered the inaugural address in that Faculty in the Lecture Theatre of the School of Medicine and Surgery, Cecilia-street.

The last "introductory" I shall notice is that delivered at the Mater Misericordiæ Hospital, on Tuesday, the 6th inst., by Mr. Patrick J. Hayes, one of the surgeons to that institution. In the course of a singularly able address he spoke at length on the vexed question of "Vivisection."

After alluding with expressions of horror and indignation to the report of certain practices in some continental schools of veterinary surgery, and stating his conviction that "British Medicine did not deserve the slight lately put upon it—an indignity as uncalled for as it is harmful," the lecturer went on to say:—"I have been intimately associated with teachers of physiology during a period extending over twenty years, and although, both as student and teacher, I have assisted at experiments and observations upon living animals, I have never seen more suffering inflicted than would be caused by a small wound, or the instantaneous division of a nerve-fibre. The assertion that callousness and inhumanity are generated in the minds of students who witness such investigations does not merit serious notice. By alluding to it I only seek an opportunity for expressing my belief in the emotional and clap-trap nature of the charge. Happily, the sons of medicine ever have been—and, I feel assured, ever shall be—recognised by characteristics directly antagonistic to the sentiments of heartlessness or cruelty. I am no advocate for, but rather am I opposed to, the repetition of like experiments time after time; nor do I argue that warm-blooded—and, consequently, sensitive—animals should be subjected to fear or pain, merely (to quote the words of Professor Huxley) for the purpose of impressing some scientific truth upon the minds of students." Mr. Hayes then proceeded to mention modern instances of the value of experimentation on animals—as the discovery by Wolfe, of Glasgow, that conjunctiva will bear transplantation from the eye of the rabbit to the human eye, and so cases of otherwise incurable symblepharon can be successfully treated; and the sub-periosteal treatment of diseased bones, introduced into practice by Ollier, of Lyons. In further illustration of this he said:—"The late Professor Bennett, of Edinburgh, having subjected rabbits to poisonous doses of strychnine, found he could arrest spasms and overcome the effects of the drug by means of the administration of hydrate of chloral, and thus he proved its antidotal power. The peculiar influence which curare exerts upon the nervous system of any animal, when inserted beneath the skin, induced a Prussian physician recently to employ this poison in a case of presumed hydrophobia, the result being that the patient made a most satisfactory recovery. Additional evidence of a favourable nature, it is to be hoped, may soon be forthcoming, so that at long last a reliable remedy may have been found for at least one terrible and hitherto incurable disease. Need I recall to the memory of my hearers the amount of light shed over the modern pathology of tuberculosis through the inoculations of inflammatory products practised upon the lower animals by Villemin, Burdon-Sanderson, Fox, and others; or refer to the experiments, and consequent discoveries, made by Cohnheim, Stricker, Purser, and several other distinguished observers, with regard to the part played by leucocytes in the various degrees and stages of inflammation?" The lecturer concluded with a few words to those who, lately pupils, are now professional men; and charged them to complete the promise of their youth, and in age—well, in age they would respond to the sentiment of the poet—

> "'For age is opportunity, no less
> Than youth itself, though in another dress;
> And as the evening twilight fades away,
> The sky is filled with stars invisible by day.'"

GENERAL CORRESPONDENCE.

PHILANTHROPY IN WAR.

Letter from Mr. R. H. A. Schofield.

[To the Editor of the Medical Times and Gazette.]

Sir,—I am, of course, ignorant of the source of the information embodied in the article on philanthropy in war which appeared in the *Medical Times and Gazette* of October 20, but as I have served under the National Aid Society, both in the Belgrade Hospital, and more recently in Bulgaria, I am in a position to correct one or two errors as to matters of fact which occur in the article. The facts as to the Servian war are briefly these:—The National Aid Society, early in August, 1876, sent out a number of surgeons, six or seven of whom worked on the Servian side, and the remainder on the Turkish. This, it should be remembered, was only three or four weeks after the beginning of the campaign, and full three months before its close.

Later on, the Society sent out four more surgeons to work in the Belgrade Hospital. Whether it is a fair representation of these facts to say "The Society sent out a few surgeons *just before the war came to a close*," your readers will doubtless judge for themselves.

Again, it is quite a misrepresentation to say that "many wounded would have had to die had it not been for the personal generosity of Dr. Attwood," for when I left the hospital in December, 1876, there were only about sixty wounded remaining, the majority of whom were rapidly recovering. There were, of course, some severer cases, hopeless from the first, and these died just as inevitably in the hospital as they would have done out of it.

A few lines lower down these words occur: "The Servian war came to a close, and we ask, what has the Society done since? Nothing, to the best of our knowledge." In reply to this, I may be excused for stating in a few words what the Society has done since. In the first place, it maintained two surgeons at Belgrade all through the winter, and four or five on the Turkish side at Nisch and Sophia.

Soon after the opening of the present campaign a steamer, the *Belle of Dunkerque*, was freighted with every appliance, both medical and surgical, for the treatment of sick and wounded, not to mention several thousand blankets, large stores of preserved provisions, and a dozen large hospital marquees for field work, each capable of sheltering forty wounded men. With the steamer five surgeons were sent out, and all were hard at work in Roumelia, Bulgaria, and Armenia before the end of July, rendering surgical assistance in the first lines, where it is always most valuable.

Subsequently four more surgeons have been sent out to Turkey; and still more recently several surgeons of the Society have gone with stores to Bucharest.

Further, the steamer *Belle of Dunkerque* has been employed on several occasions to transport wounded both from Varna and Soukhoum Kaleh to Constantinople.

Your readers will see from the above bare outline of facts that the Society has not been idle, and that the assistance given has been not only on a large scale, but rendered just where it was most needed. I am, &c.,

R. H. A. Schofield.

St. Bartholomew's Hospital, October 31.

[Our readers "will doubtless judge for themselves" whether Mr. Schofield's account of the work of the "National Aid Society" really at all betters entire case. The gist of our charge against the Society is its entire want of organisation; and if Mr. Schofield will take the trouble to read rather

more carefully what we said, he will comprehend that, and will see also that the sentence quoted by him, in which we say that, so far as our knowledge goes, the Society has done nothing since the Servian war, has special reference to the state of unpreparedness and entire want of organisation in which the outbreak of the Russo-Turkish war found the Society. Our readers will also "judge for themselves" whether what we said about the Belgrade Hospital is a "misrepresentation." Mr. Schofield admits that when the Society gave up the hospital in December, 1876, there were "about sixty wounded remaining in it." Dr. Attwood has stated that when the Society discontinued its operations, on December 1, the hospital contained above ninety cases. Dr. Attwood determined to stay and carry on the hospital, and he was joined by two other members of the staff, Dr. Wattie and Mr. Hume. That their services were really needed was recognised in the end by the Society itself, for it continued its allowance of £1 a day to Dr. Attwood and his collcagues for three months, and gave a contribution of £100 towards the £700 that the hospital cost in the six months during which Dr. Attwood continued it.—Ed. *Med. Times and Gaz.*]

REPORTS OF SOCIETIES.

CLINICAL SOCIETY OF LONDON.

Friday, November 9.

George W. Callender, F.R.C.S., F.R.S., President, in the Chair.

A Case of Urethral Calculi.

Mr. Bellamy exhibited two calculi, removed from a sac communicating with the urethra in front of the scrotum. The patient, who was about forty years old, had, when he was aged eleven years, two other small calculi removed from the same part. The two calculi exhibited had been noticed and had steadily increased in size for the last eleven years, until they formed a tumour the size of a pigeon's egg. This was simply inconvenient for its size, but gave rise to no obstruction to the passage of urine nor to any other symptom. The man had passed no gravel; nor could a calculus be detected by the sound in either the bladder or urethra. The calculi were removed by a simply longitudinal incision into the sac, which was found to communicate with the urethra by a small opening, through which a small probe passed. The wound healed perfectly, and no urethral fistula remained. The calculi together weighed exactly an ounce; were curiously facetted together, their opposed surfaces being highly polished; and, when placed together, they measured 1·7 inches in length, 1·2 inches in breadth, and 1·5 inches in depth. The external surfaces were irregularly mammillated, and exhibited, on section, successive layers of phosphatic deposit. No nucleus was visible at the time of section. Mr. Bellamy thought the calculi were originally in contact, and that the fresh deposits of calcareous matter had only been added to their outer surfaces, whilst their opposing surfaces became polished from friction.

Urethral Calculus.

Mr. Sydney Jones showed a specimen of large urethral calculus, which he had removed by excision from a man, aged sixty. He had been sent into St. Thomas's Haspital for difficulty of micturition, and was supposed to have stricture; but, on passing an instrument, this impinged upon a calculus lodged just behind the bulbous part of the urethra. It might be felt in the perineum; and the forefinger being placed on the rectum, and the thumb on the perineum, the foreign body could be moved to and fro, and made to grate on a metallic instrument in the urethra. A catheter might be passed over the calculus into the bladder. The calculus was about the size of a small chesnut. Each time a catheter was passed there was a rigor, the temperature rising considerably, once to 106·3°, and falling again to normal on the subsequent day. On October 3, Mr. Sydney Jones cut down upon the calculus and the perineum, and easily removed it. The wound was closed by two deep and two superficial sutures, and a No. 8 catheter, with drainage-tube attached, was passed into the bladder. At 7 p.m. there was a rigor, and the temperature rose to 104°. On the next day, the temperature was normal, and remained so. Two sutures were removed three days after the operation, and the remaining two on the fifth day. One catheter was removed on October 9, six days after the operation. On October 10 and 11 he passed water in a good stream without difficulty or pain; none escaped by the wound, which was not quite healed towards the front part. Except on one doubtful occasion referred to by the patient—viz., on October 15—no urine passed by the wound after the operation. He was allowed to get up a fortnight after removal of his calculus, and left the hospital a few days afterwards quite well. Mr. C. Stewart, who examined the calculus, which weighed 153 grains, reported that its nucleus was oxalate of lime, around which was fusible calculus with mixed phosphates; the rectum showed dark lines, for the most part made up of oxalate of lime.

Mr. Heath said he had exhibited such another specimen as Mr. Bellamy's before the Pathological Society. This calculus was lying in the urethra, and seemed connected with a former lithotomy. It was easily extracted. Mr. Bellamy's case was remarkable for the small size of the opening into the urethra. How had the stone grown? Could it have been a phlebolite?

Mr. Teevan thought the great value of Mr. Bellamy's case rested on the fact that no fistula was left after operating. A small stone, however, might easily be removed subcutaneously without leaving any fistula. If an attempt was made to push the stone back into the bladder, it was best to use a soft bougie, which would mould itself to the surface of the stone.

Mr. Barwell remarked that a similar calculus had already been removed from Mr. Bellamy's patient. This second stone had probably been formed in some adventitious cavity outside the urethra.

Mr. Bellamy could give no idea as to the mode in which the stone was formed.

Mr. Sydney Jones thought they might form in cysts of mucous membrane connected with the urethra. At all events, this might be so with the uric acid stones.

Unilateral (Gunshot) Injury to the Spinal Cord.

Dr. Gowers brought forward this case. The patient, who had been in University College Hospital, under the care of Mr. Heath, had fired a pistol into his mouth, and died sixty hours afterwards. The bullet had passed through the body of the second cervical vertebra, and had lodged between the arches of the atlas and axis on the right side. It had not penetrated the dura mater, but had driven a spiculum of bone into the membrane, and had bruised the cord between the second and third cervical nerves, the bruise being confined to the antero-lateral column, the anterior and posterior cornua, and the central part of the grey matter on the right side. All these parts contained many extravasations. The left half of the cord, both grey and white matter, was intact; and the right posterior column was simply swollen, apparently from œdema, there being only a few very minute extravasations in it. The symptoms during life were: Paralysis of the right arm and leg, complete always in the arm, and at first in the leg; after the first twenty-four hours, there was slight power of moving the leg. There was hyperæsthesia, or rather hyperalgesia, on the paralysed side, below the part supplied by branches from the cervical plexus; in the latter, sensation was normal. On the opposite side there was no motor weakness; but there was complete, or almost complete, loss of sensibility to pain, and very little change in tactile sensibility. The reflex action was diminished, almost abolished, in the paralysed leg; it was excessive in the opposite leg, in which sensibility to pain was diminished. Temperature on the side of motor paralysis was uniformly higher (one or two degrees) than on the other side; and on the paralysed side there was a peculiar change in the irritability of the muscles and nerves, that of the muscles being a little less, that of the nerves being a little greater, than on the other side. The change was the same to each form of electricity. In commenting upon these symptoms, Dr. Gowers observed that the cross sensory and motor paralysis was in accord, although not completely, with the view now generally accepted. The slight recovery of power in the leg might be explained by supposing that some fibres of the antero-lateral column recovered functional power; but, considering how easily the motor impulse was arrested by a slight injury, he thought this explanation

improbable, and that the recovery of power afforded support to Vulpian's opinion that the motor path, although crossing chiefly at the decussation of the pyramids, also crossed to a less extent lower down the cord, and that this subsidiary decussation for the leg had escaped, so that, when the shock of the injury was over, there was some return of power over the leg. He pointed out that the slight change in tactile sensibility in the analgesic limbs afforded support to the view that tactile and common sensation traversed different paths in the cord; and the undamaged state of the posterior columns was interesting in connexion with the assertion of Schiff, that they conducted tactile impressions. The increased sensitiveness of the paralysed leg, so common in these cases, but associated as it was here with diminished reflex action, could not be ascribed, as it had been, to the withdrawal of an inhibitory influence on the grey matter of the lumbar enlargement. The contrast in this respect between the two legs, in both sensibility and reflex action, seemed significant. In health, reflex action in the legs was restrained by a higher centre, probably in man the optic thalamus. The lesion of the right half of the cord, which divided the sensory path from the left leg, interrupted also this inhibitory influence. Hence it would seem that these two paths corresponded. Might not the opposite condition of the right leg be due to the intensification of the influence of the left optic thalamus? This would account for both the diminished reflex action and the hyperæsthesia, since the thalamus was a sensory centre. Its over-action might be due to the accumulation of the obstructor nerve-force in its fellow, acting upon it by means of the commissural fibres. The difference in irritability of nerve and muscle must be interpreted as an abnormal state of the paralysed limbs, and was, although unusual in character, probably due to an irritative influence exerted by the lesion on the grey matter of the lumbar enlargement, and thence on the motor nerves. The persistence of sensibility in the branches of the cervical plexus showed how high up in the cord these fibres decussated.

Dr. Althaus said the paper presented few openings for discussion, the case had been so excellently reported. He was sorry there was no reference made to the sense of temperature. Was there any priapism? It would be interesting to know with what portion of the spinal cord this phenomenon was connected. He agreed as to the electric phenomena.

Dr. Broadbent also spoke of the excellence of the paper. He thought that the case rather tended to confirm Schiff's theory of the use of the posterior columns of the cord as conductors of tactile impressions. The phenomena of locomotor ataxy did not, however, confirm this. Wherever, indeed, the lesions might be, the patient could often localise the point of contact. The increase of reflex action on the injured side tended to corroborate his own speculations as to the structure and action of certain parts of the nervous system. He thought the same cells received both sensory and reflex impulses. If the upward course of the former was arrested, the latter would be more strongly marked than before. He thought the anæsthesia of hysteria due to diminished blood-supply from irritation of the vaso-motor system, yet tactile sensibility remained. Here there was vaso-motor paralysis, and, consequently, hyperæsthesia.

Dr. Buzzard asked what was the condition of the muscular sense when power partially returned to the leg.

Dr. Althaus thought the inhibitory centres were situated rather in the corpora quadrigemina than in the optic thalami.

Dr. Gowers, in reply, said the case was admittedly imperfect. The difficulties were great; the patient could not speak English, and sank rapidly. He could hardly go into the evidence of the optic thalami being the inhibitory centres, and he quite agreed as to the difficulties of Schiff's theory of the function of the posterior columns of the cord. There was no priapism.

Left Hemiplegia and Hemianæsthesia associated with Loss of Speech.

Dr. Broadbent communicated, for Dr. J. Burnley Walker, a case of left hemiplegia and hemianæsthesia with general diminution of motor power and of sensation, associated with loss of speech, peculiar voice and articulation, and ataxy of the upper extremities, due probably to embolism of the basilar artery; recovery. He said that the patient was a woman, aged twenty-six, who, four days after the birth of a child, was greatly excited by her husband coming home drunk. A severe rigor came on, and a few hours later, while she was sitting up to take food, she fell back in a swoon. When seen by Dr. Walker she was perfectly unconscious, though she swallowed liquids; her pulse was 48, and scarcely perceptible; the pupils were equal; the face was drawn a little to the right. After the free administration of brandy, she could be roused, and it was seen that the legs, limbs, face, and tongue on the left side were paralysed. Sensation was also greatly diminished on this side, and there was decided impairment of both motor power and of sensibility on the right half of the body as well. As the prostration was recovered from, she was found to be absolutely speechless, and the expression of her face, her laugh, and features were almost idiotic. She gradually gained power, but for a long time had had no proper control over the movements of her limbs. She could not take hold of an object, or guide a spoon to her mouth. She spoke for the first time eleven weeks after the attack, and then in a peculiar loud voice and with uncouth articulation. When seen by Dr. Broadbent about three months after the attack, she could answer simple questions, but in a peculiar loud whining voice. She said she could not walk, but did so with the aid of a single finger; the movements of her hands were vague. Her mental condition appeared to be childish, and she smiled idiotically. Further improvement took place, and now (October, 1877) she could walk and carry her child, and attend to her house; but she still fumbled long over buttons and pins, and had only just become able to dress herself. She could not now control a knife so as to cut bread. She conversed fairly well, but not in a natural voice. Dr. Broadbent said the case was interesting, as throwing light on reported examples of aphasia with left hemiplegia, or with lesion in the posterior part of the brain. Had the patient died during the eleven weeks in which she was speechless, the case might have been considered one of this class; but the mental condition, the peculiar phonation and articulation, and the mode in which speech was recovered, showed that the derangement of the cerebral operations and the injury to the cerebral mechanism were altogether different from those which were seen in aphasia. The time and mode of the attack pointed to embolism of a cerebral artery as the cause of the symptoms, but these were not such as could be accounted for by blocking up of any one branch of the carotid, or of this vessel itself, or of the posterior cerebral or superior cerebellar, or both. The general impairment of motor power and of sensibility, in addition to the left hemiplegia and the motor ataxy, pointed to the conclusion that the basilar artery was the one plugged, the left branch getting more blood than the right, either by a larger post-communicating artery or by a less perfect occlusion. This would account also for the effect on the heart.

Peculiar Phonation as well as Articulation associated with Paralysis.

Dr. Broadbent brought to the Society brief notes of four cases in which, as in that of Dr. Walker, these peculiarities had existed. Case 1 was that of a girl, aged twenty, who, seven months after the birth of an illegitimate child, was seized, after an emotional shock, with pain in the head, vomiting, and delirium; after which, she was completely paralysed on the left side, partially on the right, then speech was said to have been lost; it was probably rather unintelligible. As she recovered, the voice was altered and impaired, and the articulation was indistinct and almost monosyllabic. Case 2 was that of a woman, aged twenty-seven, who, during an attack of small-pox, five weeks after the birth of a child, had a fit, after which she could not move a limb or speak a word for some weeks. When she had so far recovered as to be able to walk and feed herself, her intonation was loud and unnatural, and articulation imperfect, attended with effort, and monosyllabic. Case 3 was that of a schoolmaster who, a year after contracting syphilis, became suddenly hemiplegic on the left side. Twelve months later he gradually lost his speech, and for six months could not speak at all, deglutition, moreover, being affected. He regained speech, and some power in the left limbs, but the voice was squeaky and unnatural, and articulation peculiar and attended with great effort. In Case 4 there was cross paralysis of the left limbs and right face, attended with affection of the voice and articulation. The feature common to these cases and that of Dr. Walker was that, except in the last (which was reported as helping to identify the seat of the lesion and to locate it in the pons), there was for a time speechlessness, which might have been taken for aphasia, whereas the subsequent history showed

that the damage to the mechanism of speech had occurred at a quite different point.

Dr. ALTHAUS thought the case well illustrated the localisation of function in the brain. There were now two camps—one for localisation, the other against; he rather sided with the former. Dr. Broadbent's case illustrated the fallacies of Brown-Séquard's school; had death occurred early it would undoubtedly have been considered a case of complete aphasia, but it was now proved not to be so.

Dr. BROADBENT had encountered several of these cases, and was desirous of putting them on record. This has been briefly done above.

MEDICAL NEWS.

UNIVERSITY OF LONDON.—The following is a list of the candidates who have passed the recent Second M.B. Examination:—

First Division.—Albert Boyce Barrow, King's College; Peter Horrocks, Guy's Hospital; Boyd Burnett Joll, University College; Herbert Urmson Smith, St. Thomas's Hospital; Charters James Symonds, Guy's Hospital; Nestor Isidore Charles Tirard, King's College.

Second Division.—Judson Sykes Bury, University College; Charles Henry Cattle, Leeds School of Medicine; Paul Morgan Chapman, University College; William Edward Collins, St. George's Hospital; Edward Marriott Cooke, King's College; George Michael James Giles, St. Mary's Hospital; Francis Goodchild, St. George's Hospital; William Gristock, University College; George Hawson Keyworth, Guy's Hospital; John Mortimer, University College; Samuel Thomson Plumbe, St. Bartholomew's Hospital; James Ryley, University College; Herbert Richard Octavius Sankey, University College; Arthur Robert Wyatt Sedgefield, King's College; Edward Arthur Snell, King's College; Leader Henry Stevenson, Guy's Hospital.

ROYAL COLLEGE OF PHYSICIANS AND SURGEONS, EDINBURGH.—DOUBLE QUALIFICATION.—The following gentlemen passed their First Professional Examination during the recent sittings of the examiners:—

Black, Patrick Francis, County Meath.
Crofts, William, Cork.
Drinkwnter, Thomas William, Carlow.
Hannay, John, Dudley.
Lyon, John, Liverpool.
Macfarlane, Edward Parlane, Islay.
MacLoughlin, Thomas James, County Meath.
Mahony, Percy George, Preston.
Mossman, Robert Arthur, Lincolnshire.
Murdoch, Ivon Lewis, Pitsligo.
Purcell, John, Cork.
Rankin, Walter Lorrain, Govan.
Smyth, James, County Limerick.
Steele, John Currie, Johnstone.
Stumbels, Samuel, Philips, Kilmallock.
Taylor, David, Down.
Whiteley, Richard Hanser, Wakefield.
Williamson, Albert Vaughan, Middlesborough.

And the following gentlemen passed their Final Examination, and were admitted L.R.C.P. Edin. and L.R.C.S. Edin.:—

Andrianaly, Madagascar.
Blunden, Abraham, Kilkenny.
Coward, Frank Augustus, Cape of Good Hope.
Culliman, John Richard, County Wexford.
Doyle, Edward Alexander, Lancashire.
Eastwood, Lewis, Halifax.
Fergusson, Reginald Archfield, New Granada, S. America.
Ford, Edwin Moses, Mausfield, Notts.
Gill, John, Leadhills.
Goggin, George Taylor, County Clare.
Gunn, Alexander, Caithness-shire.
Holdsworth, Samuel Rayner, Wakefield.
Kennedy, Samuel, County Down.
Lawless, Edmond James, Malta.
Loveless, Walter King, Stockbridge, Hants.
M'Kee, William Alexander, Crumlin.
M'Mann, John Alexander, Sligo.
Marsh, Edwin Addison, London.
Miller, Alfred Henry, Portsmouth.
Moody, Joseph Woods, Newry.
Muir, James Claudius Pollock, Luton, Beds.
Norman, Arthur Harry, Colchester.
Redpath, Robert Knox Wighton, Edinburgh.
Rentoul, Robert Reid, County Antrim.
Scriven, John Swain, Weymouth.
Smellie, Thomas Stewart Traill, Fergus, Ontario.
Spencer, Henry Ebenezer, Leicestershire.
Warden, David Brown, Ayrshire.
Whiteley, Edward Arthur, Wakefield.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 13th inst., viz.:

Bellwood, John, L.R.C.P. Edin., Addiscombe, student of University College.
Bernays, Augustus Charles, M.D. Heidelb., St. Louis, Missouri, U.S., of Heidelberg and Berlin.
Bottrell, Jas. Francis Henry, L.S.A., Hereford, student of the Westminster Hospital and King's College.
Crallan, George Edward James, Hayward's Heath, of St. Bartholomew's Hospital.
Cross, Horatio Robt. Odo, L.R.C.P. Edin., Craven-street, Strand, of King's College.
Dickinson, George Dixon, Darlington, of the Edinburgh School.
Elam, William Henry, Mirfield, near Huddersfield, of the Leeds School.
Flint, Horace, M.B. Edin., Canterbury, of University College.
Fort, Thomas, L.R.C.P. Edin., Oldham, of St. Thomas's Hospital.
Goode, Charles Fox, L.S.A., Haverfordwest, of St. Mary's Hospital.
Greasley, Joseph, L.R.C.P. & S. Edin., Melton Mowbray, of the Edinburgh School.
Hollingworth, John, Sheffield, of the Sheffield School.
Lane, William Arbuthnot, Woolwich, of the Sheffield School.
Orlebar, Hotham George, M.B. Aber., St. Leonards-on-Sea, of St. Thomas's Hospital.
Palm, William Stuart, M.B. Edin., Rotterdam, of the Edinburgh School.
Prickett, Marmaduke, Bridlington, Yorkshire, of St. Bartholomew's Hospital.
Steventon, Walter Thos., L.S.A., Snaith, Yorkshire, of University College.
Thomas, William, Ucheldrefgoed, Anglesey, of the Liverpool and Dublin Schools.
Tuchmann, Maro, M.D. Würzburg, Haverstock-hill, of Berlin.
Underwood, Arthur Swayne, Bedford-square, of King's College.
Whitehead, Hayward Reader, Harrow, of the Charing-cross Hospital.
Wilkinson, Arthur Thomas, L.S.A., Didsbury, of the Manchester School.

The following gentlemen were admitted Members on the 14th inst., viz.:—

Beard, Spencer Francis, L.S.A., Hayward's Heath, student of the Sheffield School.
Claremont, Claude Clarke, Camden Town, of University College.
Davidson, Alexander Deas, L.S.A., Erith, Kent, of St. Thomas's Hospital.
Gabb, Jas. Percy Alwyne, Bewdley, Worcestershire, of University College.
Goss, Samuel, Sidmouth, Devon, of St. George's Hospital.
Greasley, John, L.S.A., Canterbury, of the London Hospital.
Greenwood, Arthur, L.S.A., Chipping Norton, of Charing-cross Hospital.
Hornsby, George Harcourt, L.S.A., Bromsgrove, Worcestershire, of the Birmingham School.
Hunt, Robert, Preston, Lancashire, of the Manchester School.
Lighton, Henry Alfred Hamilton, Ross, Hereford, of St. George's Hospital.
Manby, Herbert Lynsey, East Rudham, Norfolk, of Guy's Hospital.
Newmarch, Bernard James, South Eaton-place, of King's College Hospital.
Paulley, Job Nathaniel Legge, Weymouth, of St. Bartholomew's Hospital.
Richards, Thomas, L.S.A., Salisbury, of Guy's Hospital.
Thomas, Hugh William, L.S.A., Beaumaris, of the Birmingham School.
Taylor, Frank, L.S.A., Bristol, of the Bristol School.
Taylor, Richard Stanley, Derby, of Guy's Hospital.
Walker, Charles Edward, Darlington, of the Edinburgh School.

Six gentlemen were approved in Surgery, and when qualified in Medicine will be admitted Members of the College; and fourteen candidates having failed to acquit themselves to the satisfaction of the Court of Examiners, were referred to their professional studies for six months. The examination was brought to a close on Thursday; the list of successful candidates will be published next week.

The following were the questions on Surgical Anatomy, and the Principles and Practice of Surgery, submitted to the candidates on the 9th inst., when they were required to answer at least four (including one of the first two) out of the six questions:—1. Describe the position and relations of the prostate, and the effects produced by its enlargement. 2. Enumerate in order the parts which would be divided in amputation of the thumb at the carpo-metacarpal articulation. 3. What are the pathological changes which occur in whitlow? Describe the complications which may arise in severe cases. 4. Describe the structure of a varicose vein; and the causes and consequences of that condition as affecting the lower limb. 5. What are the diagnostic symptoms and the treatment of acute glaucoma? 6. What are the early symptoms of inflammation of the hip-joint? Describe the appropriate treatment. The following were the questions on the Principles and Practice of Medicine submitted the following day, viz.:—1. Describe the symptoms of, and the pathological conditions giving rise to, hemiplegia, with the general principles of treatment in the different stages. 2. Describe a case of acute bronchitis in the adult, giving the causes, course, physical signs, and treatment, with two different prescriptions written out in full. 3. What are the different effects of opium, belladonna, hyoscyamus, cannabis indica, chloral, and stramonium? What are the chief indications and counter-indications for their employment?

ROYAL COLLEGE OF SURGEONS, EDINBURGH.—The following gentlemen passed their First Examinations during the October sederunt:—

Caird, John Hay, Fort George.
Lang, James, Renfrewshire.
Rankine, John, Stirling.

And the following gentlemen passed their Final Examination, and were admitted Licentiates of the College:—

Beresford, Francis J., Leicestershire.
Burns, Walter, Ayr.
Hewson, Robert William, Salisbury.
Innes, John Caithness, Marykirk.
Mann, James, Nairn.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, November 8:—

Craddock, Frederick Hurst, St. Luke's Hospital.
Hammond, Alexander Billing, Queen-street, Finsbury.
Hepburn, Alfred, Upper Bedford-place.
Johnson, Christopher John Byron, Whitwick, Leicestershire.
Ling, Maurice Edward, Saxmundham.
Murray, Charles Herbert, 122, Kensington-road.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Betts, Edward George, Middlesex Hospital.
Sutcliffe, Joseph, St. Thomas's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

COATES, STANLEY BERESFORD, L.R.C.P., L.R.C.S. Edin.—Medical Officer to the No. 4 Dispensary District, Belfast, *vice* — Mark, resigned.

LUDWIG, Dr. GUSTAVUS, of Darmstadt.—Resident Medical Officer to the German Hospital, Dalston.

MANN, H. W., M.B. and C.M.—Resident Assistant-Physician to the Sterling District Lunatic Asylum, Larbert, N.B.

SEMPLE, C. E. ARMAND, M.B., M.R.C.P. Lond.—Fourth Physician to the North-Eastern Hospital for Children, Hackney-road, E.

NAVAL, MILITARY, &c., APPOINTMENTS.

WAR OFFICE.—MEDICAL DEPARTMENT: Surgeon-Major William Menzies Calder retires upon temporary half-pay. SCOTS GUARDS: Surgeon Thomas John Peatfield, from half-pay Medical Department, to be Surgeon, *vice* E. W. Cottle, resigned. The Secretary of State for War has appointed Alfred Sharpe, M.D., L.R.C.S. Edin., to be Visiting Surgeon for Woolwich, *vice* Dr. Stuart, resigned; and Alexander Forsyth, M.D., to be Visiting Surgeon; and Hubert Wilson, South Sturton, M.R.C.S, Eng., to be Assistant Visiting Surgeon for Greenwich under the Contagious Diseases Acts, 1866 to 1869. In accordance with the provisions of her Majesty's Order in Council of February 4, 1875, Inspector-General of Hospitals and Fleets Sir William Richard Edwin Smart, K.C.B., M.D., has this day been placed on the retired list from November 13.

BIRTHS.

EASTES.—On November 10, at 69, Connaught-street, Hyde-park-square, the wife of George Eastes, M.B., of a son.

MADGE.—On November 11, at 4, Upper Wimpole-street, the wife of Henry M. Madge, M.D., of a daughter.

MAHON.—On November 2, at Aspley Guise, Woburn, Beds, the wife of D. Mahon, M.R.C.S. Eng., of a daughter.

RICE.—On November 12, at 34, Cadogan-place, S.W., the wife of M. W. Rice, M.D., of a son.

WALL.—On November 14, at 46, Norfolk-terrace, Bayswater, the wife of A. Wall, L.R.C.P. Edin., of a daughter.

WALKER.—On November 6, at The Grove, Portland, the wife of George E. Walker, L.R.C.P., of a son.

WYLIE.—On November 5, at Skipton, Yorkshire, the wife of William Wylie, M.D., L.R.C.P.E., of a daughter.

MARRIAGES.

PARSONS—DEAKINS.—On November 7, at the parish church, St. Matthew's, Bayswater, Charles William Nicholas Parsons, M.R.C.S. Eng., of West Haddon, to Laura, fifth daughter of Francis Henry Deakins, late of The Hill, Herefordshire.

DEATHS.

GLYN, HENRY ARTHUR, M.B., of the Borough Hospital, Birkenhead, and 69, Gloucester-street, Belgrave-road, S.W., on November 11, aged 23.

HUDSON, LOUISA, wife of W. T. Hudson, F.R.C.S., at 45, Cumming-street, N., on November 10.

TAYLOR, THEODORE THOMAS, M.R.C.S., L.S.A., of Cirencester, at his father's residence, Cricklade, on November 4, aged 34.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

LIVERPOOL ROYAL INFIRMARY.—Resident Medical Officer. Candidates must be unmarried. No person is eligible who is not on the Medical Register of Great Britain, and who does not possess at least one medical and one surgical diploma, licence, or degree recognised by the Medical Council. Applications, with testimonials, to the Chairman of the Committee, on or before November 20.

QUEEN'S HOSPITAL, BIRMINGHAM.—Resident Physician and Resident Surgeon. Candidates for these appointments must be registered practitioners. Testimonials, with certificates of registration, to the Secretary, on or before December 1.

ST. PETER'S HOSPITAL, 54, BERNERS-STREET, W.—House-Surgeon, duly qualified. Applications to the Secretary, at the Hospital, on or before November 20.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—House-Surgeon. Candidates must be unmarried, and hold a registered medical and surgical qualification. Applications, with qualifications and testimonials, to the Secretary, on or before November 19.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population computed according to the census of 1871.

RESIGNATIONS.

Bangor and Beaumaris Union.—The Second Anglesey District is vacant area 19,616; population 5201; salary £75 per annum.

Tenterden Union.—Mr. A. R. Paterson has resigned the Biddenden District; area 7201; population 1419; salary £49 per annum. Also the High Halden District; area 3729; population 689; salary £15 15s. per annum.

Thetford Union.—Mr. Charles Morgan has resigned the Hopton District area 5222; population 1242; salary £27 17s. per annum. Also the Hepworth District; area 4520; population 1318; salary £28 4s. per annum.

APPOINTMENTS.

Brentford Union.—Henry R. C. Litchfield, L.R.C.P. Lond., M.R.C.S., the Ninth District.

Erpingham Union.—Robert McKelvie, M.D. Edin., L.R.C.S. Edin., the Cromer District.

Keynsham Union.—Nathaniel Crisp, M.R.C.S. Eng., L.S.A., to the Keynsham District.

Runcorn Union.—Wm. H. Carruthers, M.D., M.B., M.R.C.S., to the Halton District.

St. German's Union.—John B. Kerswill, L.R.C.P. Edin., M.R.C.S. Eng., to the First District.

Sedgefield Union.—Thomas Thompson, L.R.C.P. Edin., L.R.C.S. Edin., to the Bishopton and Sedgefield Districts, and the Workhouse.

Sleaford Union.—George K. Barton, M.D. Aber., F.R.C.S. Eng., to the Leadenham District.

West Bromwich Union.—Henry L. Browne, M.R.C.S. Eng., L.R.C.P. Edin., to the South-West District of the Parish of West Bromwich.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—This Society will meet to-day (Friday, November 16) at 7.30 p.m. The report of the Council will be read on the following subjects:—"The Registration of Epidemic Infectious Diseases" "The Proposed Metropolitan Building Bill." Professor D. T. Ansted, F.R.S., F.G.S., will read a paper "On Rivers, and their Relation to Public Health."

QUININE FOR HYPODERMIC USE.—Dr. Morris has found the following formula for a solution of quinine to act satisfactorily:—Bromide of quinia is dissolved in alcohol, a grain to a minim, and then diluted with water as desired. It acts promptly, and leaves no scar, and the alcohol prevents the formation of fungi. It is usually readily absorbed, and has a peculiar quieting effect on the nervous system.—*New York Med. Record*, October 6.

CHLORAL IN MIGRAINE.—Dr. Couyba states that he has found chloral of great utility when given at the very commencement of an attack of migraine, it being, however, of no use if given at a later period. He prescribes three grammes in 100 of mint-water and fifty of syrup, giving a tablespoonful every half-hour until sleep is induced. If, on awaking, the migraine is still found persisting, the chloral is again given in the same manner; and it is rare to find that it continues after the second awakening.—*Rév. Méd.*, October 29.

A FRENCH "STUDENTS' NUMBER."—The *Progrès Médical* of November 3 is almost devoted to a *Numéro des Etudiants*, which, if less full of information than our own well-known productions of that character, contains a great deal of matter of great interest to all concerned with medical education in France. After an elaborate description of the circumstances attending the different *concours*, it gives a detailed account of the teaching at the Paris Faculty and of the Enseignement Libre and full lists of the medical officers, hours of attendance, etc., of the different hospitals. The medical societies are also described. The other French medical faculties and medical schools are detailed at considerable length. The number is sold separately for half a franc.

ACTION OF PILOCARPIN ON THE EYE.—M. Galezowski, in a communication to the Société de Biologie, narrated the results of the trials he had made on the eye with pilocarpin, the active principle of jaborandi. These show it to be possessed of powerful myotic powers. One drop of a mixture consisting of ten parts of water and one-fifth of a part of pilocarpin, instilled into an eye the subject of paralytic mydriasis, gives rise to such a contraction of the pupil that at the end of half an hour this measures scarcely a millimetre in diameter, the contraction continuing for from five to eight hours. This result has been verified upon a great number of patients, so that it may be now stated that pilocarpin possesses myotic powers as active as those of eserine, while it does not excite irritation like that substance, the prolonged employment of which may give rise to peri-orbital pains, intense conjunctivitis, and great nausea. M. Galippe observed that the experiments which he and M. Bochefontaine had made were attended by precisely the same results as those described by M. Galezowsky.—*Gaz. des Hôp.*, November 6.

ORIGINAL LECTURES.

ABSTRACT OF A CLINICAL LECTURE

ON THE TREATMENT OF COMPOUND FRACTURES.(a)

By PROFESSOR RICHARD VOLKMANN.

GENTLEMEN,—It is particularly gratifying to me to be able to place before you to-day the results which, during the past four years and a half, I have obtained in my cases of compound fracture of the extremities treated by the antiseptic method. Their chief feature can be summed up in a very few words. During the time I have mentioned, seventy-five such injuries, occurring in seventy-three patients, have been subjected to conservative treatment. A small proportion of these—eight altogether—had to be subjected to secondary amputation. But neither of those who were treated throughout on conservative principles, nor of those where the conservative treatment failed, and where secondary amputation had to be undertaken, did one single patient die; *they one and all recovered!*

As I am not the inventor of the "antiseptic method" of treating wounds—the greatest advance which surgery as a science has ever made,—you will not consider it boasting if I venture to call this a very remarkable result; indeed, as compared with our former experience, it is quite an unheard-of result. For the mortality of such injuries, until the antiseptic method was discovered, was a very high one, no matter what treatment was adopted. Compound fractures, that is, fractures with an open wound, until within a very few years past, were among the most dangerous injuries. Acute septicæmia and pyæmia, especially in hospitals, carried off a very large number of these patients. The losses were large, especially in French and German hospitals; while in England, where more attention was paid to cleanliness and ventilation, the results were somewhat better. Nevertheless, the mortality even in English hospitals was very considerable; and what was so bad and so striking in the situation was this—that in any given case one could never give any guarantee as to the result. In the simplest case of compound fracture, even where only a sharp fragment of one extremity of the broken bone had made a small, clean-cut wound in the soft parts, and where there was no splintering of the bone and no contusion of the soft parts, a surgeon, however experienced he might be, could not prophesy whether the patient's life would be saved, however carefully he were watched, and notwithstanding the fact that he (the surgeon in charge) had had ample experience in the treatment of similar cases. We have no sufficiently large statistical compilations from which we can gather how large a mortality there has been in Germany—and, after all, it is this which interests us chiefly,—nor how large the mortality actually now is in places where the various antiseptic dressings and precautions are not in use. Many surgeons at the head of large hospitals are quite unacquainted with their own results. They would be shocked if the actual figures lay before them. Some, indeed, cannot bring themselves to publish their unfavourable figures. It is not everyone who has the courage of my friend, Professor von Nussbaum, who, in order to adduce an instance of another—and at one time still more fatal—injury (than that to which I have just alluded), which now *per se* has also become free from danger, has not hesitated to put in print that of sixty-four thigh amputations performed in military and civil practice combined, during the sixteen years immediately preceding the introduction of antiseptics, he had only saved seven cases. After Nussbaum's admission, it is very easy for me to acknowledge that my own results were very little better. But now, since the introduction of the antiseptic method of treating wounds, I get more successful cases in a single year than I had previously done during the whole of my surgical career.

Adequate statistics of mortality after compound fractures not treated on the antiseptic plan are only to be had for gunshot fractures. I will just give you a few figures taken from the well-known tables collected by Billroth. In one respect, certainly, they do not quite correspond to our present requirements, since they include *primary* amputations; these latter do not, of course, come into consideration while giving the results of treatment for fractures. According to Billroth, of 2021 gunshot fractures of the thigh, no matter how they were treated, 1229 died; and under similar circumstances, of 1699 gunshot fractures of the leg, 401 died. This gives a mortality of 60·8 per cent. for the thigh, and 23·6 per cent. for the leg.

Unless one or other among you happen to have seen a little paper, which I published some years ago in Von Langenbeck's *Archives for Clinical Surgery* on "comparative statistics of mortality in military and civil injuries," you will at once reproach me that these figures, derived from a series of murderous wars, can have no weight in the estimation of the results of civil practice, because the mortality during a war is necessarily so very large. "Of those struck by the enemy's bullets on the field, many died, who at home would have been saved, partly because they were deprived of regular and sufficient nursing, and partly because they were subjected to all kinds of pestilences, especially to those dangerous and fatal wound complications which so often prevail in military field-hospitals." You will then further add that gunshot fractures never ought to be compared with compound fractures occurring in civil practice—at least, with such as are treated conservatively. The extensive splintering of bone produced by modern firearms, with which nothing in civil practice is comparable, sufficiently explains the high mortality.

Formerly I used to entertain similar rambling views upon the special mortality of the wounded in war. "When, in 1866, I first entered the field-hospital at Trautenau, and undertook the charge of about 1000 severely wounded men, among whom were the enormous number of 451 cases of compound fractures of long bones, and when, during the third week, I began to see the enormous mortality set in, I felt much as other surgeons did, who for the first time were called on to practise surgery 'en gros' (wholesale). I was quite stunned by the brute force of such figures. The effect of this immense single dose on my brain was quite other than that produced by repeated small doses, out of which my views on the danger of analogous injuries occurring in civil practice had been built up. It never occurred to me to doubt that the unfavourableness of the surroundings, and the especial severity of gunshot injuries in war time, should demand a relatively higher sacrifice."

However, on my return home, when I compared my newly-gained material with the cases—few, it is true—of compound fracture which I had treated in civil practice, I found to my astonishment that my home results, expressed in percentage, were much more unfavourable.

In Trautenau, of 109 compound fractures of the thigh, 51 died; and of 104 fractures of the legs, 25 died. In round numbers, then, of the former about one-half, and of the latter about a quarter.

A retrospect of the note-books of my surgical wards in Halle showed that of eleven compound fractures of the femur six, and of sixty-four compound fractures of the leg twenty-six (!) died. The difference, especially in the leg cases, was very considerable, and it was not in our favour; and I should have expected exactly the contrary, because I know that of the sixty-four cases treated in this hospital a considerable number of them were compound in consequence of simple puncture of the soft parts by some sharp fragment of bone.

But researches and inquiries, which I undertook with my then pupil Dr. C. Fränckel, soon convinced me that the figures were equally bad whenever sufficiently large statistics of civil practice were available. Thus, of 885 compound fractures of the leg, taken at random from English and German hospitals, treated either by amputation or conservatively, 339 ended fatally. This gives a mortality of 38½ per cent. for civil practice, as against a mean mortality in war of 23·6 per cent. The results of civil practice, therefore, are less favourable by 15 per cent.

I must here remark that the value of these figures (38·5 per cent.), as the mortality after compound fracture of the leg in civil practice, is considerably augmented by the fact that the results of individual hospitals, especially in Germany, about which we have any statistics at all, coincide in a remarkable way. Those who have occupied themselves with statistics are aware how widely the figures, the means of which we utilise for statistical purposes, differ at their extremes. One surgeon has had unusually good results, another extraordinarily bad ones. Here, however, the differences are scarcely worth mentioning; they fluctuate within a minimum of something less than 4 per cent.—in surgical statistics, an almost unheard-of conformity. Baum, in Göttingen, lost 38 per cent.; Billroth, in Zürich, 38·7; Breslau Hospital, 40·5; Halle, 40·6; Bonn, 41·8 per cent.; and if I add that Rose, in Zürich, obtained almost the identical results, and that Lücke's Report of the Bern Hospital showed a mortality of something over 38 per cent. for *all* compound fractures (not those only of the leg), secondary amputations being included, as is the case with the

(a) *Sammlung Klinischer Vorträger.* Leipzig. Nos. 117 and 118.

above given figures, then we may fairly conclude that the percentage of 38·5, as the mortality after compound fracture of the leg in civil practice, is not far from the truth; and, further, that the different methods of treatment adopted in the different hospitals referred to—having this only in common, that they were *not* antiseptic—had little or no influence on the ultimate result.

I have gone somewhat more into detail concerning these figures and statistics than I at first intended; but I was anxious to give you a correct idea of what the antiseptic method really is capable of, by contrasting it with the treatment and results of earlier times.

Coming now to a consideration of the cases themselves, we find among the seventy-three patients that the injury was due to direct violence forty-eight times; and the bones were more or less splintered at the seat of fracture twenty times. In a large number of instances the injuries were due to steam machinery; and it sometimes required the most serious consideration whether we should even venture to try conservative treatment at all. The table(b) shows a variety of cases, and includes one where the skin was loosened from the knee to the malleoli.

The fractures were divided as follows:—

8	fractures of the	arm.
20	„	„ forearm.
1	„	„ thigh.
3	„	„ patella.
43	„	„ leg.
Total . . .	75	fractures in 73 patients.

Secondary, or more properly speaking intermediate, amputations were performed on eight patients—

2	with injury of the	arm.
1	„	„ forearm.
4	„	„ thigh.
1	„	„ leg.

Total . . . 8 amputations in 75 fractures = 10·6 per cent.

Excisions were performed in seven cases—

1 shoulder-joint.
4 elbow-joints.
2 ankle-joints.

Total . . . 7 excisions in 75 fractures (two primary and five secondary) = 6·6 per cent.

The larger joints in these seventy-five cases were opened twenty-one times, viz.—

Shoulder-joint	1	time.
Elbow-joint	6	times.
Wrist	3	„
Knee	4	„
Ankle	6	„
Total	21	times = 28 per cent. of the total cases.

Thus in twenty-one cases of accurately diagnosed injury to joints, secondary amputation was performed three times only; there were, however, seven excisions; while eleven patients (somewhat more than the half) were treated conservatively throughout. Of these eleven patients, one was discharged with an anchylosed joint—a patient with fractured patella, who was admitted thirteen days after his accident with a suppurating joint. The remaining ten patients were discharged with a freely movable joint—"an extraordinarily favourable result, of which surgery of the pre-antiseptic era can offer no analogues."

In one point only is my material somewhat defective—it is as regards compound fractures of the thigh. I have only a single case. During the period of four years and a half there was only one case of fracture of the thigh, compound from the "coming through" of the broken bone. All the other cases in which the femur was broken or splintered were due to railway or machinery accidents; and in these the limb was either entirely or almost severed from the body, and the soft parts so injured that primary amputation of the limb or exarticulation at the hip was the only resort.

But the defective experience in this matter was somewhat atoned for, and complemented, by seventeen "wedge-osteotomies" of the femur, which I performed during the same period. In no one of these cases, treated antiseptically, did any accidental wound-complications, abscesses, or phlegmonous processes occur. The incisions healed almost without any inflammatory reaction, and this notwithstanding the operations were of a serious nature—for nine times the wedge-shaped piece of bone was removed from just below the hip, seven times from below the knee-joint, and only once from the middle of the shaft. The bone was exposed by an incision from three to six inches long, the periosteum was detached all round, and then a wedge-shaped piece of bone, larger or smaller according to circumstances, was removed with a chisel. Sixteen out of these seventeen patients recovered without the slightest disturbance; the seventeenth, a bleeder, died within the first twenty-four hours, of primary hæmorrhage. During this period, too, I had three severe false-joint excisions of the femur in cases of ununited fractures, which healed in a most typical manner under the antiseptic treatment. Thus, in addition to the single case of compound fracture, we have these twenty cases of surgical injury to the femur. Concerning the influence which age exerts, contrary to what obtains in other methods of treatment, with the antiseptic method, age seems to make but little difference, provided there have not been much loss of blood. Old patients cannot bear the effects of septic fever so well as younger ones, and this, under the old method of treatment, was always a source of danger.

And now for the technical part of the antiseptic process. *The first dressing decides the fate of the patient and the course and issue of the wound.* All counter-incisions must now be made and drainage-tubes put in; loose splinters of bone must be removed, and the fractured extremities put into position; any little sharp projections may be rasped away; and the wound then must be completely disinfected. If this is done thoroughly and with care, the knife need never be taken into the hand again, however long the healing may require; nor will any further drainage-tubes be required, though possibly some small bits of necrosed bone may require removal; but this should only be done when all danger to the patient is past and over. Here is ample ground for doing the first dressing with the very greatest care, and with the most pedantic minuteness. We must not hesitate to bestow half an hour, or even three-quarters of an hour if so much be necessary.

I do not generally undertake this first dressing in the ward itself, but in a special operating theatre. The floor is asphalted, and provided with a drain and waste-pipe, which allow a very free use of water and carbolic acid; we are well provided also with irrigators and douches, disinfected sponges, and a plentiful supply of linen, bandages, and instruments. The patient is generally chloroformed, and then a thorough cleansing of the injured part and of the limb with soap and water, scrubbing-brush, and razor (if needs be), etc., can be conveniently carried out. In all cases the wound is enlarged sufficiently to admit the finger freely, or to allow of the seat of fracture being seen when the soft parts are retracted. The finger having been introduced, is made to cleanse (with a stream of carbolised water) the wound and all recesses opening out of it: every trace of coagulum is to be carefully washed away. If there are any deep pouches they must be incised, and preferably so at the extremity of the *cul-de-sac*, in order to thoroughly drain them. Especially, too, in any places where the skin is separated from its subcutaneous attachments, must incisions be made here and there, as circumstances seem to require, in order to let out any blood, whether liquid or partially coagulated, which may have collected, and drainage-tubes must also be introduced. Any muscular shreds which may have been too severely bruised may be at once removed with scissors.

If the wound is situated so as not to offer a free and easy outlet for the secretions, a counter-opening at some convenient place must be made, and a drainage-tube inserted.

All loose splinters must be carefully removed; such larger ones, however, as are firmly adherent to the periosteum may be left, care being taken not to loosen their periosteal attachments. If there are sharp projecting ends, round them off with the bone-forceps. Be careful that there are no portions of muscles between the broken ends of the bone, as they prevent union; indeed, they are the most frequent cause of protracted consolidation, and of "ununited" fractures (pseudarthroses).

Having got thus far, the wound may once again be well washed out with carbolised water, and the remaining part of the dressing must be carried out under the carbolic spray.

First of all, the wound itself and its surroundings are covered with a thick handkerchief-like pad of carbolic gauze. I prefer this to the "protective silk" for the first few days; for the fifty to a hundred layers of gauze which are thus lying on the wound readily absorb both any blood and wound secretions

(b) Our space prevents us giving this table in full. It may be consulted in the original (*op. cit.*).

which may flow out. Then upon this comes Lister's dressing proper, which I need not here further describe.

I generally change this first dressing on the following day, or on the day but one after at latest, in order to see whether all is going on properly, and whether the drainage-tubes are *in situ* and acting properly. Subsequent dressings are done every second, or third, or fourth day, according to circumstances; so soon as there is no further secretion from the wounds, after freely squeezing the limb, I remove the drainage-tubes. This is generally done about the third or fourth day.

The antiseptic dressing must be continued until the coagula, filling up the wounds, have become organised, or until their place is taken by granulation tissue. Sometimes the long-continued contact of carbolic dressings gives rise to a dermatitis. In such cases the skin may be gently rubbed with some antiseptic oil or ointment—such as boracic ointment—which will protect the skin, and still be antiseptic. In cases where the carbolic treatment disagrees radically, a constant irrigation with a solution of salicylic acid in water, as proposed by Thiersch, may be carried out.

In the foregoing lecture I have endeavoured, gentlemen, to make you acquainted with a method of treating wounds which entirely neutralises the danger of even the severest injuries, and which, in addition to this advantage, is free from pain. It insures cleanliness, does away with foul smells, protects the bed-linen, and paralyses the great evils which the overcrowding of hospitals would otherwise bring along with it. The dressing requires changing but seldom, and thus in large hospitals the work is considerably lessened.

The question of costliness is only an apparent disadvantage, because the shortened residence in hospital which these patients require more than makes up for the first outlay, which, no doubt, is rather large.

ORIGINAL COMMUNICATIONS.

ON CHINESE HÆMATOZOA.(a)

By PATRICK MANSON, M.D.,
of Amoy.

(*Continued from p.* 540.)

Filaria Sanguinis Hominis.

The extent and importance of the part played by nematode worms in human pathology is becoming year by year more recognised. I have elsewhere pointed out the probable connexion of a filaria worm with chyluria and elephantoid disease. The intestinal oxyuris and lumbricus are well known, as are also the Strongylus gigas, the Guinea worm, and the Trichina spiralis. The hæmaturia of the Cape, Egypt, and the Brazils is now acknowledged as depending on a similar parasitic cause, and I doubt not that, in time, many strange and at present unaccountable diseases of ex-European countries will be found to have a similar pathology; and I have described a peculiar and very prevalent form of stricture of the œsophagus I meet with in Amoy. Would not such a tumour in man, as I have shown is produced by Filaria sanguinolenta in the dog, account for all the symptoms of œsophageal obstruction that I therein described? Could such lesions as this filaria produces in the aorta of the dog give rise to aneurism were they to occur in man? The great frequency of aortic aneurism among Europeans in China, and the prevalence of filaria aortic disease in dogs in the same country, is a significant coincidence. Another of our domestic animals, besides the dog, is well known to be affected by a penetrating filaria in China; the worm in the eye of the horse, which most medical men in China have, I suppose, been called on to extract, is another member of the genus. Seeing, then, that both the dog and the horse, man's most frequent companions, suffer from the presence of filariæ, is it improbable that man himself should be the victim of a similar intruder?

These are some of the conjectures which this study in what I might term comparative pathology has thrust on me; and I cannot but regret that native prejudice forbids their being put to the test of post-mortem dissection.

Since what precedes was written, I have met with the Filaria sanguinis hominis in the human blood no less than fifteen times.

With the practice I had acquired in the detection of hæmatozoa in the blood of the dog, I commenced some time ago the systematic examination of human blood. To help me in the work, which is excessively tedious and laborious, I familiarised two Chinese assistants with the appearance of the canine hæmatozoon, and showed them how to manipulate for the detection of similar organisms in man. No selection is made of cases, but the first patient or healthy person who presents, and is willing to have his finger pricked, is examined; six slides of blood, at least, being carefully searched. In this way we have got over 190 cases, with the rather unexpected result of finding hæmatozoa in fifteen instances, or in about 8 per cent. To prevent mistakes or imposition, when the parasite is found by my assistants, I take care to verify the observation for myself from a fresh specimen of blood, which I see drawn. I failed to find hæmatozoa in four instances in which they were reported; but I believe my assistants' observations were correct: they were confirmed by the persons who supplied the blood. Their horror at the snake-like animal they had given birth to was conclusive. As my re-examination was made some days after the first detection of the parasites, it is likely that these had disappeared temporarily. This has happened in several instances I have myself closely watched.

The Filaria sanguinis hominis resembles very closely in general appearance and movements the canine hæmatozoon previously described. Accurate measurements are difficult to make, on account of the restlessness of the animal when alive, and the contraction which its body undergoes when fixed in desiccated blood. The short time when the blood is thickening, previous to thorough inspissation, is the most favourable for examining the animal; then its movements are languid, and admit of the details being studied. From a number of observations, I conclude that it measures slightly less than $\frac{1}{3000}$th of an inch in breadth, by about $\frac{1}{90}$th of an inch in length, or thereabouts; on the whole its dimensions are rather under those of the canine variety. There are two or three points in which distinct and characteristic differences can be made out in the two species, when seen through a high power. The canine variety appears to be naked and structureless; the human, on the contrary, is provided with a very delicate non-contractile integument, within which the body of the animal is incessantly shortened and elongated. This, I believe, is the explanation of the appearance of a lash of extreme tenuity at the head and tail being sometimes visible, and sometimes not, and the occasional thickening of the extremity of the tail. The lash is the collapsed integument from which the head or tail has been withdrawn, and into which they are again projected. It seems to have no elasticity or spring, but follows like a limp string the movements of the body of the animal. Unlike the canine hæmatozoon, in many specimens of the human variety, though not in all, there is about the centre of the body an elongated yellow patch, the structure of which with the microscopic power at my command I cannot make out. I believe it appertains to an alimentary canal. On close examination with a high power, distinct movements as of a mouth can be made out at the extremity of the head. They resemble the breathing movements of a fish's mouth. The aperture, if aperture exists, is not simple, but, I think, is provided with several lips.

In a future report I hope to give details of all the cases I have examined for hæmatozoa; at present I will confine myself to short notes of the cases only in which they were found.

Case 1. *Hæmatozoa and Elephantiasis Scroti.*—Angkhi, male, aged fifty-eight, from Changchiu, Liauho-sia, cake baker, in comfortable circumstances. Father died long ago, he does not know of what disease; mother died from fever and dysentery; two brothers are alive and well, one brother died from fever and dysentery. He states that when twenty-eight years of age, in the spring of the year, he had an attack of what he calls ague, accompanied by inflammation of the scrotum; the fever lasted for but one day, but it was two months before the scrotum recovered its original size; before doing so it desquamated. Since that time he has had attacks of fever every year from four to eight times, each attack being accompanied by inflammation of the scrotum. Two years ago the scrotum did not, as formerly, recover after the fever, but remained swollen, and has grown steadily ever since. Formerly he was strong and stout, but for the last ten years he has lost flesh. He never had chyluria. His scrotum presents the usual appearance of elephantiasis. I suppose it to weigh about eight pounds. On its under surface there is a solitary vesicle about the size of a split pea, and near this a bunch of dilated lymphatics: pricking these places gives vent to a drachm or two of coagulable milky lymph. Blood from his finger or scrotum contained numerous specimens of Filaria sanguinis hominis; nearly every slide contained one or two.

(a) From the *Customs Gazette.*

On the second day of his stay in hospital, filariæ could easily be found, though they had manifestly diminished in number. On the third day, though thirty slides were examined, not one specimen could be obtained, and during the five subsequent days, though frequent examinations were made, there was no reappearance of filariæ. I was anxious to keep this man under observation for some time before operating on his scrotum, but the frequent examination of his blood seems to have alarmed his friends, and he was in consequence removed from the hospital unrelieved.

Case 2. *Hæmatozoa without Concomitant Disease.*—Sin-to, male, aged twenty-one; born in Tintai; came to Amoy about five years ago, and became a pupil in the English Presbyterian Mission School. Does not remember to have suffered from any particular disease, except an attack of jaundice about four years ago, succeeding a smart fever (calls it ague) of one day's duration. His urine continued dark for about a month. He says he has been short-sighted ever since the jaundice. Never had abscess, boils, enlarged glands, or anything resembling elephantiasis, lymph-scrotum, or chyluria, but has always been strong and healthy. Being at the hospital one day (not as a patient) he saw a student examining the blood of a sick man. Out of curiosity he submitted his own for examination. In six slides three filariæ were found in full activity. A week afterwards I found them in nearly every slide. A fortnight afterwards I searched six full slides very carefully, but could fine none.

Case 3. *Hæmatozoa and Lymph-Scrotum.*—Siah, male, aged forty-five, a field labourer, lives in Lamoa, Choanchia. This man is intellectually very dull, and his memory appears to be very imperfect, so that a reliable account of his early history is difficult to obtain. One fact he dwells on with great obstinacy, perpetually recurring to it during his examination—viz., that for twelve years he has suffered from feelings of discomfort and pain in his bowels, grinding of his teeth at night, and frequent seminal discharges. When sixteen years of age, and again at twenty-eight, he had attacks of fever. Three years ago he had frequent fits of what he calls ague, the fever never continuing for more than one day at a time, but recurring every week or two. But before this occurred he noticed that his scrotum was itchy and covered with vesicles, which, when broken, would exude fluid in great abundance for seven or eight days. The scrotum and inguinal glands gradually enlarged, but it was not until they had attained considerable size that he became liable to fever. Last year he had a course of quinine at the hospital; since then he has had only one attack of fever, four months ago, and of three days' duration, and his scrotum he says has diminished very much. During the attack of fever, he says that the scrotum was not affected, but that the glands were inflamed. The scrotum is not very large, but it is a characteristic "lymph-scrotum." The left inguinal glands are slightly swollen; the right inguinal and right upper femoral glands are very much enlarged, feel soft and doughy to the touch, and are evidently varicose. During a residence of about a week in hospital, this man's blood was daily examined, and on no occasion were filariæ absent, varying in number from two to five in six slides.

Case 4. *Hæmatozoa without Concomitant Disease.*—Kim, a large-footed married woman, aged thirty-three, from Changchiu; came to hospital for ulcerated cornea and pannus of five years' duration. Her general health is good, though she has leucorrhœa, and at times aguish feelings. She is liable to swelling (œdema ?) of the arms and legs. She has enlarged inguinal glands on the left side; these appeared about the time she came to hospital; they were painless, and have been considerably diminished by rubbing them. She says she is dyspeptic and at times breathless; has never had chyluria. Filariæ are abundant in this woman's blood. Fourteen specimens were seen in six slides; they were found daily for a week.

Case 5. *Hæmatozoa, Fever, Enlarged Glands (and Chyluria ?).*—Sia, male, aged twenty-two, native of Hooihoah; farm servant and coolie. His father has elephantiasis of the leg, and enlarged glands. When seven years of age he remembers to have had an attack of fever and inflammation of the glands. For the last four or five years has had frequent attacks of a fever like quotidian ague, each attack lasting for three or four days, and being accompanied by swelling of the inguinal glands. At present these glands are but slightly enlarged; the skin of the scrotum, however, is *perhaps* slightly hypertrophied. He says that when he has fever his feet become red and swollen. In the fifth month of last year he once passed chylous urine: this is his statement. On examining his blood six slides were found to contain three hæmatozoa.

Case 6. *Hæmatozoa and Elephantiasis Scroti.*—Tso, male, aged fifty, native of Hooihoah; has been a chair coolie in Amoy for twelve years. For the last fifteen or twenty years has been subject every fortnight or three weeks to attacks of shivering heat, and sweating, each attack lasting only for two or three hours, and followed by lassitude and anorexia, incapacitating him for work for the day. These attacks are preceded and accompanied by aching about the right knee, and swelling of the inguinal glands, especially on the right side. No swelling at these times of the scrotum. Otherwise is quite well. Never had chyluria. The right inguinal glands are enlarged, and the skin of the scrotum slightly but distinctly hypertrophied. Filariæ were found in every second or third slide of blood. A week after the first examination, filariæ were again detected, but after another week in seven slides none could be found; that morning he had had one of his usual feverish attacks.

Case 7. *Hæmatozoa, Fever, and Anasarca.*—Liengoo, male, aged thirty-four, native of and resident in Amoy; formerly a preacher and teacher, at present unemployed. Until he was twenty-nine years old never had any serious illness; that year he noticed a swelling of his legs. At thirty he had general dropsy for a month. At thirty-one had severe fever, accompanied by delirium, and when the fever left him he was dropsical and had a yellow complexion. After this attack he suffered from fever every month. He says he could tell the approach of the fever by observing that his body swelled, while his urine became scanty. Fever was not preceded by rigor; when the fever subsided, urine increased in quantity and the dropsy disappeared. These attacks always occurred at the end of the Chinese month, and would last from three days to a week at a time. During his thirty-second year, though his body was slightly dropsical, he had no fever. In the ninth month of his thirty-third year, he was weak and breathless; during the eleventh month his body again swelled, and he had attacks of fever more violent than before. Two months ago he had a very severe attack, accompanied by high delirium. I saw him at this time; he lay quite insensible in high fever, and his body was very much swollen; bedsores had formed over his sacrum. Under treatment by quinine, digitalis, and nitre he recovered, the fever and dropsy subsiding and the sores healing. During the whole time he has been subject to these attacks, his appetite, even during the fever, has continued good. His friends say he is liable to maniacal attacks; his style of conversation and manner are certainly peculiar. Heart and urine normal. Skin is yellow, flabby, and coarse-grained. Scrotum and inguinal glands partake of the general dropsy, but appear otherwise to be healthy. His blood contains filariæ in great abundance.

Case 8. *Hæmatozoa; no Concomitant Disease.*—Kim, female, aged twenty-three; Amoy; unmarried. Three years ago had a fever, supposed to be typhoid. Previous to this she was suspected of being phthisical, but since the fever, cough and all other symptoms of lung disease have disappeared. Has never had chyluria or any affection of the lymphatic glands or integuments, and is apparently in good health. This girl is the sister of the principal assistant in the Chinese hospital. Out of curiosity she got her brother to examine her blood, and in the first slide inspected three filariæ were found. The girl was shown the worms, and was so much alarmed by their appearance that she refused for a long time to allow any further examination. A few days ago I was allowed to examine her blood, and, although seven slides were carefully searched, no filariæ could be found. The specimens yielded by the previous examination I myself saw, so that there can be no doubt of the truth of her brother's statement. It may be worth while to mention that the day before the last inspection she suffered from slight feverishness.

Case 9. *Hæmatozoa and Lymph-Scrotum.*—Toon, male, aged sixty; native of Lamoa, Toa Rhæ; a chair coolie; has lived in Amoy for eleven years. Between twenty and twenty-five he became subject to attacks of fever and inflammation of the scrotum, coming on at irregular intervals of from a month to a year. These attacks have recurred more or less frequently ever since; sometimes, however, he has been free from them for a year or two. This year the fever is much less severe, but it comes more frequently than formerly, the intervals between the attacks being only from four to six days. The fever resembles an ague very closely in its distinct division into cold, hot, and sweating stages; but, unlike an ague, there is no regularity to be observed in the time of its accession, sometimes coming on at night, sometimes during the day, and not recurring at regular quotidian, tertian, or quartan intervals. Each attack lasts about five hours, and is accompanied by slight swelling of the scrotum. Never had abscess of scrotum, or chyluria. Two nights previous to examination he had one

of the usual fever fits. The scrotum is considerably enlarged, and varicose lymphatics on its surface yield a milky lymph on being pricked. His blood contains abundance of hæmatozoa; one slide had as many as five specimens in full activity.

Case 10. *Hæmatozoa in a Leper.*—Nin, male, aged twenty-six; Lamcheng; shopkeeper; a leper for two years. I have no extended notes of this case, nor did I see hæmatozoa in his blood myself, though I searched many slides. My assistant, however, says that in the first slide he examined he found one, and his statement is confirmed by others.

Case 11. *Hæmatozoa with Debility.*—Beng, male, aged twenty-two; Petsuia; a student in the Chinese Hospital. As in the foregoing case, only one worm was found, which I did not see. Many slides were subsequently examined. This lad suffers from debility, and though young has very bad teeth, bad complexion; has at times feverish attacks accompanied by feelings of languor. Has no swollen glands, or any appearance of elephantiasis, and has never passed chylous urine.

Case 12. *Hæmatozoa, Enlarged Inguinal Glands, Thickened Scrotum, Leprosy, and Fistula in Ano.*—Boo Kiong, male, aged thirty-eight; Chinpo; farm servant; came to the hospital to be operated on for fistula in ano. Over his right malar bone is a patch of thickened skin, two inches in diameter, of a reddish colour and insensible to the touch (? leprosy). A near relation is leprous. No similar spots on any other part of the body. Was twice working in the Straits Settlements, five years at a time, and while there had ague; occasionally now has aguish feelings, and two years ago had an attack of fever, during which his scrotum became swollen and inflamed. At present the scrotum is slightly thickened, and on both sides the inguinal glands are enlarged. My assistant found two filariæ in six slides. Next day I failed to find any, although a similar number of slides were examined.

Case 13. *Hæmatozoa without Concomitant Disease.*—Sin, male, aged 27; Oahai; shopkeeper; in good health. When sixteen years of age had an attack of ague during eleven days; has been much troubled with lumbrici, otherwise quite well. Inguinal glands readily enlarge when he has any irritation about his feet or legs, never otherwise. Is not subject or feverish attacks, never had chyluria; scrotum and glands normal. An assistant found one hæmatozoon in four slides; he examined twelve more, and I seven, but not another specimen could be found.

Case 14. *Hæmatozoa; no Concomitant Disease.*—An, male, aged twenty-eight; from Oahai; a cooper. Had ague when sixteen or seventeen years of age for four or five days. Three years ago had an eruption on his legs and face. He describes the spots as being red, slightly itchy, and each about the size of a cash; it kept out for about a month. With these exceptions, has always had excellent health. Never had chyluria or enlargement of scrotum, legs, or glands. In six slides examined by an assistant, thirteen filariæ were counted. Next day the same assistant searched seventeen slides in order to show me a specimen, but without success. I pricked the lobule of the ear, and from blood thus obtained placed a full drop between two slides; in this I found one solitary specimen.

Case 15. *Hæmatozoa; Enlarged Glands and Abscess.*—Leng, male, aged thirty; Lamoa; a cobbler. Came to hospital on account of an abscess over the insertion of the right deltoid. I regret I cannot give this man's early history. His inguinal glands were enormously swollen and varicose—so much so that he was attempting to disperse the swelling on one side by the application of a native plaster. The scrotum was not affected. There were no hæmatozoa in the first six slides examined, but the conviction I entertained on account of the characteristic appearance of the inguinal glands was justified two days afterwards, when on opening the abscess many filariæ were found in the blood from the wound.

(*To be continued.*)

NORMAL OVARIOTOMY: BATTEY'S OPERATION—OOPHOROTOMY.

By J. MARION SIMS, M.D.

The criticism in your issue of October 27, on "normal ovariotomy," so called, is both just and temperate. From a letter recently received from Dr. Battey, I learn that he has now performed this operation twelve times, with two deaths. I have performed it seven times, with one death.

The success of the operation so far is not what we expected; but we hope for better results hereafter. As I am at an early day to bring this subject formally and fully before the profession, I shall here confine my remarks to the name by which we should recognise this operation.

Dr. Robert Battey, of Rome, in Georgia, U.S.A., based this operation on the theory of bringing about change of life by extirpating the ovaries, and thereby arresting the menstrual molimen. The name he gave his operation—normal ovariotomy—has been much and justly criticised in my own country. Two or three years ago, Dr. Battey asked me to give his operation a name, as the profession objected so much to the one he had chosen for it. He called it "normal ovariotomy," because he supposed he was extirpating a normal ovary—an ovary in a normal state, and of normal size. But all the ovaries that Battey and myself have removed by his operation were found to be in an abnormal or diseased condition. There was a radical organic change of structure in each and every one we have examined—a change easily seen by the eye without the aid of the microscope. Hence the term "normal ovariotomy" is incorrect, inappropriate, and we should get rid of it.

This operation, like many others that have led to great results, has a little history of its own, which is by no means uninteresting.

Some years ago, Dr. Battey saw a young lady, aged twenty-one, die from the effects of an unrelieved menstrual molimen. Then he asked himself the question, "Would it not be possible to cure such cases by bringing about an artificial menopause by the extirpation of the ovaries?" A few years after this he saw another young lady, aged thirty, in a like suffering condition, who, after prolonged and fruitless efforts on his part, was about to pass away, worn out with epileptiform convulsions, vicarious hæmorrhages, pelvic hæmatoceles, and pelvic inflammations and abscesses. The case was evidently absolutely hopeless under the ordinary methods of treatment. Death was imminent; and Battey proposed, as a *dernier ressort*, the extirpation of the ovaries. The patient gladly accepted his proposition. Battey, living in a little country town, had no great masters in medicine to stand by him; so he wrote to many of the leading obstetricians and gynæcologists of the country, stating his views, and asking their advice on his proposed operation. But he received no encouragement whatever from any of them. He explained all this to his long-suffering patient. But she was not at all discouraged, and begged Dr. Battey to perform the operation. He operated on her in August, 1872, removing both ovaries by abdominal incision. Fortunately his patient recovered. Her recovery was tedious. But the cure was perfect, and remains so to this day. Her epilepsy, hæmatoceles, pelvic cellulitis, abscesses, and vicarious hæmorrhages,—all disappeared with the disappearance of the menstrual molimen; and she is now a useful member of society. If we except the heroic operations of Ephraim McDowell, in the backwoods of Kentucky, in 1809, for the removal of ovarian tumours, I do not think the annals of medicine can produce an example of higher moral fortitude than that shown by Battey, when he, assuming all the responsibility, which was of the gravest character, dared to perform this hazardous operation, not only without the approval, but against the advice, of his brethren, and that, too, in an obscure little country town, on a lady in the higher walks of life.

We may do heroic and untried operations in large hospitals in great cities, and, if the result is unfortunate, the responsibility is divided with our *confrères*, and in the whirl of life it is remembered by a few, but soon forgotten by the many. But in a little village of two or three thousand inhabitants, such rashness, as it would be called, might damage a man's reputation seriously even if attended with success, and would surely ruin it if unsuccessful.

I would like to see this operation recognised by the profession as "Battey's operation." I think he is entitled to that honour. He was the first to grasp, in its widest range, the influence and effects upon the general system of what he calls an "unrelieved menstrual molimen." He was the first to suggest a method of cure. He was the first to carry out his own suggestion, and to perform an operation for the cure of a disease that had never been cured before. He performed the operation on his own responsibility, without the co-operative aid of a single member of the profession. He has demonstrated the correctness of the principles upon which it was based, and proved its success in practice. He has established a precedent that may now be followed with safety, and opened up a new field of observation that promises results as grand as those now achieved by ovariotomy. He has raised sorrowing women from a perfect slough of despond; from indescribable suffering; from epileptic convulsions; from repeated pelvic inflammations, hæmatoceles, and abscesses; from vicarious and alarming hæmorrhages; from threatened insanity; and

in some instances from impending and certain death: and restored them to health, to friends, to usefulness, and therefore to happiness.

We have precedents enough for naming diseases and operations for those who have been the first to discover and describe the one, or to originate and perform the other. I may name Bright's disease, Addison's disease, Colles' fracture, the Hunterian operation, Syme's operation, Pirogoff's operation, Graefe's operation, etc. The moment they are named, we recognise each operation, and the manner of executing it in its manifest details. Let us honour Battey by calling this "Battey's operation."

It would be easy enough to give it a classical name to distinguish it from ovariotomy. We should continue to apply the term "ovariotomy" to the removal of ovarian tumours, properly speaking; and we might coin the term "oophorotomy" to designate Battey's operation, but for myself I prefer to designate it as Battey's operation. He has won the honour, and let him wear it. The difficulty already encountered in finding a name sufficiently distinctive and characteristic of this operation justifies us in calling it Battey's operation.

I appeal to my professional brethren in the Old World to join in honouring the profession in the New World by affixing the name of Battey to the operation, which he so ingeniously worked out, and has so heroically and successfully established.

Paris, 2, Rue d'Albe.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

NEWCASTLE-ON-TYNE INFIRMARY.

CASE OF INTRATHORACIC TUMOUR INVOLVING THE ROOT AND LOWER LOBE OF THE RIGHT LUNG — PERICARDITIS — DEATH — SECONDARY NODULES IN THE LIVER.

(Under the care of Dr. BYROM BRAMWELL.)

W. M., aged sixty-six, a sailor, single, was admitted on November 4, 1875, complaining of cough, shortness of breath, and great debility.

Previous History.—He enjoyed excellent health until eight months ago, when his present illness commenced. It was brought on, he thinks, by exposure to cold and wet. He has never spat any blood. The family history is good.

Condition on Admission.—He has an unhealthy, sallow look, and is considerably emaciated. The feet and legs are œdematous. Lungs: There is marked dulness over the right chest below the level of the second rib. From the third rib downwards the dulness is absolute. Posteriorly there is absolute dulness below the inferior angle of the scapula. The left side is normal. On auscultation over the dull area the vocal resonance is found to be diminished, and faint bronchial breathing is heard. The measurements of the two sides of the chest at the level of the fourth rib are equal—viz., seventeen inches and three-quarters. Cough is frequent; expectoration scanty and frothy. There is great dyspnœa on exertion. Heart: The area of cardiac dulness is considerably increased, and is continuous with the dull area over the right chest. The apex-beat is felt between the six and seventh ribs, two inches below the nipple. A soft systolic murmur is heard at the base and over the course of the great vessels. The aortic second sound is somewhat accentuated. The heart-sounds (free from murmur) are heard very distinctly between the right border of the sternum and the right nipple. Over the same part of the dull area indistinct pulsation can be felt. The radial pulse is 84, somewhat visible and jerking; the artery feels rigid. The right pupil is fixed, much smaller than the left, and irregular. The temperature is normal. The blood and other organs are normal.

Diagnosis.—After some hesitation the case was diagnosed to be an intrathoracic tumour, pleurisy being excluded by the presence of bronchial breathing. In this, as in the two cases reported by me in the *British Medical Journal* of January 6 and March 3, there were observed some of the signs of thoracic aneurism, notably the accentuated second aortic sound, the deep pulsation at the third and fourth right interspaces, and the clearness of the heart-sounds at the same spot. The subsequent progress of the case confirmed the diagnosis, and is seen in the following notes:—

November 24.—The dulness is gradually becoming more and more extensive; the general condition of the patient is worse.

December 20.—The dulness has now reached the superior border of the second right rib; posteriorly it mounts as high as the middle of the scapula. Occasional friction-sounds are now heard over the right base; the right side of the face is œdematous; the veins running over the front of the chest and up the right side of the neck are prominent; some enlarged glands can be felt above the right clavicle. The shortness of breath is worse. He now complains of difficulty in swallowing. The aortic systolic murmur is not now heard. Over the dull parts of the right chest, coarse crepitation is occasionally heard both with expiration and inspiration.

23rd.—He coughed up a considerable quantity of thick purulent-looking fluid.

26th.—He died.

Autopsy, twenty-seven hours after Death.—The left lung was adherent; it weighed one pound one ounce, and was healthy. The right lung was adherent throughout; the upper lobe was much congested, and in its lower parts consolidated; the lower lobe was consolidated throughout, and when cut into was found to contain in its centre a large brain-like mass of new growth. The tumour had apparently originated at the root of the lung, and thence made its way along the course of the larger bronchi. The bronchi of the right lung were greatly compressed. The tumour had invaded the pericardium. The sac of the pericardium contained several ounces of thick purulent fluid. Between the base of the right lung and the diaphragm there was a small collection of thick pus. The tumour was of a pinkish-white colour, and on microscopical examination was found to be composed of small round and angular cells; its central portion was softened. No communication could be traced with the bronchi, nor could the source of the purulent expectoration of December 23 be made out. The heart was somewhat enlarged; its valves were healthy. The aortic arch was atheromatous and dilated. The liver weighed three pounds four ounces; there were several large deposits of new growths on its upper surface, which was firmly adherent to the diaphragm. There was no apparent continuity between the new growth in the lung and that in the liver, although they were in close proximity and were the only deposits in the body. There was nothing of importance in the other organs.

Remarks.—The post-mortem showed the cause for the accentuated second aortic sound—viz., the dilated and atheromatous arch. It is somewhat remarkable that no pericardial friction-murmur was ever heard, and that notwithstanding frequent auscultation. I can hardly presume that it was entirely absent, for the effusion was by no means great, and the opposed surfaces of the pericardium were thickly coated with shaggy lymph. Dr. Sibson's elaborate statistics(a) show that, with rare exceptions, pericardial friction is audible throughout the period of effusion. "In six cases out of forty-three," he says, "the friction disappeared and reappeared during the decline of the effusion."(b)

LONDON HOSPITAL.

CASE OF CEREBRAL SYPHILIS—CHOROIDO-RETINITIS—DISEASE OF LEFT ANTERIOR CEREBRAL AND LEFT MIDDLE CEREBRAL—THROMBOSIS—SOFTENING OF LEFT FRONTAL LOBE, LEFT CORPUS STRIATUM, AND LEFT OPTIC THALAMUS—RIGHT HEMIPLEGIA, HEMIANÆSTHESIA, AND HEMISPASM.

(Under the care of Dr. RAMSKILL.)

[Reported by Mr. B. W. WALKER, House-Physician.]

WM. B., aged twenty-three, a cigar maker, admitted on March 24, 1877. The patient seemed very intelligent, and stated that until two years ago he had enjoyed good health continuously, with the exception of an attack of "gastric fever" and "small-pox" when quite a child. Since twelve years of age he had frequent watery discharge from the right ear; this continued to the time of admission. About two years previous to admission he had a single hard sore on the penis, which did not discharge, and which was covered with a hard "scale." Three weeks later he had "buboes" in each groin. These were hard, but after a time suppurated. For these symptoms he went to a doctor, who administered powders. He took them regularly for a month, and then found that his mouth watered a great deal. He was then supposed to be cured of his complaint. Rather more than three months before admission, he noticed that his hair fell off in large quantities; and a month later a

(a) Russell Reynolds, vol. iv., pages 318-327.
(b) *Ibid.*, page 383.

rash appeared all over his body, accompanied by sore throat and severe headache. These last symptoms existed on admission.

When admitted (March 24, 1877), the patient's condition was as follows:—A well-made man and well nourished, with a dry skin, powdery, and of a yellowish tinge. Upon the lower part of trunk were some patches, scaly and copper-coloured, fairly symmetrical; none on extremities. Complete loss of all hair of face and scalp. The soft palate presented the appearance of symmetrical congestion, with some loss of substance. The larynx was greatly congested. The heart, lungs, liver, and spleen presented no abnormal physical signs. Eyes presented marked double optic neuritis. The ophthalmoscopic appearances were described as follows:—Veins large and tortuous, even to the periphery; arteries, where visible, normal. The discs much swollen, and margins very indistinct. Special appearances of right eye: A whitish material to inner side of disc, extending beyond the distance of the disc's diameter, entirely obscuring the fundus; no hæmorrhages. Special appearances of the left eye: A large well-marked hæmorrhage above the disc, besides several small streaky ones in other parts of fundus. Above the disc, at some distance from the disc (about three diameters), was to be easily seen a perfectly white streak, tapering at both ends, with an artery distinctly running through the axis of it. The vessel is lost entirely between this and the disc. His sight was sufficiently good to allow him to read the newspaper easily. Deaf to some extent with both ears; no appreciable difference; watery discharge from ears. General condition: Very quiet and melancholy, and when pain was less severe he used to sleep heavily; cleanly in habits; appetite good; bowels regular.

April 19.—The patient has been taking iodide of potassium in doses gradually increased from five grains to thirty-five grains three times a day. To-day a rash is observed over forehead and cheeks only, papular and confluent. The dose of iodide of potassium was reduced to ten grains three times daily. By this time the pain in the head was far less severe, but this he attributed to the ice-bag he was allowed to apply to the head.

May 13.—The patient has been noticed to answer questions in a strange, stupid manner for some days lately. Has an exceedingly dull, stupid appearance. The appetite has failed of late, and he has been much troubled with vomiting at odd times. He says he has no pain at all.

14th.—It was discovered this morning that there is complete loss of power in the right arm (which remains helplessly at his side), and also of the right leg. When pricked with a pin (through the skin), he maintains that he cannot feel anything, and certainly he shows no sign of doing so. There is apparently loss of sensation in the affected side. Tickling the sole of the right foot causes no movements whatever. There is no affection of speech; he speaks slowly, but well. There is no obvious facial paralysis, though when he laughs the mouth is more drawn to the left side, and when he screws up his eyes the left is the more tightly shut. The tongue protruded points to the right. The uvula is long and inclines decidedly to the left. No appreciable difference in the hearing of the two sides, though both are defective. From all that can be ascertained, the above symptoms came on gradually. He took to his bed of his own accord yesterday, as he did not feel well and had some difficulty in standing, he said; and last night he took off his shirt, but did this feebly, and without any energy. On the same afternoon the patient was seized with a "sort of fit." The nurse found him unconscious. The right arm and leg were "working" backwards and forwards, and his eyes moved rapidly from side to side; his face was not in motion, and was unaltered in expression. This attack lasted about fifteen minutes.

15th.—When seen this morning he could not be got to speak at all, nor could he be made to put out his tongue, and, to all appearance, he did not understand what was spoken. He showed no sign or movement when a pin was thrust into the right arm, but when this was done to the left he simply moved the arm a little.

17th.—There is some ptosis of the right eye; vomits occasionally; apparently is free from pain.

18th.—A second fit, similar to the one mentioned above, lasting five minutes. Refuses food, or rather is too unconscious to take it; is accordingly fed through the nose, and castor oil also given on account of obstinate constipation. Passes water involuntarily for the first time.

27th.—For the last nine days the patient has remained in the same unconscious condition, lying on his back with his head turned to the left (if moved to the right it rolls back again immediately to its former position); his breathing is quiet, and pulse normal. He has been fed regularly three times a day on milk, beef-tea, and eggs, by means of the tube passed through the nose; castor oil given also as required. All motions and urine passed under him. His face and scalp much spotted over with yellow purulent crusts; these particularly large over the cheeks and bridge of nose. A raw, watering surface is left when these crusts are removed. The odour arising from the patient is most objectionable, in spite of the free use of antiseptics.

28th.—This morning the patient had a third fit of the same nature, and affecting the same parts as the former ones, but not so severe on this occasion. This time was noticed a very slight twitching of the face and mouth. The eyes were not affected. This evening the breathing is rapid, short, and shallow, ceasing entirely (apparently) at intervals of about two to three minutes for ten to fifteen seconds. Immediately after each cessation breathing commences by being particularly slow and shallow, but gradually increases in rapidity as it approaches the next cessation. The breathing is abdominal, the upper part of the chest remaining almost motionless. The alæ nasi "work" and the corners of the mouth are sucked in during each inspiration. Pulse exceedingly feeble and rapid, so much so that it is impossible to count it at times. There is great lividity of the face and general blueness of the skin. Half an hour later the patient died. His temperature had never been above 100°, and generally was normal; pulse normal.

Post-mortem Appearances.—The surface of the brain was much congested. The left hemisphere fell back, so as to appear smaller than the right. In one perivascular canal on the left frontal lobe was a large collection of colourless corpuscles. The anterior cerebral artery of the left side was distended by a large decolorised clot, softened in the centre, but so firmly adherent to the walls of the artery that it could not be detached. The middle cerebral artery of the same side was similarly plugged, but the clot was probably more recent, as it was readily detached. The walls of these vessels were considerably thickened. The left frontal lobe and the left corpus striatum and optic thalamus showed well-marked red softening. Heart normal and contracted. The lungs showed some recent pneumonia and a slight amount of pleurisy. The spleen, kidneys, and testicles were normal. The liver was much decolorised on the under surface, and showed on section arborescent discoloration in the course of the vessels; this was apparently due to decomposition. No nodes were anywhere detected.

Note.—That fertile cause of brain disease—otitis—though present in this case, does not appear to have been responsible for the morbid conditions found. The otitis was on the right side, the cerebral lesions were on the left; and the latter were due not to disease of sinuses or membranes, but to disease of arteries, which had nothing to do with the otitis. Independently of the history of local infection, the copper-coloured patches on the trunk, the extensive alopecia, the cicatrices on the soft palate, and the disease of the choroid, were as conclusive evidence of syphilis as if gummata had been found in the liver and other viscera. There is the strongest probability that the changes found in the cerebral vessels were not of the nature of ordinary atheroma, but of the syphilitic thickening described by Heubner, and that these changes led to thrombosis and softening of the parts of the brain supplied by the diseased vessels. In the choroid there appears to have been evidence of exudation alongside some of the arteries, though whether there was disease of the arteries themselves must remain undecided. The optic neuritis in such cases is generally secondary to the choroiditis. Amongst the clinical features worthy of note are—(1.) The *gradual onset* of the hemiplegia so frequently observed in cases of "block" of vessels, whether from embolism or thrombosis. (2.) The hemianæsthesia, in connexion with the fact that there was softening of the optic thalamus. (3.) The convulsive seizures on two occasions, limited to the right limbs, *plus* the bilateral movements of the eyes. It is noteworthy that post-mortem, besides congestion of the *surface* of the brain, there were some changes observed along one of the perivascular sheaths on the *surface* of the left frontal lobe, and that there was softening of the whole of the left frontal lobe, and some wasting. (4.) The persistent deflection of the head towards the left, noted on the 27th. This was probably a condition allied to the conjugate deviation of the eyes, to which Hughlings-Jackson has directed attention as occurring frequently in grave cerebral lesions. According to the usual rule, "the

patient is looking towards his lesion" (Hughlings-Jackson). It would have been interesting to know if there was any hemiopia, but the patient's mental condition at this period obviously must have prevented such a point being investigated. (5.) The speechlessness, noted first on the 15th, is of interest in connexion with the disease of the left frontal lobe. The somnolent, half-conscious, quasi-intoxicated condition, which appears to have lasted in this case for many days, is, according to Heubner, very common in the course of cerebral syphilis. (6.) The "Cheyne-Stokes" respiration, the rapid feeble pulse, and the lividity, associated with the pneumonia found post-mortem, are of interest, as the "last term" of severe hemiplegic seizures, which do not prove fatal within twenty-four hours after the onset.

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Medical Times and Gazette.

SATURDAY, NOVEMBER 24, 1877.

THE LONDON WATER-SUPPLY.

It has been said that nothing is impossible to modern engineering. At all events, modern engineers are fertile in grand schemes, especially as regards the water-supply of great cities We have had schemes for bringing water to London from Wales and from the Lakes. Manchester seems determined on attempting the tapping of the latter district. The latest scheme, however, which has come on the *tapis* is that fathered by Mr. Bramwell and Mr. Easton, both, we believe, having their *forte* rather in mechanical than in civil engineering strictly so called. These two gentlemen made a proposition, a little time back, which, after having been considered by the engineer of the Board of Works, has been accepted by that body. As sanctioned by the Board of Works, this scheme involves, first, the purchase of all existing waterworks in connexion with London, and, secondly, the superaddition of a new scheme for obtaining water from the water-bearing strata around London.

With regard to the former we have not a word to say, and by itself it is a scheme of sufficient magnitude to occupy many years, inasmuch as the various water companies are prepared to resist to the death. That there should be one central authority which could absolutely control our water, supply seems to us to be an unmistakable advantage. The principle of individual exertion has always maintained in this country, but, unfortunately, so has that of tyranny by corporate bodies. London is watered by various companies some supplying water which is notoriously bad, whilst in other districts the supply is altogether unexceptionable. Yet the inhabitant has no power to stop the supply of bad water and take in that which is good; he must submit to what he can get in his district. Take, for instance, the unfortunate dweller in the region occupied by the Southwark and Vauxhall Company: he cannot exchange the filthy stuff supplied to him for the purer supplies of the New River or West Middlesex; he can only submit to be gradually poisoned. Yet the sources of the Southwark and Vauxhall and of the West Middlesex are the same. Against such bodies there is no appeal. It would be well, therefore, that all should be united under one common and responsible management were this practicable.

But why should such discrepancies prevail in the quality of the waters supplied by companies taking their water from the Thames about the same spot? The answer is not hard to find. The one company has large areas for storage and subsidence in proportion to the quantity of water sent out; the other has, comparatively speaking, only a few filter-pits, and the quantity sent out is great. With the one, no water need be taken in at time of flood; in the other case, the only question is the quantity of water which must be supplied, no matter what comes—fish, dirt, or anything else. Here is where a uniform management would infallibly do good; but to that end subsidence beds, with filtering areas (the two being usually combined), would have to be largely extended to supply the present deficiency. New pipes would have to be laid down, and a large sum of money spent. This is just what the Board of Works shrink from facing. No, their plan is to buy up the old works, and supplement them by a brand new scheme, which, with all due respect, is as yet in the region of the wildest hypothesis. Deep wells are to be sunk in the water-bearing strata round London, whence is to be drawn as much as 16,000,000 gallons of water a day. This is to be conveyed to London by a special set of pipes, and in a special set of pipes distributed all over the London district under a high pressure. This supply of pure water is to be devoted to what? The extinction of fires! True, a small quantity may be used for drinking and cooking, but the main object is to be the extinction of fires. To this end hydrants are to be fixed all over the metropolitan area at specified distances. What is to happen to the houses which these do not reach we do not know, but we should think that the greater number of fire insurance offices might at once shut up as far as those houses within the reach of the hydrants are concerned. All this is to cost a mere trifle of £5,500,000, according to estimate; what it would cost in reality we shudder to think. For, in the first place, the notion of being able to obtain such a quantity of water from the chalk is the offspring of pure hypothesis, to which all the facts with which we are cognisant are in conflict. In certain areas round London there is water to be found, but in others there is none; but in all the quantity is distinctly limited, and must vary with the seasons. We cannot calculate on an unvarying, equable, and ample supply. At all events, this we believe to be a fact that the Kent Company, which derives its water from deep wells, had occasion to seek for an increased supply some time ago, but found that, after digging a new well, the quantity was no greater than before. The water-supply of the whole district had been tapped already. Again, some little time ago an artesian well was bored at Meux's Brewery right down to the lower greensand; they never got more than a few gallons, and the well is now closed. Does the Board of Works intend to favour us with a succession of such costly experiments? We look upon the whole scheme, in the meantime, as little better than mere moonshine. True, it may suc-

ceed, but people so heavily taxed and rated as we are ought to have something more than vague hypothesis before being asked to spend millions of money which will only benefit engineers and contractors.

What, then, is to be done? To this, again, as it seems to us, the answer is simple. The Water Companies have, with a few exceptions, grossly misused their great privileges. They deserve no pity at the hands of the public, whom they have so long maltreated. Is their property worth purchasing? Is our present system of taking water for all purposes mainly from the Thames and Lea a justifiable one? These are the two fundamental questions. The former we may pass by, but the latter is within the range of easy experiment. We may admit at once that it is absolutely impossible to keep either river absolutely pure from contamination, but we may well inquire into various questions in connexion with the impurities which we know may be destroyed during the onward flow of a river. The questions are such as these: How much organic matter may disappear during the flow of a stream of water over a given surface, at a given rate, and in a given time? Or, to put it otherwise, How long does it take to destroy all traces of a given quantity of organic matter in a stream of water running at a given rate? Next to this would come, What is the effect of various kinds of bottom material—sand, gravel, chalk, clay, mud, etc.? Again, What is the effect on this organic matter of standing water? Does the organic matter disappear; and if so, at what rate? We know perfectly well that there are already some materials for answering such questions as these, but their proper investigation ought to be undertaken by a reliable and faithful committee. The Board of Works and the Water Companies had far better agree to this than to waste money on obtaining the services of conflicting chemists. Already we hear that So-and-so is retained on this side or on that. Why not unite to have this first and most important matter settled—Can the present water-supply of London be rendered unexceptionable, or, at all events, of fairly satisfactory purity? There need be no difficulty about quantity.

THE ALLEGED OUTBREAK OF RELAPSING FEVER IN BOMBAY.

For many years past the medical men of India have maintained a vigilant watch upon the progress of a disease which, in most of its leading characteristics, very nearly resembles the Relapsing or Famine Fever of Europe. India was long supposed to be equally free from this disease and from true typhus. The earliest history of this disease appears still to demand investigation, but it became generally known to the profession when its destructive appearance in the Central Gaol at Agra in 1860 was described by Dr. Walker. It again prevailed with great virulence in the Agra Gaol in 1864; and, in that and the subsequent year, it appeared in the gaols of Umballa, Futtehghur, Allyghur, Jyepore, Malwa, etc. It was described by the several reporters as true typhus, contagious fever, typhoid fever, yellow typhus, and contagious jaundice fever; but great praise is due to the careful and judicious manner in which Dr. David Boyes Smith reviewed the majority of these reports in the second and third volumes of the *Indian Medical Gazette* in 1867 and 1868, and proved, at least to the conviction of many, that the fever of the Agra and Umballa gaols was nearly identical with the relapsing fever of Ireland, Germany, and America. This disease has occurred extensively and very destructively in the Punjaub, especially in the gaols of that province; and in 1867 Dr. C. A. Gordon, C.B., the Principal Medical Officer, Port Louis, reported that the "relapsing fever, with or without jaundice, but always with more or less hepatic complication, had been introduced into Bourbon by immigrants from India."

To the sanitary legislator, rather than to the pathologist, the relapsing fever of India is distinguished from the disease, as pourtrayed by Murchison, in being attended with great mortality. The fever which appeared at Agra destroyed 406 prisoners in 1860, and 250 in 1864. Consequently, it is not surprising that when, in April last, Mr. Blaney, a medical practitioner and member of the Town Council of Bombay, stated that a fever which then afflicted those resident in the relief camp on the Flats was not the ordinary malarious (marsh remittent) fever, but was "a contagious epidemic disease—a relapsing fever," the Government immediately desired Surgeon-General W. G. Hunter, the Head of the Medical Department, to institute inquiry into the nature of this fever among the immigrants, and into the condition of certain very unwholesome huts which, there was reason to believe, were sources of great danger to the health of the town and island. Accordingly, Dr. Hunter appointed two highly competent medical officers (Surgeons-Major Cook and H. V. Carter) to conduct the inquiry; and, on Dr. Cook's departure to Europe, Surgeon-Major Hewlett, Acting Sanitary Commissioner, was appointed to this duty. We have before us the report of this committee, with Dr. Hunter's own report, as reprinted in the *Indian Medical Gazette* of October 1 last. We cannot regard the committee's report as being by any means an exhaustive inquiry into the vitally important question at issue. They separated at first twenty-four, and subsequently twenty-five, patients, as being fairly representative cases, for observation, and made their report in three weeks; during which it is stated that many of the patients, especially of the second batch, "left before they were really convalescent." It was considered that, of these forty-nine persons, twelve had "fever of the relapsing type," three "intermittents (?)," seven "remittents," twenty-seven "undecided." "Five deaths are known, all amongst the cases too briefly studied to be accurately discriminated." For purposes of discrimination, the committee, we are told, noted—"(1st) common symptoms, (2nd) the natural course of the disease, and (3rd) diagnostic points; and, upon these grounds, they were of opinion that there was then prevalent in Bombay a severe form of fever which presented a decided recurring tendency, and which had also many of the more general characters of "relapsing" fever, so-called. They especially urged that, amongst the few cases it was practicable to examine, in five instances (four of which may be regarded on other grounds as typical) the peculiar organism known as the *Spirillum febris recurrentis* of Cohn (*vide* "Health Reports of the Privy Council," new series, No. III., London, 1874), had been satisfactorily demonstrated by one of themselves to exist in the blood of patients during the febrile paroxysms. They added—"Now, if this last fact be viewed as truly diagnostic, the question of the nature of the more prevalent form of fever here is so far disposed of, that it may be said there is the strongest resemblance between the relapsing fever of Bombay and that of Europe. To advance more than this might be premature, for it is well known to medical men that the remittent variety of malarious fever is capable of assuming many phases; and besides, there is on record abundant evidence of the prevalence in India, in late and bygone times, of fever nearly approaching the relapsing type, but not yet proved to be identical with the European species."

Surgeon-General Hunter entered upon the inquiry with great care and discrimination; and, in May, Dr. Lewis, attached to the Sanitary Department of the Government of India, was with Dr. Hunter's consent, deputed to institute inquiry into the nature of the fever. Measures were adopted for having observations carried on throughout May in two Bombay hospitals; and it was intimated to Dr. Carter that his microscopic observations of the blood should not be restricted to examples of supposed relapsing fever, but should embrace all

cases of malarial fevers (intermittent or remittent), and also all disorders attended with a high temperature.

Dr. Hunter gives in his report a history of the spirillum from its first discovery in the blood of patients suffering from relapsing fever, by Obermeier, during an epidemic of that disease in 1872. He particularly insists upon the importance, in its bearing upon the present question, of a series of observations which demonstrate the occurrence of the spirillum elsewhere than in the blood of persons suffering from relapsing fever. Cohn, who has shown that these organisms do not belong to *Spirillum*, but to the genus *Spirochæte*, observed them in the mucus of his own mouth, in damaged food, and in marshy water. They have also been found in considerable numbers by Manassein, in the liquid exuding from a fistulous passage communicating with the antrum of Highmore.

Dr. Hunter next announces a fact which must be viewed with great interest by pathologists both in India and in Europe —viz., that when the blood came to be examined microscopically in the Bombay hospitals, these organisms were found "not only in the blood of the subjects of so-called relapsing fever, but also under totally different pathological conditions; for example, in enteric or typhoid fever, in pneumonia, and in remittent fever."

Dr. Hunter then enters into a very full review of the diagnostic evidences afforded by the temperature charts adduced during the course of this inquiry. He shows that there is a constant tendency to remit in relapsing fever, so much so that Cragie, in 1843, regarded and designated it, on this account, as a variety of remittent fever. He infers that the temperature charts of relapsing fever (so called) and of remittents, as prevailing in Bombay, are insufficient for purposes of diagnosis.

True relapsing fever is invariably acknowledged to be a highly contagious disease. Dr. Hunter, however, fully argues out all the evidence upon this point that he has been able to collect, and concludes that he cannot find any proof whatever of the so-called relapsing fever of Bombay being contagious. With regard to mortality, Dr. Hunter's report is founded upon 177 cases, of which 25·9 per cent. proved fatal.

The Surgeon-General then proceeds to argue that the relapsing fever of Europe "is the offspring of destitution, in the sense that typhus is the result of overcrowding," and brings evidence to show that "the destitute condition to which the immigrants into Bombay were said to be reduced was highly exaggerated." So far we are disposed to agree with him; still, seeing that we have always had valid reasons for considering that the normal condition of the labourer throughout the length and breadth of India is one of lifelong semi-starvation, which loss of work or failure of health may convert into actual starvation for the individual and his family, and which a bad season will increase into famine for the masses, we cannot altogether coincide with Dr. Hunter and Mr. Blaney in believing that famine had nothing to do with this fever. It is stated that none of the persons were "deprived of food" at the time of the attack; that when these immigrants left their villages in the preceding October, and came to Bombay in search of work, the scarcity in the Deccan did not amount to famine; and that, from November last, work for the labouring classes has been abundant in Bombay, and, though wages were low, they appear to have been regularly paid.

We are inclined to think that the condition of many in this immigrant camp, and in what the Government pointed out to the commission as "the very unwholesome huts," driven by scarcity in their own district to seek uncertain labour among strangers, upon a low rate of remuneration, may not have been, as regards nutrition and physical power of resisting the incursions of disease, at all higher than that of the prisoners in the Punjaub gaols, who, becoming the subjects of relapsing fever, were, upon the reports of Drs. Dallas and Gray, allowed a more liberal diet, an increase of breathing space, and better clothing.

Dr. Hunter mentions the very interesting fact that Dr Cunningham, in watching the recent famine in the Madras Presidency, found that bowel disorders were common and very fatal, but that fever was practically non-existent.

The Surgeon-General arrives, from the whole of the evidence before him, at the conclusions—"first, that the contagious relapsing fever of Europe has had no existence in Bombay; second, that the fever is of a remittent character, has its origin in malaria, and is, consequently, not contagious."

We do not find it stated that the cases which were investigated were subjected to the quinine test. Doubtless they were; but, as we believe that it is generally found elsewhere that the relapsing fever of India is not at all materially influenced in its course by quinine, it would have been more satisfactory had this point been fully worked out. The profession must, no doubt, fully coincide with Dr. Hunter in thinking that the merit of the discovery of the spirillum (*Spirochæte*) in the blood of persons suffering from fever in Bombay is eminently due to Dr. H. V. Carter. We trust to learn shortly that further observations have been made on this very interesting point elsewhere in India, in cases of enteric and marsh and terai remittent and intermittent fevers, where no suspicion of the coincident existence of true relapsing fever exists.

THE PATHOLOGICAL SOCIETY.

Several specimens of great interest were exhibited at the meeting of the Pathological Society on Tuesday evening, although discussion was not so ready or vigorous as it has been at the two previous meetings this session. The first specimen, which was one of aneurism in the cavity of a hepatic abscess, was exhibited by Dr. Irvine, and was considered unique. The subject of the disease, a soldier who had served in India, after suffering from throbbing pain and fulness in the epigastrium and frequent hæmatemeses, died from a return of the hæmorrhage. It was found post-mortem that a small aneurism in the wall of an abscess of the liver had given way, and that the blood had found its way into the stomach through a perforation in the midst of old adhesions. Dr. Powell brought forward a somewhat analogous specimen, in which a small aneurism was found to be the source of suddenly fatal hæmorrhage from a gastric ulcer. These cases, coupled with the now familiar cases of pulmonary aneurism in phthisical cavities, form a series of remarkable interest to the pathologist; and they also bear, in respect of causation, an important relation to Dr. Irvine's case of aneurism of the abdominal aorta, described in the last report of the Pathological Society (see page 528, November 10).

Dr. Powell mentioned a fact in connexion with the case just referred to, which, while interesting in itself, shows in a striking manner how great the direct practical value of pathological anatomy may be. The patient was suffering from extensive fresh tuberculosis of the lungs, and right pleural effusion; and it was found that the tubercular disease in the right lung was exactly limited below by the surface of the effusion. Dr. Powell said that he believed that pressure on a lung not only exempts it from tuberculosis, but that an effusion of fluid may even cure a pre-existing tuberculosis.

Dr. Cayley exhibited two specimens of hyperostosis in several bones, illustrating the curious connexion between this change and the presence of cancer. Dr. Greenfield then gave a minute description of the histology of a syphilitic growth on one of the cerebral arteries, which had led to thrombosis, and consequent softening of the brain. The important point of the description was that the manner of syphilitic growth seems peculiar in this respect: that the endothelium of the newly formed vessels in its turn proliferates, and obstructs

their lumen by its products. It is probably in this way that the blood-supply of the mass is cut off, and caseation results. The next specimen, which was also shown by Dr. Greenfield, was one of hæmorrhagic pachymeningitis, better known as hæmatoma of the dura mater. Though very frequently seen abroad, and though said to be common in the insane, this lesion had never been brought before the Pathological Society. The pathology of the disease is still unsettled, notwithstanding Virchow's well-known account of it, according to which the hæmorrhage is secondary to the growth of a membrane on the dura mater, which afterwards forms the walls of the blood-cyst. On this occasion both the President and Dr. Greenfield seemed to incline to the older view—that the hæmorrhage was, at any rate in part, the primary lesion.

Dr. Ralfe's case of Chyluria may be said to have been the case of the evening, inasmuch as it provoked a long and very instructive discussion on chylous discharges. The case itself does not appear to differ in any important particular from other cases of chyluria from the West Indies. The important features were connected with the results of the careful chemical investigation of the chylous urine by Dr. Ralfe. It was found that not only serum-albumin, but fibrin and casein, were mixed with the urine; and, further, that the fluid easily passed through ordinary filtering paper. Assuming that the discharge of "chyle" had actually occurred from the kidney (which appeared from several facts to have been the case), there seems to be no reason why this should not have happened without actual rupture of the capillaries, as the ordinary blood-pressure would be sufficient to force such diffusible fluid through intact walls. Dr. Dickinson and Dr. Morison, in the discussion that followed, gave some particulars of the greatest interest of two cases of chyluria at present under their care; and, at the invitation of the President, they agreed to submit specimens of the chylous urine from their patients to investigation by the Chemical Committee of the Society. The subject of chyluria will therefore be re-opened in the course of the session.

At the end of the meeting the President made an announcement respecting an exhibition and discussion of specimens of lymphadenoma and leukæmia, which will be found in another column.

THE WEEK.

TOPICS OF THE DAY.

The Parkes Museum of Hygiene, which is in course of formation at University College, is fast approaching completion, and will soon be available for the purpose of diffusing a practical knowledge of many branches of sanitary science, the aim of the executive committee having been to make the Museum as widely useful as possible for teaching purposes. The Council of the College have devoted an area of 3500 feet for the purposes of display, and contributions of all sorts are arriving almost daily. The India Office, the Museum of Economic Botany at Kew, the South Kensington Museum, the Hygienic Department of the Army at Washington, and the city of Brussels, besides many manufacturing firms and individuals, have already made valuable contributions. The Museum is to be divided into a library and eight classes; the library will be devoted entirely to works on hygiene, reports, pamphlets, etc. Class 1 will be dedicated to local hygiene and sanitary engineering, and will consist mainly of plans, drawings, etc., illustrative of drainage, sewerage, water-supply, burial, and hygiene of crowded districts. Class 2 deals with hygienic architecture, and will be illustrated by plans and drawings properly classified. Class 3 is devoted to the subjects of lighting and warming; Class 4 to clothing; and Class 5 to food. Class 6 deals with personal *régime* and comfort for invalids, including the transport and care of sick and wounded in battle. Class 7 is appropriated to safety and rescue; and Class 8 to the hygiene of the professional and industrial classes.

An application was last week made at the Wandsworth Police-court, under the 27th section of the Sanitary Act, by the inspector of nuisances to the parish of Battersea, for an order to remove to the mortuary, prior to burial, the body of a person who had died from typhus fever. It was stated that the body was at that time lying in a room occupied by several persons. In answer to a question, the inspector said he proposed to have the body buried in two days' time, but the wife wished the interment to be delayed. The magistrate eventually made an order for the removal of the body to the mortuary, and for its interment at the date proposed by the officer.

At Dorchester, recently, Colonel Cox attended a meeting on behalf of the Local Government Board, to inquire into the drainage and water-supply of that town, the Town Council having proposed to borrow a sum of £8000. During the inquiry, it was elicited that new barracks are being erected by the Government at the Dorchester Depôt Centre, and that, to supply them with water, a new elevated reservoir would be required. Towards the expense of this, Government had offered £1250. Colonel Cox called attention to the 17th section of the Public Health Act of 1875, which relates to the flow of foul matter into watercourses and streams, and, while advising that the drainage question should be carefully considered, strongly recommended the increased water-supply.

The Council of the Metropolitan Hospital Sunday Fund have issued their report on the present year's collection, which, however reassuring as regards the increased co-operation of the various religious bodies, cannot be considered satisfactory when the total amount realised is taken into consideration. In fact, the results of the five years' collections, since the movement was introduced in 1873, show that £30,000 is the outside limit attainable by means of this appeal to the public—by no means a large sum when the wealth of the metropolis and the number of places of collection are borne in mind. The Council state that the present year has proved one of gradual but highly satisfactory growth in the number of contributing congregations as compared with former years—thirty additional places being credited to the Church of England, and sixteen to the Congregationalists; whilst nearly all other denominations have maintained steady averages. As a total, the Council are glad to be able to show an average increase of fifty new contributions. They endeavour to account for the falling off in this year's total by the serious financial depression which has so materially depreciated the means of the charitable; and in recapitulating that £22,747 have been distributed to seventy-six hospitals and four institutions, and £2223 to forty-three dispensaries, they explain that nearly all the awards are slightly below those of 1876, in consequence of an increasing number of applications to participate, and a slight decrease in the amount to be administered. The total of each year's collection has been as follows:—1873, £27,700; 1874, £29,936; 1875, £26,396; 1876, £27,042; and 1877, £26,082. The working expenses of this year's Fund, inclusive of all charges, have been 3¼ per cent. of the gross receipts.

Overcrowding is still an evil with which the East-end authorities are almost powerless to grapple. At a recent meeting of the Whitechapel Board of Works, the sanitary inspectors of the district reported that they had paid a midnight visit to various houses in Miller's-court, Fashion-street, Dorset-street, Rose-lane, and Inkhorn-court, situate in the parishes of Whitechapel and Spitalfields. With one exception, the rooms visited were occupied by foreign Jews, the exception being a room tenanted by three Irishwomen and a child. In addition to the overcrowding, many of the rooms

and bedding were in a most filthy condition, and several of the occupants were sleeping on dirty rags, sacking, etc., on the floor. In many instances it was necessary, in order to ascertain the number of persons in such rooms, to turn down the bedding, when children were found huddled together in a most shocking manner; and many of these children looked very sickly. Orders were issued by the Board for the abatement of the overcrowding and the enforcement of sanitary regulations.

The Exeter Town Council have for several years been endeavouring to obtain control of the Water Company's works in that town. The last offer made was to purchase on a basis of a perpetual 7 per cent. on the share capital; but the Company refused this, and it has at length been determined to proceed for Parliamentary powers to compel the Company to sell. The terms the Council offered would have involved the expenditure of £120,000, and it was apprehended that a further outlay of £8000 would have been necessary before a constant supply could be given.

The medals of the Royal Society for the present year have been awarded by the President and Council as follows:—The Copley Medal to Professor James Dwight Dana, for his biological, geological, and mineralogical investigations carried on through half a century, and for the valuable works in which his conclusions and discoveries have been published. A Royal Medal to Mr. Frederick Augustus Abel, C.B., F.R.S., for his physico-chemical researches on gun-cotton and explosive agents. A Royal Medal to Professor Oswald Heer, of Zürich, for his numerous researches and writings on the tertiary plants of Europe and other countries, and for his able generalisations respecting their affinities, and their geological and climatic relations; and the Davy Medal to Robert William Bunsen and Gustav Robert Kirchhoff, for their researches and discoveries in spectrum analysis. This is the first award of the Davy Medal, which, it will be remembered, was founded by the proceeds of the sale of a service of plate, bequeathed for the purpose by Sir Humphry Davy. The medals will be presented at the Society's anniversary meeting on the 30th inst.

A somewhat singular case of death is reported from Devonport. A child, six and a half years old, was taken to Dr. Wilson of that town, the father stating that she had been playing with some beads, and had got one into her ear. A similar accident had occurred to the child about three years before, when Dr. Wilson succeeded in extracting the bead. Upon the present occasion he endeavoured to remove the foreign body, but without success, and after a lengthened operation the child suddenly expired, in the opinion of Dr. Wilson from loss of blood and nervous shock. The post-mortem examination failed to discover the bead, but Mr. Christopher Bulteel, who performed it, suggested that it might have been extracted, and not noticed when it left the ear; he had no doubt that Dr. Wilson acted for the best, but he thought some want of judgment was displayed in continuing the operation so long. The hæmorrhage and shock together were, in his opinion, sufficient to account for death. The jury ultimately returned a verdict in accordance with the medical testimony.

On Saturday last the Duchess of Teck opened a new Infirmary at Hemel Hempstead. This institution was originally founded in the year 1826, by the late Sir John Sebright, Bart. About four years ago it was condemned by the sanitary authority, and the governors determined upon erecting a new building. The present structure will accommodate fifty inpatients, and, including an outlay of £900 for the purchase of three acres of land, will cost £13,000. A distinguished company was assembled to meet the Duchess, and, after a brief religious service conducted by the Bishop of St. Albans, her Royal Highness was conducted through the building, and formally declared the new Infirmary open for the reception of the sick poor of West Hertfordshire.

A serious outbreak of fever is reported to have occurred at Staveley, a village in Derbyshire, and the disease is spreading to such an extent that two schools have already been closed. At Staveley twenty-five families are stricken with fever, which has already proved fatal in many cases. The outbreak is supposed to be traceable to Eckington, and it has also spread to Speedwell and Lowgates, hamlets in the vicinity. The medical officer of health for the district is carrying out a prompt system of isolation, with a view of stamping out the epidemic.

Yellow fever is reported to have appeared again at Jamaica, and is stated to have proved fatal in the cases of Captain H. A. Mackey, R.A., Brigade Major, and a daughter of Major Locock, commanding Royal Engineers, both of whom died of the disease on the 21st ult. The *Army and Navy Gazette*, however, hears that the ships on that part of the West Indies station, and the residents at the naval establishments at Port Royal, continue free from attacks of the fever.

THE SENATE AND CONVOCATION OF THE UNIVERSITY OF LONDON.

The Annual Committee of Convocation of the University of London, at its meeting on the evening of Friday, the 16th, received the reply of the Chancellor to the deputation which waited on the Senate on the previous Wednesday. The reply, which we published last week, was accepted as satisfactory by the Annual Committee, who considered that in giving this answer to the memorial from Convocation the Senate had virtually "abandoned" their resolution to proceed with the admission of women under Russell Gurney's Act. The Committee also expressed itself as willing to co-operate with the Senate in procuring a supplemental charter; and this generous behaviour of the representatives of Convocation cannot but have the best effect in helping to restore a good feeling between the two bodies in the University. The non-medical members of the Committee, and especially Mr. Magnus, expressed their appreciation of the manner in which the medical graduates had commenced and conducted the struggle for the rights and privileges of Convocation. The medical graduates have indeed every reason to congratulate themselves, not only on the successful issue of this long and serious difficulty, but on the position which they have secured for their Faculty in the University by their watchfulness and zeal.

At the same meeting, Dr. Pye-Smith, speaking on the subject of a new Charter, discussed at some length the desirability of extending the functions of the University. At present the University of London is a mere Government machine for examining and granting degrees. Many of its members would be glad to see the University more directly engaged in the encouragement of literature and science. The single effort of the University towards the encouragement of scientific research under its own auspices is the acceptance of the Brown Trust. And, as Dr. Pye-Smith said, the Brown Institution is one of the few places of interest which we are able to show to foreign workers in science. To a prominent member of the medical representatives in the Senate is due the credit of having prevailed upon the University to extend its functions in this direction; and we trust that the Arts and Laws members may not rest until they shall have done as much for the sister Faculties. Dr. Storrar announced in the course of the meeting that, in answer to the requisition to which we referred last week, he had decided not to call an extraordinary meeting of Convocation to discuss the question of a new Charter. Probably Dr. Storrar, like ourselves, believes that the present time is somewhat too critical for opening a subject which will

disturb the whole constitution of the University. It is evident, however, that the University of London is entering upon an era in its history when every member will do well to devote all that he can spare in time and in attention to its interests.

THE COMPULSORY REGISTRATION OF INFECTIOUS DISEASE.

A SHORT time ago, at page 441 of our current volume, we directed attention to the fact that the Corporation of Bolton had obtained from Parliament, during the last session, authority to institute a registration of infectious diseases within their borough; and we gave the provisions of the "Bolton Improvement Act," relating to the subject. We should have reminded our readers that a similar experiment is being made also in the borough of Huddersfield, under provisions contained in the "Huddersfield Waterworks and Improvement Act," 1876. The powers taken under the Bolton Act have a much wider scope than those given by the Huddersfield Act, and in other respects the two Acts differ considerably. In the latter Act (the older one of the two) the compulsory registration is made to apply to "any inmate of any building used for human habitation who is suffering from small-pox, cholera, or any contagious or infectious fever of a dangerous character, and who is without proper lodging or accommodation enabling the case to be properly isolated so as to prevent the spread of the disease or the proper treatment thereof"; while the Bolton Act provides, it will be remembered, for the registration of all cases of "small-pox, cholera, or any contagious or infectious fever," without the addition of the word "of a dangerous character," and without reference to the state of the lodging of the patients;—that is to say, it makes provision for the general registration, within the borough, of the infectious diseases specified. Again, in the Huddersfield Act the responsibility, under penalty, of informing the sanitary authority (the Corporation) of the existence of the disease is thrown on the occupiers or persons having the charge, management, or control of the buildings or rooms in which the disease occurs, or on the patient himself, if able; and the medical man in attendance, if any, is required, also under penalty, "forthwith to fill up, sign, and deliver," to one or other of the persons referred to, a certificate, or declaration, stating, according to a form supplied by the Corporation, the name of the person suffering from the disease, the situation of the building wherein such person is, and the name of the occupier or other person having the charge, management, or control of the building or room; and the certificate states simply that the disease comes within the terms of a named section of the Act under which it is given. But the Bolton Act requires that the certificate shall state, in addition, "the nature" of the disease; and the medical man in attendance, as well as, and in addition to, the head of the family, or the occupier, or the person having the management of a building, is required, under penalty, to give notice to the Corporation. The Huddersfield Act, as well as the Bolton Act, provides that the Corporation shall pay to every medical practitioner making and giving the required certificate a fee of 2s. 6d. for each such certificate.

THE FEVER CARRIAGES OF THE METROPOLIS.

DR. JAMES STEVENSON, Medical Officer of Health for Paddington, has prepared a report for the local Vestry on the arrangements made by the several parochial authorities within the metropolitan area for the removal of persons suffering from infectious diseases to the fever hospitals. The report, which is very exhaustive, and must have involved much labour on the part of Dr. Stevenson, shows that the arrangements for the above purpose are most diverse, and in almost all cases very inadequate. In most parishes the fever carriage is the property of the Board of Guardians, in some of the Vestry, in others of a District Board, whilst in others it forms part of the stock-in-trade of a cab proprietor or of an undertaker. Then as to the custody of the carriage: generally it is entrusted to some official connected with the Board of Guardians, and is kept in grounds adjoining the workhouse; in other instances its custody devolves on some one attached to the Vestry, and it is kept in the parish stone-yard; and in rarer instances it is kept, when not in use, in an ordinary mews or in a common cab-yard. When housed, it frequently stands with other carriages—it may be a brougham, a bread cart, a laundry van, a butcher's cart, or a hearse and mourning coach. In many parishes there is only one fever carriage, which is used indiscriminately for all cases, whether a form of fever or a case of small-pox. Some have two vehicles, one for fever the other for small-pox; whilst three parishes have each three, and one parish (St. Saviour's) has four. As to the form of the carriage, some are of the four-wheeled cab pattern, others are covered vans, and others are of the brougham type of conveyance. In most instances the fever carriage has been built for the purpose, but in some few instances a worn-out cab or brougham is utilised, without any attempt at "conversion" having been made. There is a similar want of uniformity as regards the horsing of the carriages, but the drivers are generally the servants of the Guardians, or of the Vestry or District Board. Dr. Stevenson comes to the conclusion that the existing arrangements are objectionable on the score of economy and on sanitary grounds, and are, moreover, ill adapted to the requirements of the public, and of the persons more immediately concerned. He recommends that neither Local Authorities nor Boards of Guardians should any longer be expected to provide conveyances for the removal of the infectious sick, but that the necessary conveyances, horses, and drivers should be supplied by the managers of hospitals for the reception of patients suffering from infectious diseases; also that a trained and paid nurse be sent with the carriage each time it is used to superintend the removal of patients, and who should be responsible for the charge of the patient whilst under his or her care, riding either inside or outside the vehicle, as circumstances and the condition of the patient may require. As to the carriage, it should be made of hard wood, smooth, painted, and varnished, and of the brougham type. It should be easy, light, and properly ventilated, with doors on both sides, and a door or doors at the back, opening vertically, not horizontally as some do, and with a drop-seat inside to accommodate the nurse or attendant if required. It should be long enough to allow the patient to lie down, and sufficiently wide to admit two trays or frames, with beds covered with some waterproof material. The windows should be of ground glass, except the one in front, through which the nurse should be able to see and communicate with the patient. These recommendations seem to us to be sound, and we shall be glad to hear that they have been adopted by the various local authorities of the metropolitan parishes.

DESTRUCTION OF OBSCENE (SO-CALLED) MEDICAL WORKS.

A GREAT public service has just been performed by the Medical Defence Association in checking the practices of a man named Matthew Allison Orr, who for a considerable time past has been selling copies of works in which advice was given how to prevent the natural result of intercourse of the sexes. This was to be accomplished by the use of an instrument, said to be invented by a "Dr. Bruce," called a preventive "pessary," which was recommended to be introduced into the vagina, and fitted over the os and cervix of the uterus, before sexual intercourse. These instruments were to be obtained through Mr. Orr, as agent for Dr. Bruce, but it is believed that this latter name is a fictitious one assumed by Mr. Orr. Numerous complaints having been made to the Commissioners of Police respecting the nature of the

pamphlets and books sent out by Mr. Orr, they referred the matter to the Council of the Medical Defence Association, and promised the aid of the detective department if the Association would take the initiative in the endeavour to stop the publication of the works complained of. Accordingly, Mr. Pridham, solicitor to the Association, applied to Mr. Paget, at the Wandsworth Police-court, for a warrant to search the house occupied by Mr. Orr at Park-hill, Clapham, which was at once granted, and 1700 copies of a pamphlet on over-population, one hundredweight of a pamphlet entitled "England to the Rescue!" and 750 copies of a book containing instructions as to the use of the preventive pessary, were seized. On the 16th inst. Mr. Orr appeared at the Wandsworth Police-court, in answer to a summons, to show cause why the whole of the above-mentioned works should not be condemned to be destroyed as obscene. Mr. Besley, who defended, said he would not advise his client to appeal against the decision of the magistrate if he ordered the pamphlet on over-population to be destroyed; but he submitted that "England to the Rescue!" was not indecent, whilst the "instructions" were only directions as to the use of an instrument, and were not distributed for gain. The presiding magistrate (Mr. Bridge) overruled Mr. Besley's objections, and made an order in each instance for the destruction of the works.

BROADMOOR CRIMINAL LUNATIC ASYLUM.

The Annual Report on the Broadmoor Criminal Lunatic Asylum for the year 1876 shows that during that period the daily average number of patients resident was 498. The Asylum, when full, is capable of accommodating 413 men and 150 women, and the number of vacancies existing on the last day of the year under notice was 24 in the male and 46 in the female division. The rate of mortality during the year, calculated upon the average number resident, was 4·01 per cent. —a result which has only been once exceeded—viz., in the year 1866. The average rate from the opening of the Asylum down to the end of 1876 was 2·88. Of the deaths which occurred during the year, 12 out of 20 were due to diseases of the respiratory organs, and in the frequency of diseases of this description the year 1876 resembled its predecessor. In the four years preceding 1875 the number of deaths from this class of disease was small, being 5 in 1871, 1 in 1872, 2 in 1873, and 4 in 1874; and in 1875 the number increased to 9. This increase appears to have been due to the greater severity and frequency of winds blowing from the north and east during the last two years. The inmates of the Asylum consist largely of persons in whom the nervous system has undergone deterioration to a greater or less degree, and who are, in consequence, less able to resist sudden and violent variations of temperature, such as occurred frequently during the spring of last year and the year before. With the exception now mentioned, the general health of the inmates throughout the year was satisfactory, and the Asylum was entirely free from zymotic and infectious disorders. It is further satisfactory to find from the Report that, notwithstanding the character of the lunatics confined at Broadmoor, no form of mechanical restraint was used in any part of the Asylum during the year. Since the last report, Dr. Cassidy, the Deputy Superintendent, has resigned, and has been succeeded by Dr. Nicolson, formerly Senior Medical Officer of the Portsmouth Convict Prison.

THE WOMAN DIFFICULTY AND THE PHARMACEUTICAL SOCIETY.

At the last meeting of the Council of the Pharmaceutical Society, held on the 7th inst., the names of two ladies who had passed the Minor Examination, and had applied to be elected Associates of the Society, were submitted to the Council. This again brought up a question which has troubled the Council more than once. At the previous meeting of the Council, a lady who had passed her examination with very great credit had for the second time applied to be elected a Member of the Society, and had been refused; and the two ladies who now wished to be received as Associates had stood highest on the list of successful candidates on the day when they passed their examination. The discussion on the question was a lengthy one, and the Council seem to have been about equally divided in opinion, seven voting for and nine against the election of the ladies, while the President and one other member of the Council did not vote. It is to be observed that tho being refused election into the Pharmaceutical Society does not in any way prevent or directly hinder ladies who have passed the necessary examination from going into business as chemists; but it debars them from using the museum and library of the Society whose examination they have passed, as a matter of right, and it withholds from them the power of calling themselves Associates or Members of the Pharmaceutical Society. This may, we suppose, be a disadvantage to them, for one of the speakers asserted that in some parts of the country the term "Member of the Pharmaceutical Society" carries more weight than the simple designation of "Pharmaceutical Chemist." We think ourselves that the trade of a chemist and druggist is one for which women are admirably, and in some points—as delicacy, and neatness of manipulation—especially well fitted, and we shall be glad to see every help and facility given them in entering into the business as thoroughly well-educated chemists. And we must confess that we do not see why they should not be elected as Associates of the Pharmaceutical Society. It is allowed that there is no legal difficulty in the way, but one of the objections raised to it is, that if ladies are elected as Associates, the Council cannot refuse, should they afterwards pass the Major Examination, to elect them as Members, and then they might be elected on the Council, or even reach the Presidential chair. We will not presume to offer an opinion as to the desirability or the expediency of that; but we suppose that the honour of election on the Council is not the *right* of any Member, but a mark of distinction, to be gained by success or eminence of some kind, which can always be withheld by the majority of Members should they not think anyone fitted for it. The great obstacle to the election of the lady candidates into the Society, on this and the last previous occasion, was, however, the fact that in February, 1873, when the question of the election of three ladies as students or apprentices of the Society was before the Council, it was deferred till the June meeting, in order that the matter might in the meantime be referred to the annual meeting. That meeting decided against the admission of ladies, and it was urged that the Council would now be, at least morally, if not legally, wrong if they decided the question without again taking the opinion of the Society at large. And in the end it was resolved that the question of admitting ladies to all the privileges of the Society (Membership or Associateship) shall be referred to the next annual meeting. We are glad to see that the Society is prospering in every way, and is able to increase the pensions granted by its benevolent fund.

THE GOLDEN-SQUARE HOSPITAL.

We have received for publication, from Dr. W. MacNeill Whistler, Secretary to the Medical Council of the Hospital for Diseases of the Throat, Golden-square, the following extract from the minutes of a meeting of the Medical Council held on November 20, Dr. R. H. Semple in the chair:—

"Having listened to a detailed account of certain operations referred to in the recent charges against the medical administration of this institution, the staff resolved unanimously that these operations were performed with proper skill and care, and that no blame can attach to Dr. Mackenzie's clinical assistant."

ST. THOMAS'S HOSPITAL.

At the adjourned meeting of the Governors of St. Thomas's Hospital, held last week in the Board-room of the Institution, in the course of the proceedings, the chairman, Mr. Samuel Tomkins, the Senior Almoner and temporary Treasurer, pointed out that there would be some difficulty in adopting the resolution that the House Committee should consist of the Treasurer, Almoners, and six members of the Grand Committee, two of whom should have been "physicians or surgeons to the Hospital," as at the present time there were not two such gentlemen on the Grand Committee available. It was accordingly moved, and carried *nem. con.*, that Mr. Simon should be elected to the Grand Committee. Mr. Chambers then proposed that Mr. Alderman Stone should be elected the Treasurer to the Hospital, which was seconded by Mr. Alderman Sydney, the senior alderman present. It was explained that the Court were averse from having a paid treasurer, as such an appointment would not be in harmony with the history of the Hospital. Mr. Alderman Stone was then unanimously elected; and it was further resolved that the Grand Committee should at once prepare the residence for the Treasurer. We can hardly look upon this little episode in the history of St. Thomas's Hospital with satisfaction. There has been far too much of clan feeling and avidity of power displayed, and the result has been, as usual, a partial victory on both sides—in other words, a compromise. The Treasurer has been docked of some of his authority; but the Medical Staff and School authorities have, as a body, been imperfectly and partially recognised. We are not of those who hold that all power should rest with the medical authorities; but they know best the necessities of hospital management, and ought to have due weight in the councils of the managing body. It will be seen that at the very outset the governors had perforce to get over the obvious difficulty indicated already by us—to elect Mr. John Simon to the Grand Committee. More will crop up. Meanwhile, what about a Resident Superintendent? Is there to be such an authority? We hear that the *Treasurer's* house is getting ready.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

At a special meeting of the College, held on Monday, November 19, to consider letters from the Registrar of the Board of Trinity College, and from the Registrar of the Board of Governors of Sir P. Dun's Hospital, in reference to the letter of November 3, to the Registrar of the Board of Trinity College, informing him that this College had on Friday, November 2, rescinded the resolutions of February 21, 1868, with reference to the King's Professors being Clinical Physicians to Sir P. Dun's Hospital (see *Medical Times and Gazette*, November 10, 1877, page 522), it was resolved, by fourteen to nine votes—"That this College, after mature consideration of the question, have decided not to rescind the resolution passed by them on February 21, 1868, viz.:—'Resolved, that in future no King's Professor in the School of Physic shall be allowed to hold an appointment as medical officer to any clinical hospital other than that of Sir Patrick Dun. *N.B.*—This rule not to affect existing arrangements.'" In the discussion on the question it was admitted on both sides that the relations of the School of Physic to Sir Patrick Dun's Hospital, under the "School of Physic in Ireland Act," were by no means as satisfactory as they might be, and that the time must sooner or later come when Parliament should be asked to readjust those relations in accordance with the progress of medical science and medical thought.

OBSTETRICAL SOCIETY OF DUBLIN.

The opening meeting of the fortieth annual session of this body was held on Saturday evening, the 17th inst., in the Hall of the College of Physicians, Kildare-street, Dublin. The chair was taken by Dr. Thomas Darby, of Bray, President of the Society. Several distinguished visitors and a large number of members were present. Dr. J. Rutherford Kirkpatrick, Honorary Secretary, read the report of the Council for the past year. Dr. A. V. Macan moved the adoption of the report, and in doing so expressed his regret at the unsatisfactory financial position of the Society. They were beginning the current year with a deficit of £60, which was mainly owing to the fact that out of 130 members forty-eight were defaulters. The motion was seconded by Dr. Henry Kennedy, and carried. The President then delivered an address introductory to the session; after which Dr. McClintock moved a vote of thanks to the President for his address. Dr. More Madden seconded the motion, which was carried unanimously. The ballot for officers of the session 1877-78 was declared to have resulted as follows:—*President:* Thomas Darby, F.R.C.S.I. *Vice-Presidents:* Stephen M. MacSwiney, M.D., and Jno. Rutherford Kirkpatrick, M.B. *Council:* Lombe Atthill, M.D.; John Denham, M.D.; George Johnston, M.D.; George H. Kidd, M.D.; and Alfred H. McClintock, M.D. *Honorary Treasurer:* John Joseph Cranny, M.D. *Honorary Secretary:* William Roe, M.D. Dr. Darby returned thanks for his re-election as President. Dr. McSwiney moved a warm vote of thanks to Dr. Kirkpatrick, the outgoing Secretary, and to Dr. Roe, the outgoing Treasurer, for the manner in which they had discharged their duties. The motion having been seconded by Dr. Atthill, and passed, the outgoing officers expressed their acknowledgments. A vote of thanks to the visitors having been passed unanimously, Dr. Robert McDonnell, F.R.S., President of the Royal College of Surgeons, responded, and the proceedings terminated.

THE CHAIR OF ANATOMY AND PHYSIOLOGY IN QUEEN'S COLLEGE, GALWAY.

Dr. Joseph Patrick Pye has been appointed to this chair, lately vacated by Dr. Cleland, the present Professor of Anatomy in the University of Glasgow. Dr. Pye is a licentiate of the Royal College of Surgeons, Edinburgh, and a gold medallist of the Queen's University in Ireland, in which he graduated as M.D. and M.Ch. in 1871. At first a Demonstrator of Anatomy in Queen's College, Galway, Dr. Pye was lately appointed Professor of Materia Medica and Lecturer on Medical Jurisprudence in the same College. He is also one of the Examiners in Materia Medica and Therapeutics in the Queen's University.

EXHIBITION OF SPECIMENS OF DISEASES OF THE LYMPHATIC SYSTEM.

At the last meeting of the Pathological Society, it was announced by the President that the Council had decided to set apart one or more meetings during the present session for the exhibition of specimens illustrative of Disease of the Lymphatic System, including Leukæmia and Lymphadenoma. The first exhibition is fixed for the second meeting in March.

ILLNESS OF DR. WILLIAM STOKES, D.C.L., F.R.S.

We deeply regret to learn that our illustrious Irish *confrère* is very seriously ill. For many months Dr. Stokes has been declining in health and bodily strength, while the powers of his mind have remained unimpaired and vigorous. Last Saturday, however, a paralytic stroke occurred, which has left him partially paralysed on one side, and placed his life in jeopardy.

The Harveian Lectures will be delivered on the evenings of December 6, 12, and 20, by Dr. Graily Hewitt, "On the Mechanical System of Uterine Pathology." It will be seen that the lecture is unavoidably altered from the 13th (as first announced) to the 12th December.

MORTALITY AMONG THE MEDICAL STAFF.

The following extracts from a Swedish work on Military Medical Care(a) have been kindly forwarded to us, and will be read with interest by most of the profession:—

"It is a general, but mistaken idea, that the military medical man is less exposed to danger than the commanding officer. This error is sufficiently refuted by experience, the mortality among the medical staff in active service being much greater than that among the officers. I have mentioned above what the military staff suffered during the campaign of 1808, and in another place recorded the fact that during the year 1789 no fewer than sixty medical men lay sick at one time at Carlskrona.

"Of 216 medical men on service in the above-mentioned place in 1789-90, 210 sickened, and forty died. During the epidemic of 1808-9, twenty or thirty medical men, most of them in the prime of life, died in the same place. In Scania, where a military corps was collected in 1809, a similar rate of mortality prevailed amongst the medical staff. Besides a number of subordinate officials in service at the hospitals, two physicians-in-chief (Thielke and Sörling) fell victims to the prevailing epidemic. These instances from our own more recent military history may suffice. I subjoin some from the armies of the chief powers of Europe.

"In the War of Liberation (against Napoleon I.) the medical staff of the Prussian army amounted to 2170 individuals. Of these, nine fell in battle, forty were wounded, and 150 died in hospital, most of the latter of typhus. Eighty civilians on hospital service shared the same fate. In the Russian War with Turkey (1828-29), the Russian army lost 300 graduates of medicine and nearly all their surgeons.

"During the Twenty Years' War carried on by the French (under the First Republic and the Empire), one-eighth or one-ninth of the military staff were generally incapacitated by sickness acquired in hospital. One-third of those that were more seriously affected died, and during the prevalence of infectious fevers more than one-half the medical staff sickened, and the mortality among them was twice as great as at other times. Hence a reserve of one-tenth of the effective number was always found at head-quarters to be disposable as substitutes for their deceased colleagues. Between 1792 and 1801 the French army lost more than 2000 medical practitioners, and in every campaign one-fifth of those on service in the hospitals perished. In Egypt, in 1792, eighty-two perished out of 125 army surgeons who attended the army from France. On this occasion the loss of the medical staff was two-thirds of its entire number, whilst that of the other departments of the army was only one-third. In the first three campaigns, the Western Army of the Pyrenees lost in fifteen months above 300 of the medical staff with fever, and in 1794 and 1795 the loss amongst the medical staff of the Eastern Pyrenean Army from dysentery was one-half of the entire number. The same results were observable in the case of the Rhenish army at the siege of Mayence, and subsequently in Italy. Of 130 surgeons who followed the French army to St. Domingo, nearly two-thirds died of yellow fever. The greatest mortality amongst the French medical staff occurred in 1793-1797, when the medical department was in a state of total disorganisation, every measure adopted on the spur of the moment, and the greater part of the military practitioners had never seen, much less treated, a patient. The succeeding years, up to the Prussian campaign in 1807, displayed an improved state of affairs. But in the Peninsular War, in 1808, and still more in 1809, an increased rate of mortality prevailed amongst the medical staff, the hospitals being badly arranged, and proving, from their crowded and filthy condition, centres of infection. The campaign of 1812-14 was so fatal to the French army in general, and particularly to the medical staff, that it is impossible here to exhibit the total extent of the losses incurred by the latter. In 1835, out of twenty-two medical practitioners attacked by cholera in Algiers, only three survived, two of whom were massacred by the enemy. Out of thirty-two army surgeons despatched to Africa in September, 1842, five died within fifteen months, two of them killed by the enemy, and two from the prevailing dysentery. From 1830 to 1837 forty-two military practitioners died in Africa. The Crimean War cost the French army eighty-two military practitioners—a loss greater than that sustained by any one corps in the army; of these forty-six died of typhus. In the Italian campaign, under Field-Marshal Radetzky (1848-49), 800 medical men served in the Austrian army; of these, during the two years' campaign, 150 died of prevailing epidemics, and more than thirty fell in battle or died of their wounds, making one-fifth of the entire corps—a rate of mortality nowhere equalled amongst officers, and seldom amongst rank and file."

(a) Krigshistoriska Intyg om Behofvet af Läkarvard för Svenska Armeen af Doctor P. O. Liljewalch, Oefverfältläkare vid Stockholms Garnison. Stockholm: Marcus. 1857. (Evidence from Military History as to the Necessity of Medical Care in the Swedish Army. By Dr. P. O. Liljewalch, Physician-in-Chief to the Garrison of Stockholm.)

THE LATE PROFESSOR WUNDERLICH.

With sorrow we have to record the death of the eminent man, whose name, as the Father of Clinical Thermometry, we hold in such high respect in this country. Wunderlich, whose health since 1872 had been a continual source of anxiety to his numerous friends, and who had been prevented by gangrene of the tonsils from occupying his chair at Leipsic during the summer session of the present year, gradually sank in the last few months, and died of cancer of the mesenteric glands and tuberculosis of the lungs on September 25, 1877.

Wunderlich was born (we are indebted to a memoir by Dr. Bahrdt, in the *Berliner Klin. Wochenschrift*, for these details) in 1815, at Sulz, in Würtemburg. His father was a medical man, and his own early desire seems to have been to enter his father's profession. After finishing his education in arts at the gymnasium at Stuttgart in 1833, Wunderlich studied medicine at Tübingen, in company with Griesinger, Roser, and other embryo celebrities, and received his diploma in 1837. He then visited Paris, and attended the lectures of Andral, Dupuytren, Bouillaud, and Broussais, whereby, no doubt, he to some extent laid the foundation of his future success. In 1838 he became house-surgeon to a hospital at Stuttgart, and in the next eighteen months saw a great deal of active practice. In the latter part of 1839 he again visited Paris, and soon afterwards published his first literary effort on "The Nosology of Typhus Fever." In 1840 he visited Vienna, the result of his visit being a work entitled "Vienna and Paris: a Contribution to the History and Critical Appreciation of the Present Condition of Medical Science in Germany and France." From this time Wunderlich's progress was continually upward. In 1843 he was created *Extraordinary* Professor of Medicine at Tübingen, and even before this event he had set on foot his *Archiv für Physiologische Heilkunde* (Journal of Physiological Medicine). In 1846 he was appointed Professor (in his thirty-first year), and simultaneously he began his great work, the "Handbook of Pathology and Therapeutics," which he finished unaided in 1854. Meanwhile, he had succeeded Oppolzer, at Leipsic, in October, 1850, and he held the chair of Clinical Medicine, to which he was then appointed until his death. In 1871 he was made Rector of the University. His monograph on "The Temperature in Disease" appeared in 1868, and was in 1870 translated into English for the Sydenham Society by the late Dr. Bathurst Woodman. Among his other writings may be named two lectures, "On the Diagnosis of Typhus Fever (Fleck-typhus)," and "On Syphilitic Affections of the Brain and Spinal Cord," in Volkmann's *Sammlung Klinischen Vorträge*, the latter of which gives the reader an excellent idea of his style and power as a clinical teacher. It was partly in the latter capacity, and partly in that of a "medical critic of the first rank," that Wunderlich was celebrated. His critical power was not only displayed in his writings, but also at the bedside, where "differential diagnosis" was to the last one of his favourite subjects. The extraordinary progress which thermometry has made in the last ten years (and practically the birth and growth of this branch of medicine are almost comprised within this short period of time) is due in the main to Wunderlich; and perhaps when the history of medicine comes to be written by our successors, and the past is contrasted with the past, and a fairer judgment is pronounced than is possible at present, the merits of Carl August Wunderlich will stand out even more decidedly than they do now, when his body is but just committed to the grave.

We heartily sympathise with Germany in the loss she has sustained, and offer our sincere condolences to the bereaved University of which Wunderlich was so great an ornament. —*Ruhe seiner Asche.*

FROM ABROAD.

Injurious Electrical Treatment.

Dr. Lincoln read an interesting paper before the Boston Society for Medical Observation (*Boston Medical and Surgical Journal*, October 25) upon the "Injury resulting from Electrical Treatment," which contains some cautions, that are the more useful as coming from a proficient in the employment of electricity as a therapeutical agent.

"Electricity," he observes, "does not act alike on all persons. In this it resembles many other nerve-remedies, and even articles of diet, as spirit, tea, coffee, and tobacco, which in certain individuals produce apparently opposite effects from those regarded as normal. The closest and most intelligible analogy of this fact is found in the effect of a cold bath. Most persons are exhilarated; a few seem to be capable of bearing an indefinite amount; while others are chilled or prostrated for days by a single plunge. A sense of exhilaration is, in like manner, a very common attendant upon electrical treatment; but some never feel it, others feel it irregularly, and others cannot bear the least amount without apparent injury. Another point in which bathing resembles electrical treatment is the frequency with which sleep is produced. Sometimes a patient is hardly able to get out of the room for drowsiness; at other times the feeling comes on an hour or two later. It were greatly to be desired that this effect could be so managed as to occur at the right time for sleep; but I am doubtful if this can be accomplished with any certainty. The hypnotic action of electricity, however, is certainly of value. It would be possible to explain all the actions of electricity by the simple word 'stimulation.' I am not aware that there is any evidence that electricity acts like tea and alcohol, by arresting waste, and supplying material for consumption. On the contrary, it seems to me, from clinical observation, that its action rather resembles that of alteratives, which increase elimination, and that, like these, its use protracted beyond a certain point may rapidly run down the system. And this effect may be produced at the same time that each individual application gives a sense of relief or of increased vigour, which, though brief, and soon replaced by lassitude, is so decided while it lasts as to tempt both physician and patient beyond the limits of prudence. It is this result that physicians should be warned against. There is also a temptation to try large doses where small ones do not succeed; and it must be confessed that respectable authority for such practices is not wanting. Although there are few direct warnings in text-books, there is a rule laid down for practical guidance which amounts to the same thing. We are advised, in brief, to give but one or two dozen applications, and then to wait for a month or two, in the expectation that the curative process, once commenced, may go on of itself in the interval. This may be a correct view to take, but I should like to add that the long pause may be simply a necessity in order to enable the constitution to recuperate its forces."

According to Dr. Lincoln's own experience, however, while great benefit may result in many cases from electrical treatment, the instances are few in which it does harm when judiciously applied. He has met with only five such in his own practice, three of these being examples of rheumatic arthritis or muscular pains, one of spinal exhaustion, and one of locomotor ataxia. In some of these, while the local ailments for which it was administered were improved or cured, the patient still was more or less injured by the use of the electricity—"a general exhaustion, or at least an exhaustion of the spinal forces, furnishing the chief element of injury. To this statement an exception is furnished by the first case (rheumatic arthritis), in which an attack of local arthritis supervened during electrical treatment. There are other cases in which the expression 'local irritation' furnishes a more intelligible explanation of the mischief."

With respect to other symptoms of mischief ensuing on the use of electricity, Dr. Lincoln expresses a qualified opinion:

"The group of symptoms which includes giddiness, faintness, nausea or vomiting, disturbance of the circulation or respiration, and excessive drowsiness, is familiar to all electrical practitioners. It is commonly thought, and I have been in the habit of saying, that these efforts are absolutely to be avoided, if possible. And yet I have seen a man, suffering from mental fatigue and insomnia, relieved to a considerable extent for a fortnight after an application to his head of the induced current, which made him very giddy and sick for five or ten minutes. A patient who had aural disease, with tinnitus and epileptiform attacks of dizziness, received by accident at his first visit an overdose of galvanism. He became giddy and faint, and was unable to work next day; but on the day following his tinnitus was gone, and finally yielded to subsequent treatment. From such experiences I am led to doubt whether these symptoms are to be regarded as indications that a given application of the current is absolutely doing harm rather than good. Another effect of too concentrated galvanic currents is the production of superficial eschars, rather slow in healing. It is well to say to those who have had little experience that these may be produced in a few minutes, without any warning pain, in certain patients whose cutaneous perceptions are weakened. It is undeniable that neuralgic affections are occasionally made worse by electricity. This may sometimes be due to the influence of imagination; sometimes it results from the injudicious treatment of nerves while in a state of active congestion; and I suppose it may be caused by a simple excess of electrical stimulation. The latter statement is doubtless true of the muscles."

After quoting Benedikt's cautions with respect to the employment of electricity, and especially the induction of painful currents (which he seems to think somewhat exaggerated), Dr. Lincoln concludes his paper by observing that, "as far as I am able to judge, the harm that may be done by electricity mostly arises from the effects of over-stimulation—that is, exhaustion of the spinal or ganglionic systems."

Gonorrhœal Peritonitis.

In a communication to the *Archives Générales de Médecine* for October and November, entitled, "Peritonitis and Subperitoneal Phlegmon of a Gonorrhœal Origin," Dr. Faucon, after referring to the history of the subject from the time of John Hunter, the author of the first observation, and narrating in great detail a case that has come under his own notice, arrives at the following conclusions:—

1. Peritonitis and subperitoneal phlegmon should be ranked amongst the possible complications of gonorrhœa. 2. These accidents are only distinct effects of the blenorrhagic inflammation, propagated from the urethra to the peritoneum or the subperitoneal cellular tissue by the intermedium of the vas deferens, the vesiculæ seminales, the prostate (perhaps the bladder, ureters, and kidneys), and the cellular "atmosphere" surrounding these organs. 3. Their appearance is, therefore, always preceded by the ordinary blenorrhagic complications, resulting from the preliminary inflammation of the tissues or organs which serve as intermedia (deferentitis, vesiculitis, etc.), so that they are true tertiary accidents of gonorrhœa. 4. Gonorrhœal peritonitis may exhibit various points of origin, so that it has been met with in the pelvic region opposite the recto-vesical *cul-de-sac*, while at other times it arises at the internal orifice of the ingninal canal. 5. It may remain localised at the points where it has arisen, and there undergo a cure; but it may also become generalised, or at least extend to a more or less considerable portion of the abdomen, pass on to suppuration, and terminate fatally. 6. Subperitoneal phlegmon has been observed in the lumbar fossa, at the lower part of the internal iliac region, and of the anterior wall of the abdomen. It may terminate either in resolution or suppuration, but its influence is less mischievous than that of peritonitis. 7. When a subperitoneal abscess has formed, it should be opened as soon as possible. An energetic antiphlogistic treatment, the prolonged application of ice, and preventive *débridement* may arrest the development of the phlegmon, and prevent its passing into suppuration.

"Survival of the Fittest."

Under this title the *Boston Med. and Surg. Journal* makes some remarks as to the duration of the life of existing medical journals, and states that the *American Journal of the Medical Sciences* has now reached the age of fifty years, being the continuation of the *Philadelphia Journal of the Medical and Physical Sciences*, established in 1820. This is universally acknowledged as the leading American journal, and has been conducted by Dr. Hays alone until 1869, when his son was associated with him. We quite agree with the critic, that this journal is second to none in the language, and cheerfully accord to it the first place, for nowhere shall we find more able and more impartial criticism, and nowhere such a repertory of able original articles. Indeed, now that the *British and Foreign Medico-*

Chirurgical Review has terminated its remarkable career, the American journal stands without a rival. The latter journal, which, under Dr. Forbes' masterly guidance, inaugurated a revolution in medical criticism, was commenced as the *British and Foreign Medical Review* in 1836, and was incorporated in 1847 with the *Medico-Chirurgical Review* (whence its compound name of *British and Foreign Medico-Chirurgical Review*), a journal of much older standing, founded by Dr. James Johnson in 1816, and for many years almost solely conducted by him. The *Boston Journal* assumed its present name in 1828, being formed by the fusion of two journals, one of which dated back to 1812. The writer of the article is in error in assigning an early a date to the *Edinburgh Medical Journal*, commencing, as it did, with that title only in 1855, and being a continuation of the *Monthly Journal of Medical Science*, commenced in 1841. He has confounded it with the *Edinburgh Medical and Surgical Journal*, established in 1805, and terminating a career that, without exaggeration, may be designated as famous, in 1854. The *London Medical Gazette*, founded in 1828, was in 1852 incorporated with the *Medical Times*, founded in 1839, constituting the journal which the reader has now before him. The *Lancet* was established in 1823; but the *British Medical Journal*, originally founded by Dr. Hennis Green as the *Provincial Medical and Surgical Journal*, only dates back as far as 1841. The *Dublin Medical Journal*, published first on alternate months in 1832, then as a quarterly, and now as a monthly, has always been a journal of which any country might be proud. Among existing Parisian medical journals, the *Gazette Médicale* dates from 1830, the *Gazette des Hôpitaux* from 1828, and the *Union Médicale* only from 1847. The *Révue Médicale*, formerly a monthly, and now a weekly journal, was first published in 1820; and the *Bulletin de Thérapeutique*, a fortnightly one, in 1837. The best French medical periodical, the *Archives Générales de Médecine*, was commenced in 1823. In Italy the *Annali Universali di Medicina* has been published uninterruptedly from 1816 to the present time. The immense brood of German medical periodicals are of comparatively recent origin; but the celebrated year-books, so indispensable to all working at any subject, date from 1834 (*Schmidt's Jahrbucher*) and from 1841 (*Canstatt's* and now *Virchow's Jahresberichte*).

Medical Benevolent Fund Society of Ireland.—A quarterly meeting of the Belfast branch of the Royal Medical Benevolent Society was held in that town last week, the chair being occupied by Dr. Ferguson. In submitting the financial statement, Dr. Browne, the Honorary Treasurer, said he thought that the students attending the Royal Hospital should be addressed, and the claims of the Society brought before them. It was ultimately moved, seconded, and carried unanimously—"That Dr. Browne be requested to deliver an address to the medical students in attendance at the Royal Hospital, and bring before them the claims of the Royal Medical Benevolent Fund Society of Ireland." It was further arranged that the annual meeting of this branch be held at Belfast on the first Wednesday of February, 1878, at noon.

The Pancreas in Diabetes.—M. Lancereaux laid before the Académie de Médecine some specimens exhibiting extensive lesions of the pancreas in subjects of diabetes, and having related the histories of the cases whence they were derived, and referring to others already on record, went on to say that it was thus evident that, at least in some cases, diabetes is accompanied by great alterations in this organ. In these cases the progress of the disease has been relatively rapid, and has been attended by polyphagia, polydipsia, excessive emaciation, and abundant glycosuria—in fact, by all the characteristics of saccharine diabetes. So also, animals from which the pancreas has been removed become voracious and rapidly emaciated, and die very quickly. There would seem, therefore, to be no doubt that there is a causal relation between these changes in the pancreas and the disease in question. This form of diabetes may be distinguished by the relatively rapid occurrence of emaciation with polyphagy and polydipsia, and by the peculiar character of the alvine evacuations. Its prognosis is most unfavourable; the indication for treatment consists in suppressing alimentary substances that are digested by the pancreatic juice, in favour of those which undergo digestion in the stomach.—*Gaz. des Hôp.*, November 15.

PROVINCIAL CORRESPONDENCE.

MANCHESTER.

November 21.

Meeting of the Manchester Medico-Ethical Society—Discussion on the Attitude of the Profession towards Homœopaths—Annual Meeting of the British Medical Association, 1877—Treasurer's Statement—Suggested Application to Manchester of the Artisans' Dwellings Act.

The last meeting of the Manchester Medico-Ethical Society, held October 23, and, by adjournment, October 31, was enlivened by a debate of more than usual interest. It had been announced that Dr. W. H. Barlow, one of the honorary secretaries, would read a paper on "The Present Attitude of the Homœopaths," and a large number of members assembled, partly from curiosity to hear Dr. Barlow's views on the subject, and partly in expectation that the reading of the paper would be followed by an animated discussion. The paper might, perhaps, have been more correctly entitled "The Present Attitude of the Profession towards the Homœopaths." Dr. Barlow's remarks were very brief and studiously moderate in tone. He expressed an opinion that our relations with homœopathic practitioners stand in need of reconsideration, and he explained, in few words, his reasons for thinking so. It would be impossible, within the limits of this letter, to give anything like a satisfactory outline of the discussion. So large a number of members desired to take part in it, that it was found necessary to adjourn the meeting to the following week, when the debate was resumed. The main points insisted on by the more prominent speakers on the liberal side were:—1. That no one ought to be excluded from professional intercourse simply for the sake of his opinions. 2. That there do undoubtedly exist honest and sincere believers in homœopathy, whose practice is perfectly consistent with their opinions. 3. That it is they, rather than those other members of the homœopathic body who are ready to explain away their views, who ought chiefly to be considered in any movement towards a recognition of homœopathic practitioners; and, 4, that these men have a real grievance which the profession is strong enough generously to redress. These propositions were not allowed to be passed over without expressions of dissent, for old prejudices are not overcome in an hour.

No resolutions were proposed, and therefore none were passed, but the manner in which Dr. Barlow's remarks were received, and the whole character of the subsequent discussion, showed that there is a much more widely-spread sympathy with liberal views on this question than has hitherto been suspected.

The Reception Committee in connexion with the last annual meeting of the British Medical Association has held its final meeting, and the treasurer's balance-sheet has been presented. Many who took an active part in the organisation of the meeting felt that it would have been a great help if they could have had access to a statement of the expenses incurred in the various departments at some of the previous meetings. It may, therefore, be not altogether useless to place on record a few particulars as to the cost of the Manchester meeting. The total cost was, in round numbers, about £1500. Towards this the sum of £1100 was raised by subscription amongst the medical men residing in Manchester and the surrounding district, the subscriptions varying in amount from £1 to £50. Ten of the more wealthy members of the profession guaranteed to increase their subscription to £100 if required, and amongst these ten gentlemen will be shared the privilege of making up the difference between the expenditure and the amount subscribed. The principal expense was incurred in connexion with the garden party, the annual dinner, and other hospitalities, to which it would not be in good taste, however, to make further reference. The annual museum involved an outlay of £180, while the general arrangements cost about £420. The Committee made provision for an attendance of 2000 members, the actual number who registered their names being a little under 1200. The work involved in preparing for so large a meeting is, of course, very considerable, but the Manchester Committee feels itself amply repaid by the success which attended its efforts, and by the general satisfaction with the arrangements to which so many members attending the meeting have been kind enough to give expression.

The Manchester and Salford Sanitary Association instituted

a short time ago a visitation of the cottage dwellings in certain districts of Manchester, and the report of the visitors has been made the occasion of a memorial to the Corporation, urging the necessity of applying to those districts the Artisans' Dwellings Act. In one district, known as Angel Meadow, there were found, amongst other objectionable arrangements, about 700 back-to-back or single-fronted cottages, in which healthy ventilation is, of course, impossible. To this district the Association calls special attention, and an opinion is expressed in the memorial that improved dwellings might be erected, which would produce a fair interest on their cost, without any increase of the present rentals. The Association is to be congratulated on the usefulness of the work to which it has in this instance applied itself, and it is sincerely to be hoped that the Corporation will see its way to granting the prayer of the memorialists.

GENERAL CORRESPONDENCE.

THE TREATMENT OF SPINA BIFIDA.

LETTER FROM DR. J. W. ROSEBRUGH.

[To the Editor of the Medical Times and Gazette.]

SIR,—In your issue of October 13 is a reply by Dr. Morton anent his right to claim priority in treating spina bifida by injections of iodine, and claiming this treatment as his "new method." Dr. Morton says:—"It may be right to inform Dr. Rosebrugh that the first of my cases was treated in 1871, and published in the April of the following year in the *British Medical Journal*." This acknowledgment of Dr. Morton's is in accordance with my information and belief at the time I put the question in your issue of October 6, to "ascertain how far Dr. Morton is entitled to credit as the originator of this procedure," which he still claims as *his* "new method." Perhaps Dr. Morton will be "surprised to know", that this method was practised and recommended in the medical journals several years previous to 1871.

In the year 1867, Dr. J. S. Carodoc, of Brest, in *L'Union Médicale*, highly recommended this procedure for the cure of spina bifida, the only variation, as far as I am aware, being that Dr. Carodoc diluted the iodine in distilled water, while Dr. Morton employed glycerine—now a fashionable vehicle. The plan recommended by Dr. Carodoc was adopted by me in a case under my care, in March, 1868; three years and a half previous to being used by Dr. Morton, according to his own showing, *for the first time*.

The details of the treatment pursued in my case are as follows:—

Case.—A female child, aged three months; spina bifida tumour in lumbar region one inch and a half either way in size; tense, with fluid, and semi-transparent. March 24, 1868: Tumour tapped, and six drachms of a clear colourless fluid withdrawn. The orifice of the puncture covered with collodion. Over the tumour a light compress, and a wide strip of adhesive plaster reaching nearly around the body, covered with an abdominal bandage. The tumour gradually refilled, and by the fourth day was tense again. On the 28th four drachms were withdrawn, and half a drachm of a solution of iodine (one part of the tincture to five parts of distilled water) was slowly injected into the sac, as far away as possible from the centre, while the opening into the spinal column was kept closed by pressure with the finger. After allowing this to remain about three minutes, it was pressed out, and the tumour dressed as before. On April 1 the tumour was again tapped, and three drachms withdrawn; one drachm injected. On the 6th the operation was repeated. On the 11th the fourth operation was performed; two drachms injected. On the 15th, as the walls of the sac were diminishing and becoming indurated, two drachms of a stronger solution (one to three) were injected. On the 21st, the tumour becoming more and more dense and opaque, two drachms (half and half) were injected. On the 25th no fluctuation could be detected; induration appeared to be complete.

The little babe that then was, is now a lovely girl nearly eleven years of age, healthy and well in every respect, a small cicatrix only remaining to remind her friends of the peril that was averted.

In carrying out the treatment as above detailed, I followed the directions laid down by Dr. Carodoc, with the above complete success; and I presume others in Canada and the United States, as well as in Great Britain and on the Continent, have adopted the same method of treatment. But the question I intended to raise is this: When a remedy for the treatment of a certain disease has been a recognised one by the profession for years, has any person the *moral right* to take that remedy, and, by a slight variation in its dilution, use it as had been formerly done, and then proclaim it to the world as a "new method" of treating the same disease?

I am, &c., J. W. ROSEBRUGH.

Hamilton, Canada, October 31.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, NOVEMBER 13.

CHARLES WEST, M.D., President, in the Chair.

MR. WOOD exhibited a patient on whom he had operated for Epispadias, with excellent results, completely covering over the groove on the upper part of the penis.

ANEURISM TREATED SUCCESSFULLY BY LIGATURE.

MR. RICHARD BARWELL read a paper giving the particulars of a case in which an aneurism of the aorta, innominate, subclavian, and carotid arteries was treated successfully by ligature of the two last-named vessels. The patient, R. W., aged forty-five, was admitted into Charing-cross Hospital, under the care of Dr. Pollock, on July 24, 1877, with a large aneurism at the right root of the neck. The man had served both in India and the Crimea, and was at the time of admission into hospital a labourer in a foundry (the work requiring strenuous efforts). He had not had syphilis; the family history was remarkably healthy. In November, 1876, he had vomiting and purging after a drinking bout, followed by rheumatoid pains in shoulders and limbs. These disappeared after a time, but not from the right arm. He first noticed a swelling on the neck during March, 1877; his right arm became weaker, and was occasionally numb. The tumour was oval just above the right clavicle; it stretched from beneath the inner margin of the left nearly to the outer margin of the right sterno-mastoid, and upwards to the lower margin of the thyroid cartilage; its projection was considerable, and its strong pulsation characteristically expansile. Dulness prevailed from the inner third of the clavicle over the first intercostal space and second rib, and mingled with the cardiac dulness; over this space pulsation could be felt. The heart was displaced to the left, its apex beating fully half an inch outside the nipple line; strong epigastric pulsation would indicate some cardiac displacement downwards. The veins of the right side of the neck and chest and of the arm were greatly distended. No bruit at the heart or over the tumour could be heard, and there was no perceptible difference between the two radial pulses. Dr. Pollock treated the case with rest, low diet, digitalis, and ice-bags to the tumour, but the aneurism increased. Deligation was then proposed, but the patient, after consideration, declined and left the hospital. However, he returned under the author's care on August 13, desiring to have the operation performed. In the meantime the cervical tumour had much increased, and was more prominent; it measured horizontally between the limits of pulsation by compass four inches and a half, by tape just over six inches; perpendicularly it extended from the clavicle to above the middle of the thyroid cartilage, measuring by compass, three inches, by tape three inches and five-eighths. The thoracic dulness and pulsation reached as far as the middle of the clavicle. The displacement of the heart seemed rather greater; he had a cough, with very little laryngeal sound, and breathing and circulation were much embarrassed. 14th: The operation was performed first on the carotid; a peculiarity of a greatly enlarged superior thyroid simulating prolongation of the sac upwards, necessitating great caution until the source of the abnormal pulsation was revealed, and only just room enough being found to pass a ligature round the common carotid between the aneurism and the bifurcation. The subclavian artery was then reached with remarkably little bleeding, and a ligature passed round it; pressure on the hollow of the needle obliterating the radial pulse. In disengaging the catgut, a vein above the brachial plexus (either the posterior

scapular, or a smaller but distended vein) was ruptured; its deep position, and the filling of the cup-like wound with blood, rendered its ligation difficult and doubtful. Rather than attempt this, the author did not wait to verify the isolation of the artery, but knotted the catgut loosely, stuffed the wound firmly with antiseptic gauze, and let the patient be carried to bed, the radial pulse still beating. The next day he removed the gauze, and traced down the ligature, which included with the artery a nerve of the plexus; this loose ligature was left in place, and a fresh one passed and tied. These operations—carotid and subclavian—were performed antiseptically. No immediate change in the tumour was perceptible. Low milk diet was ordered. The further notes were as follows:—"16th: The breathing and circulation greatly relieved; temperature normal. 23rd: Cervical tumour harder. Transverse measurement by compass, three inches and a quarter; by tape, four inches and three-quarters. Thoracic pulsation barely perceptible. 25th: A very dry diet substituted. 26th: Slight pulsation, probably collateral, in radial. 28th: Patient suffers much from thirst; heart's action excited. Pulse 102; temperature irregular; radial pulsation disappeared. 29th: Tumour measures by compass three inches and three-quarters; by tape, five inches and a quarter. September 3: The hospital No. 3 diet (fairly nutritious), and one pint of beer daily. 5th: Temperature and pulse still high and irregular. Tumour harder; measurement by compass, $3\frac{1}{8}$; tape, $4\frac{1}{2}$ inches. 8th: Compass, $2\frac{3}{4}$; tape, $3\frac{1}{2}$ inches. 9th: Compass, $2\frac{1}{4}$; tape, $2\frac{7}{8}$ inches. 10th: Compass, $2\frac{1}{8}$; tape $2\frac{1}{4}$ inches. On the 9th some arteritis of the vessels on arm; on the same day temperature went down to 96°, and has since been normal. A like attack recurred on September 23. October 21: Since the rapid diminution in size of the tumour commenced, the man has gone on uninterruptedly well. A firm, solid tumour lies behind the sterno-clavicular joint, with pulsation communicated from the aorta; it feels about the size of a cob-nut. No thoracic pulsation. Dulness extends about half an inch outside manubrium sterni. The whole aneurism is consolidated." The author remarked that the aneurism involved, without doubt, the aorta, innominate, subclavian, and carotid, and was not far from bursting. The operation relieved immediately the oppression of circulation and breathing, showing diminution of the thoracic, while the cervical part of the aneurism responded more slowly. He considered the system of diet produced a very coagulating tendency in the blood. The whole of the subclavian was obliterated, as there was still no radial pulse. The practical proof of the theory that aneurism of the innominate might be treated by double distal ligature had not yet been attained (Mr. Heath's well-known case proved to be aortic only). Six such operations had been performed, of which two proved fatal on the sixth day, one on the fifty-fifth, one on the sixty-fifth day; two, receiving no benefit, lived some weeks. The author said this case furnished the practical proof that not only innominate aneurism, but aneurism of that vessel and of aorta, subclavian, and carotid, are amenable to the double distal ligature. Also there might be deduced from it what Mr. Heath's case had already proved, that aneurism of the first part of the aorta might be cured by ligature.

Mr. Macnamara asked how the ligatures were treated; if they were cut off, or how?

Dr. Silver said he could testify to the enormous improvement effected in the patient by the operation. The aneurismal tumour in the neck was very large, quite as large as the fist; but he was not quite satisfied that the carotid was implicated. In this view he was strengthened by the difficulties attending the diagnosis of certain forms of innominate aneurism, of which he recited an example. It was quite possible for the aneurismal tumour to overlie, and almost completely conceal, the undilated carotid. The patient had undoubtedly been greatly benefited, but it was hardly right to say as yet that a complete cure had taken place; there was tumour where there should be no tumour, thrill and impulse where there should be neither. Nevertheless the case was a remarkable one.

Mr. Wood congratulated the author on his success, and corroborated the great value of diet in these cases. In a case of iliac aneurism treated by electricity there was much benefit experienced by its means. He had used no stimulants and no digitalis. The thirst had been quenched with ice, and the food had been milk and soup. He did not think the aneurism quite cured. In Mr. Heath's case there was at first retraction, but afterwards it again increased. Mr. Barwell recommended the carbolised ligature and spray, but with an ordinary ligature the case might have done as well.

Dr. Barclay also confirmed the great value of diet in these cases. He had a similar case to that narrated, where, with a little digitalis and iron and dieting, much good was done. But this patient could lie quietly in bed, and feel perfectly comfortable; few could do that. Most good could be done by rest and full diet, and no stimulants; but few could stand that long—they got upset.

Dr. Althaus asked if there were any disordered-nerve symptoms. In some there had been hemiplegia or disorder of the functions of the arm.

Dr. Powell considered the temperament of the patient a matter of great importance. Some might be kept much longer in bed than others. The malady might not seem greatly improved at the time even of dismissal, but would improve afterwards. Were any sphygmographic tracings taken, or any pressure symptoms observed in this case?

Mr. Barwell, in reply, said that diet did no good here—operation was required; its value, however, was great, and surgeons may have too much neglected it. Aneurisms involving the carotid were not always easily made out; but in this case he thought the carotid was involved. No doubt, too, a tumour was still there; but that was to be expected. At all events, the aneurism seemed cured. There were no nervous symptoms, and no tracings were taken. The ligatures were cut short.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.

Friday, November 2.

W. Johnson Smith, F.R.C.S., President, in the Chair.

Intestinal Obstruction.

Mr. W. W. Wagstaffe related a case of intestinal obstruction, with remarks on tapping the intestine as a means of cure in certain cases, of which the following is a short abstract:—Mr. Wagstaffe said: Just three years ago a medical man, aged twenty-five (in practice in town), came to consult me, as he had had several attacks of colic and temporary intestinal obstruction. On examining his abdomen I found that, although a very spare man, there was some general fulness, and deep down in the right iliac fossa a lump about the size of a large walnut could be felt, slightly movable from side to side, and decidedly tender. On manipulation, decided nausea was produced, with gurgling in the neighbourhood. A year and a half previously (the spring of 1872) he had had "typhus, with abdominal complications and black vomit." What this really meant was difficult to make sure of, but I assumed he had had typhoid fever with probably bowel ulceration. He recovered, and only five months previously to my seeing him had he had any temporary stoppage. After getting wet through one day he was seized with cramp, abdominal distension, sickness, and constipation, but after two days of purgatives and enemata he was relieved. Since this he had had four similar attacks, each lasting two days, but the last two attacks had occurred in the previous three weeks; and since the first attack he had never passed a healthy, solid motion, but always putty-like. The attacks began with abdominal distension, tenesmus, then blood and mucus, then pain and obstruction, with vomiting and sometimes delirium. He had never had rigors or hectic. Here was a case of occasional obstruction, with some discharge of blood, and at the same time a lump of some kind fixed in the neighbourhood of the cæcum. It might be a case of intussusception, or growth pressing on the gut, or glandular mass, perhaps suppurating and producing the same effect; or, as he had had apparently some typhoid ulceration, it might be that the remains of this were contracting, or pressing upon, the gut. It was hardly likely to be impaction of fæces only, but yet that was a possibility; and the symptoms did not resemble those due to a band or twist. Anyhow, one could only give a guarded prognosis, and caution him against errors in diet. But I may remark that he was an Irishman, and, with the best intentions in the world, he did commit errors in diet, and with rather definite consequences. He went away, and, at my advice, took belladonna whenever he anticipated an attack of obstruction, and, by mild purgation, to make sure his bowels were cleared of their contents; notwithstanding which the lump could always be felt in the same place. I saw him two or three times after; the lump was still there, neither larger

nor smaller, nor apparently tender. There was resonance over the tumour; but I do not attach any importance to that sign, as a piece of intestine may so easily overlap a small solid growth that resonance almost always is found. And in this case, although the resonance present was in favour of the tumour being mainly intestinal, yet I thought it unadvisable to put much trust in it. On May 19, 1875, he indulged in a full meal of beefsteak, after which he vomited. He continued to vomit after everything he took, and was in much pain, chiefly in the right iliac region; tenesmus, but no evacuation. For the next three days there seems to have been less pain, no vomiting, but no evacuation; skin became more bronzed; conjunctivæ tinged; tongue foul; and delirium, very marked at night. On the 24th I saw him, and learned that his attacks had been much more frequent since September, one lasting four days. They commenced usually by sweating around the anus, coming on twelve hours before other symptoms; then palpitation, followed shortly by nausea, and faintness; then tenesmus, and dragging pain, beginning apparently in the upper part of the rectum on the right side; then cramps, violent straining, and distension. For the last six months his motions have never been larger than one's little finger. I found him now breathing with some difficulty, complaining of griping pains in the hypogastric and right iliac regions; his abdomen was greatly distended, and there was some tenderness in the left hypochondriac region; skin deeply bronzed; no evacuation for five days; no sickness now; urine passed normally. I passed a long tube up the rectum for fully eighteen inches, and injected a pint and a half of water. A previous insertion of the tube was said to have been followed by blood. On the 26th he was no better: rather worse. Another enema of castor and olive oils failed to do any good. I resolved, before resorting to more serious measures, to relieve the tension of his abdomen, hoping thereby to take off pressure from above the point of obstruction, and possibly by that means allow the fluid contents of the bowel to pass on. The circumference of the abdomen was now thirty-seven inches and a half. His respirations were 35, entirely thoracic; pulse 140; temperature 100·6°. A puncture was now made with a fine trocar in median line of abdomen, rather nearer the ensiform cartilage than the umbilicus—into, in fact, the most prominent coil of intestine. An enormous escape of gas immediately followed, not very offensive in smell; the abdominal walls were relaxed, and the breathing was at once relieved. The circumference of abdomen was diminished by two inches; pulse reduced fourteen beats per minute. Respirations remained about the same in number, but the breathing was at once abdominal. He had a small dose of morphia, and passed a good night, sleeping readily. On May 27 he refilled with gas, and towards evening respiration was again interfered with, and although early in the day it had decreased to twenty-five per minute, it rose again in the evening to thirty-five. The abdomen also again increased in circumference, and slightly exceeded the dimensions of the previous day, measuring now thirty-eight inches. The heart was forced upwards, so that the apex was felt beating between the fourth and fifth ribs, close to the sternum. I therefore thought it advisable to tap him again, and used the same small trocar and canula (No. 1). My first puncture only drew off a little fæcal matter, so I very shortly withdrew the instrument. A second puncture allowed a rather small quantity of gas to escape, and some fæces. This I allowed to go on until only fluid fæces seemed to be escaping. A third puncture produced little more than fæces. A fourth puncture was more successful, and a very large quantity of gas escaped, so that after the operation the abdominal circumference was reduced by two inches, and he felt much relieved. Four hours afterwards he had a good deal of griping pain and loud rumbling in the abdomen, all of which, however, was only preparatory to a complete purging, which began six hours after the last tapping, and lasted for nearly three days, with no special feature worthy of notice. The stools, at first watery, acquired more consistence, and were never bloody. And now, after three days, a complication occurred, which is worthy of record, as it shows what a punctured intestine will bear without serious results following. I have said he was a doctor, and doctors proverbially make bad patients. He was, moreover, an Irish doctor; and on the fourth day after these numerous tappings he was downstairs, and out for a walk nearly an hour, and appeared to be rather proud of the feat. It is hardly surprising, therefore, that, twelve hours after, he had acute pain in the right ilio-lumbar region, tympanitic swelling bulging forward above the right inguinal region, which he did not hesitate to knead, until he had (as he said) dispersed it. His temperature and pulse rose, and he had pain on taking a deep breath, referable to the lower part of the left pleura; I treated him with small doses of morphia, and he rapidly improved. After a week's rest he was up, and although some pain and tympanitic swelling remained in the right inguinal region for a few days, this disappeared after a copious motion; and he went away into the country, full of good resolves respecting diet, in less than a fortnight after his tapping. I saw him from time to time working hard in a harassing practice, with his "thorn in the side" still there—a lump neither larger nor smaller than before, a source of trouble if he departed from the strict rules of diet I had laid down for him. About a year after his tapping he sent for me again, and wanted to be tapped again, as he had indulged in four hot-cross buns on Good Friday, and was, as might have been expected, in trouble; he had had a rigor on the Friday evening, vomiting on the Saturday, the bowels slightly open on Saturday, with some blood and slime. He declared he had vomited two ounces of blood on Sunday. The abdomen was gradually becoming more and more distended; pain was of a crampy character in the right ilio-lumbar region; the vomit was yellowish, and consisted of the contents of the stomach, but was not fæcal. As the abdomen was not fully distended (circumference only thirty-two inches and a half), I ordered him half a grain of the extract of belladonna every four hours; and in twenty-four hours he passed a quantity of wind, followed later on by four copious dark fluid motions. So he was relieved this time, and without the tapping. I need hardly say that now he preferred the belladonna treatment, and feeling that he had a ready means of relief, he kept some belladonna always ready for use, and I think rather frequently took it. Three months went by, and he sent for me again, but I was out of town. It seems he had some pain and threatening of trouble on July 1; was better on the 2nd, and in the evening had to go to a midwifery case, where he fainted, and was thought to be intoxicated. He was brought home; seems to have been in a good deal of pain; took some belladonna and was easier, and went to bed. During the night he was heard to go down to his surgery, and apparently mix himself some medicine. He shortly afterwards became delirious, and died in a state of wild delirium, not complaining of pain. There was no distension of the abdomen then or afterwards; but as I did not hear of his death until some time after, and his relatives were very reluctant to give information about the facts of his death, apparently in fear lest his insurance policy should be forfeited if it should appear that he committed suicide, I am unable to give so satisfactory an account of the pathology of the case as I could wish.

NORTHUMBERLAND & DURHAM MEDICAL SOCIETY.

THURSDAY, NOVEMBER 8.

MR. GEORGE B. MORGAN, President, in the Chair.

PREVALENT DISEASES OF THE DISTRICT.

MR. H. E. ARMSTRONG presented a report of the cases admitted to the Newcastle-on-Tyne Fever Hospital during the month of October, and reported the occurrence of a case of small-pox in Newcastle.

Dr. ADAM WILSON said there were some cases of small-pox at Walker, a village three miles from Newcastle.

PATHOLOGICAL SPECIMENS.

Dr. MURPHY showed a specimen of Anencephalous Fœtus.

Dr. MURPHY also showed an ingenious Instrument which he had invented for the purpose of keeping open the incision after Tracheotomy, while a tube is being introduced or a foreign body removed.

Dr. PAGE showed a specimen of Fracture of the Odontoid Process. The patient had fallen several feet upon the top of his head. Death was instantaneous. The ligaments were unruptured.

Dr. PAGE also showed a large Ovarian Tumour which he had successfully removed antiseptically.

Dr. HEATH, alluding to the use of Antiseptics in Ovariotomy, mentioned his case, published in the *British Medical Journal* of June 30, which was, so far as he knew, the first in which the operation was performed strictly antisepti-

cally. He stated that in late operations he had divided the pedicle into several parts. Each part was ligatured antiseptically; the pedicle was then left in the peritoneal cavity. Dr. Heath also showed a specimen of Ovarian Tumour.

Dr. Heath showed a Common Carotid Artery which had been Ligatured by Antiseptic Catgut. The patient, who was suffering from malignant disease in the parotid region, died eight days after the operation. The ligature had disappeared. The internal and middle coats were undivided. The external coat was constricted. The vessel was filled with a firm clot.

Mr. Fielden showed a Foreign Body which he had removed from the bladder of a female through the dilated urethra. It was two inches long, and an inch and a quarter broad. The urine was retained and passed naturally on the eighth day.

Mr. Fielden showed a specimen of a Tumour of the Kidney weighing four pounds and a half. The tumour was of five months' growth. There was no history of hæmaturia. Dr. Byrom Bramwell had examined the tumour, and stated that it was a small-celled sarcoma. Mr. Fielden also showed photographs of the case.

Mr. Fielden showed a Fatty Tumour from the Axilla.

Dr. Gibson showed a specimen of Hepatic Abscess removed from the body of a Russian sailor, aged twenty-nine. No history could be obtained. There was also a large collection of pus in contact with the spleen. Purulent peritonitis, pericarditis, and pleuritis were found post-mortem.

Exhibition of Patients.

The President showed a patient who had Contraction of the Knee after excision of the joint, and after bony union had apparently been firmly established. The knee was firmly anchylosed at an angle.

Dr. Barron showed a patient who had Six Toes on each foot, and Five Fingers on each hand. There was no hereditary history.

Dr. Heath showed a patient who had Conical Cornea, and stated that the convexity of the cornea had greatly diminished under the use of iodide of potassium.

Dr. Heath also showed a patient, a boy aged six, suffering from Hypertrophy of the Leg, in which the external iliac was ligatured. Before the operation the left leg was two inches and a half longer than the right, and measured at the thickest part of the thigh twelve inches and a quarter, the right being eight inches and a half. Three months after the operation the left leg was only one inch and a half longer than the right, and the measurements of the thigh were twelve inches left, eleven inches right. Since the operation the right limb had been stimulated by the constant current. The hypertrophy was not congenital.

Papers.

The President read notes of a case of Intussusception in an adult, treated by opium, resulting in recovery. The invagination could just be reached per rectum. It felt like the os uteri.

Dr. Embleton reported a case of Pyloric Obstruction with abnormal position of the right end of the transverse colon. The diagnosis was for some time obscure, as no tumour or other apparent cause of obstruction could be detected. At the post-mortem the right end of the transverse colon was found between the diaphragm and the convex surface of the liver.

Clinical Examinations.—At the pass examination for the diploma of Membership of the Royal College of Surgeons, the following very interesting cases were sent from the following hospitals—viz., St. Bartholomew's, Guy's, St. Thomas's, University College, St. Mary's, and St. George's:—Necrosis of phalanx; eczema of face and hands; growth on head (fibroma); united fracture of humerus; hydrocele of tunica vaginalis; bursa in popliteal space; varicocele; bursa of tuber ischii and gout-stones; hydrocele of tunica vaginalis, right; inguinal hernia, left; chronic synovitis of knee; exostosis humeri; united fracture of radius and ulna; sebaceous cysts on back; hydrocele and tumour in thigh; hydrocele of tunica vaginalis; epithelioma linguæ; necrosis of radius; disease of left carpus; hydrocele and chalk-stones; cancer of neck; skin eruption; hydrocele and tumour in thigh; periostitis of lower jaw; mammary gland in the male; glandular enlargement of neck; epithelioma in temporal region; sebaceous tumour in back; inguino-scrotal hernia; chronic abscess in back; disease of antrum; periostitis of tibia; inflammation of carpal end of radius; etc.

LEGAL INTELLIGENCE.

THE FEES OF MEDICAL WITNESSES AT CORONERS' INQUESTS.

In the Court of Queen's Bench, Ireland, the case of the Queen (Jacob) *v.* Finlay, public auditor, was argued before the Lord Chief Justice and the Judges, on November 17 and 19. Counsel for Dr. Jacob—Mr. Purcell, Q.C., and Mr. Furlong, instructed by Mr. Clifford Lloyd. For the Corporation—Mr. Waters, Q.C., instructed by Mr. MacSheehy. For Mr. Finlay—Mr. S. Walker, Q.C., and Mr. David Fitzgerald, instructed by Messrs. V. B. Dillon and Co. For Dr. Egan—Mr. Wm. O'Brien, Q.C., instructed by Mr. Davoren.

Mr. Purcell moved that, notwithstanding the cause shown, the *certiorari* granted in this case might be made absolute. Counsel said he appeared for Dr. Jacob, a ratepayer of the city of Dublin, but in reality the case was substantially brought forward by the Irish Medical Association, in order to obtain the opinion of the Court on the Act of Parliament. The *certiorari* had been granted for the purpose of bringing into court the decision of Mr. Finlay, the public auditor, allowing certain payments made by the Corporation. The question turned upon the construction of certain sections of the Coroners Act, 9 and 10 Vic., c. 37. Plaintiff complained that, contrary to the provisions of the Act of Parliament, a permanent medical witness had been appointed, who was paid by salary, whereas the Act contemplated that the witnesses should be taken from the members of the profession generally, and that they should be paid by fees, a guinea for each attendance. Counsel then read Sections 33, 28, and 29, which provided respectively that the coroner shall, when he thinks the attendance of a medical witness necessary, summon as such witness "any legally qualified medical practitioner being at the time in actual practice at or near the place where the inquest shall be held"; that such witness shall be paid "a sum not exceeding one guinea" for each attendance; and that upon receiving from the coroner a receipt duly signed by the witness, the Grand Jury (in Dublin the Corporation) may present for it, along with such sums as they may deem necessary for the payment of the expenses of coroners, including the payment of medical witnesses. Dr. Jacob had made an affidavit, in which he stated as a matter of fact that at present one and the same medical practitioner (Dr. Egan) is employed to act as medical witness at all inquests by the Coroner for the City of Dublin, without regard to the locality in which the death might have occurred, and that such witness now receives a fixed annual salary of £150, payable quarterly, instead of a fee of one guinea for such inquests. At the audit Dr. Jacob instructed Mr. Lloyd to appear and object to the payments, but Mr. Finlay, notwithstanding, was of opinion that the payment should be passed.

At the conclusion of the arguments, which occupied two days, the Lord Chief Justice, in pronouncing the judgment of the Court, said it did not appear that any corruption of any kind was charged, nor did it appear that the result had been any prejudice whatever to the ratepayers, for it would seem that the ratepayers had rather gained by the arrangement which had been made, and the objection was rather of a technical and legal nature. The Court, upon the whole, were of opinion that it would not be desirable that the *certiorari* should go. The result of their making the order absolute would be that they should disallow the money allowed by the auditor, and thereby deprive Dr. Egan of the money paid to him, when, probably, other proceedings would ensue, by which a larger sum would be found due to Dr. Egan. At the same time, it was right to say that they did not approve in point of law of this arrangement, which appeared to have been made so long ago as the time of Surgeon Porter, and which had been more recently acted upon in the appointment of Dr. White and Dr. Egan as medical witnesses. It occurred to them that they should not sanction or approve of any arrangement which fettered any discretion of the coroner to summon from time to time such medical gentlemen as he might think proper to summon as witnesses. The very term "medical witness" conveyed something that they thought was objectionable. A witness ought not to be a standing witness. Therefore, although no doubt this arrangement had been made with proper intentions on the part of the Corporation and of the coroner, the object being to save expense, yet there appeared to be something objectionable to it. The writ would not be granted, and the parties should abide their own costs, except the auditor, who should be allowed his costs out of the rates.

OBITUARY.

W. HANDSEL GRIFFITHS, Ph.D., etc.

It is our melancholy duty to record this week the early death of a highly esteemed and rising member of the profession, Dr. W. Handsel Griffiths, whose valuable life has fallen a victim to that terrible scourge of modern civilisation, enteric fever. In the enjoyment of his usual good health until within a fortnight or three weeks before his death, Dr. Griffiths succumbed to this treacherous disease on Friday, the 16th inst. He was only thirty-one years of age, and leaves a widow and two children to mourn over their irreparable loss. He died at his residence, 10, Upper Fitzwilliam-street, Dublin; and it will be strange if the attention of the Public Health Committee of the Corporation—the Sanitary Authority of Dublin—will not now be drawn to this, one of the most fashionable streets in Dublin, and at the same time apparently one of the most unwholesome. Not very long ago, Dr. Handsel Griffiths lost a little child of enteric fever in the same house in which he died. Within two doors of Dr. Griffiths' residence, Dr. Henry Eames died of typhus fever four years and a half ago. No doubt the disease was contracted in his hospital, but it is only too probable that residence in a tainted atmosphere increased the receptivity of the system to the fever-poison, and hastened or determined the fatal termination of his illness. Last year a case of malignant enteric fever occurred next door to Dr. Griffiths' house, and rapidly proved fatal; and we have reason to believe that small-pox recently prevailed in some of these same houses. This preventable loss of health, and even of life, is very sad, and calls for a searching investigation at the hands of the local sanitary authorities.

Dr. Griffiths, having studied at Queen's College, Cork, and at the Royal College of Surgeons, Ireland, as well as in London and Edinburgh, took the diplomas of the Colleges of Physicians and Surgeons, Edinburgh, in 1871. He settled in Dublin, and was soon afterwards appointed Assistant-Librarian of the Royal College of Surgeons. He also held the post of Lecturer on Chemistry in the Ledwich School of Medicine, Peter-street, Dublin. Considering his youth, he had done a vast amount of work, and his contributions to medical and scientific literature are both numerous and of a high order of merit. He was author of "A System of Botanical Analysis," a "Synoptical Review of the Preparations of the British Pharmacopœia," "Posological Tables" (which ran to three editions in a short time), "Notes on the Pharmacopœia" (1872), "Notes on Therapeutics," "Lessons on Prescriptions," etc. To the *Proceedings of the Royal Irish Academy* he contributed a paper on "Hæmodromometers," and to the *British and Foreign Medico-Chirurgical Review*, one on "Hæmodynamics." For some years he had ably edited the "Monthly Reports on the Progress of Therapeutics" for the *Edinburgh Medical Journal*.

Apothecaries' Society's Prizes.—The following medical students obtained the prizes given by the Apothecaries' Society during the present year, viz.:—For proficiency in botany—first, A. H. S. Lucas, London Hospital, a gold medal; second, S. H. Henty, University College, a silver medal and books; third, C. P. Lukis, St. Bartholomew's Hospital, a bronze medal and a book. For Materia Medica and Pharmaceutical Chemistry—first, A. K. Morgan, Guy's Hospital, a gold medal; second, James Balls, King's College, London, a silver medal and books.

The Gilbert Blane Medal.—The biennial adjudication of the gold medals founded by Sir Gilbert Blane, Bart., physician-in-ordinary to George III., has just been made in accordance with the terms of his bequest, by the Presidents respectively of the Royal Colleges of Physicians and Surgeons of London, and the Director-General of the Medical Department of the Royal Navy. They have been awarded to Fleet-Surgeon Adam Brunton Messer, M.D. and L.R.C.S. Edin., 1858, for his journal as staff surgeon of H.M.S. *Pearl*, 1875, when on the Australian station; and to Fleet Surgeon Francis William Davis, L.K.Q.C.P. and F.R.C.S. Ire., 1873, for his journal of H.M.S. *Audacious*, the flagship on the China station, 1875. The medal, which is a very handsome one, of the value of ten guineas, has on the obverse an excellent likeness of the donor in bold relief, and on the reverse a wounded sailor falling into the arms of a comrade; the name of the recipient is engraved on the legend.

MEDICAL NEWS.

King and Queen's College of Physicians in Ireland.—At the ordinary Monthly Examination Meetings of the College, held on Tuesday, Wednesday, and Thursday, November 13, 14, and 15, the following candidates were successful. For the Licence to practise Medicine—

Asbury, Alfred.
Brereton, John Thomas.
Corbett, Joseph Edward.
Faulkner, Alexander Samuel.
MacNeece, James Gaussen.
O'Hara, Henry Michael.
Perceval, Montague Wm. Cairns.

For the Licence to practise Midwifery:—

Bland, Archibald R. Hamilton.
Corbett, Joseph Edward.
Faulkner, Alexander Samuel.
O'Hara, Henry Michael.
Perceval, Montague Wm. Cairns.

For the Licence as a Midwife and Nursetender:—

Webb, Helen.

Royal College of Surgeons.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted members of the College at a meeting of the Court of Examiners on the 15th inst., viz.:—

Brindle, R. Francis, Prescott, near Liverpool, student of the Manchester School.
Chapman, Herbert Frederick, Richmond, Surrey, of St. Bartholomew's Hospital.
Colquhoun, Daniel, L.S.A., Upper Kennington-lane, of the Charing-cross Hospital.
Cressey, George Henry, Tunbridge Wells, of St. Bartholomew's Hospital.
Dingle, William Alfred, L.R.C.P. Lond. and L.S.A., Millbrook, near Southampton, of St. Bartholomew's Hospital.
Duke, George Amos, L.S.A., Cornwall-road, of St. Mary's Hospital.
Flint, Arthur, Highbury-park, of St. Bartholomew's Hospital.
Hammond, Alexander Billing, L.S.A., Queen-street, Finsbury, of Guy's Hospital.
Husband, Walker Edward, York, of St. Bartholomew's Hospital.
Johnstou, Alexander John James, South Kensington, of Guy's Hospital.
Lowe, Howard Griffiths, Birmingham, of the Birmingham School.
Master, George Reginald, Norwich, of St. Bartholomew's Hospital.
Parry, George Hales, L.S.A., Docking, Norfolk, of Guy's Hospital.
Rowe, Bernard Meredith, Wrexham, N. Wales, of St. Bartholomew's Hospital.
Smith, Charles Robert, Wolverhampton, of St. Bartholomew's Hospital.
Teevan, Alfred, Richmond, Surrey, of King's College Hospital.
Trevan, Frederick Adolphus, L.S.A., Port Isaac, Cornwall, of St. Bartholomew's Hospital.
Walsh, William Arthur Stephenson, L.S.A., Worcester, of King's College Hospital.
Willcocks, Frederick, L.S.A., Kensington, of King's College Hospital.

Three gentlemen having passed in Surgery, will be admitted Members of the College when qualified in Medicine; and nine candidates having failed to acquit themselves to the satisfaction of the Court of Examiners, were referred to their professional studies for six months.

The half-yearly Primary Examination for the Fellowship of the College, which was commenced on Friday last, was brought to a close on the 20th inst., when the following gentlemen were reported to have acquitted themselves to the satisfaction of the Board of Examiners, and when eligible will be admitted to the Pass Examination, viz.:—

Castle, Hutton, student of St. Thomas's Hospital.
Cathcart, Charles Walker, L.R.C.P. and L.S.A. Lond., of the Edinburgh School.
Chaffey, Wayland Charles, of St. Bartholomew's Hospital.
Coles, Donald Alexander, of St. Bartholomew's Hospital.
Cronk, Herbert George, of St. Bartholomew's Hospital.
Dunn, Hugh Percy, diploma of Membership dated August 1, 1876, of St. Bartholomew's Hospital.
Heath, William Lenton, July 30, 1877, of St. Bartholomew's Hospital.
Lockwood, Charles Barrett, of St. Bartholomew's Hospital.
Paddle, James Isaac, of University College Hospital.
Perry, Francis Frederick, August 1, 1876, of University College Hospital.
Pollard, Bilton, of University College Hospital.
Sheppard, Charles Edward, July 31, 1877, of St. Thomas's Hospital.
Takaki, Kanehiro, of St. Thomas's Hospital.
White, Richard Watts, of Guy's Hospital.

Thirteen candidates having failed to acquit themselves to the satisfaction of the Board of Examiners, were referred to their studies for six months. Amongst the successful candidates will be seen the name of Mr. Kanehiro Takaki, the first Japanese gentleman who has passed this severe ordeal; he passed, also, the Primary Membership of the College in April last.

The following were the questions on Anatomy and Physiology submitted to the candidates for the Fellowship on this occasion, when they were required to answer the whole of the questions, viz.:—1. State your views on the formation of urea, and the experiments or arguments on which they rest. 2. Describe the development of the intestinal canal. 3. Describe in order the parts seen in dissecting, from the surface to the bones, the region bounded by the superior curved

line of the occipital bone above, and the seventh cervical vertebra below. 4. Describe the ligaments of the ankle-joint and of the tarsus, and their relations.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, November 15:—

Evans, Henry, Barmouth.
Garman, Vincent Cornelius, Kent House, Bow-road.
Harrison, Edmund Meredith, Brackley.
Pemberton, Robert, Richmond-terrace, Clapham-road.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Baldwin, Frederick Benjamin Judge, Guy's Hospital.
Jones, George Henry West, Guy's Hospital.
Maybury, Lysander, St. Thomas's Hospital.
Rhys, Joshua, St. Bartholomew's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

HARRISON, E. M., L.S.A.—Assistant Medical Officer to the Charing-cross Hospital, *vice* Claremont, whose time has expired.

LEAHY, A. W. D., L.S.A.—Resident Obstetrical Officer to the Charing-cross Hospital, *vice* Hoole, whose time has expired.

PYE, WALTER, M.R.C.S. Eng.—Lecturer on Physiology at St. Mary's Hospital Medical School.

ROWBOTHAM, H. C.—Assistant Surgical Officer to the Charing-cross Hospital, *vice* Leahy.

WHITEHEAD, H. R., M.R.C.S.—Resident Surgical Officer to the Charing-cross Hospital, *vice* Wickers.

WICKERS, H. A., M.R.C.S.—Resident Medical Officer to the Charing-cross Hospital. *vice* Steedman, whose time has expired.

BIRTHS.

BATTERBURY.—On November 19, at Berkhempstead, Herts, the wife of Richard Legg Batterbury, M.B. Lond., of a daughter.

DALTON.—On November 18, at Winsley House, Hartwith, Ripley, Yorks, the wife of Henry Dalton, M.D., C.M., British Guiana Medical Service, of a son.

ELLIOT.—On November 14, at The Lawn, Bodenham, Leominster, the wife of John Elliott, M.R.C.S., of a son.

GODSON.—On November 18, at 8, Upper Brook-street, Grosvenor-square, the wife of Clement Godson, M.D., M.R.C.P. Lond., of a daughter.

SAUNDERS.—On November 18, at Lee-terrace, Lee, the wife of Surgeon W. Egerton Saunders, L.R.C.P. Lond., A.M.D., of a son.

SIMON.—On October 13, at Singapore, Straits Settlements, the wife of M. F. Simon, L.R.C.P. Lond., Colonial Surgeon, of a daughter.

MARRIAGES.

BARRY—HAVART.—On November 15, at St. Peter's Church, Tunbridge Wells, James William Barry, L.R.C.P. Lond., M.R.C.S. Eng., of Ramsgate, to Mary Louisa, only daughter of the late Rev. W. J. Havart, M.A., vicar of St. Ives, Cornwall.

CAMPBELL—CLOUSTON.—On November 15, at 3, Abercromby-place, Edinburgh, J. A. Campbell, M.D., of Garlands, Carlisle, to Janet Ann, only daughter of the late Joseph Clouston, of Nist House, Orkney.

ROBERTS—THOMPSON.—On October 27, at St. James's Church, Baroda, Henry Prescott Roberts, M.D., Surgeon H.M.'s 9th Regiment Bombay N.I., to Ellen Rosalinda, eldest surviving daughter of Col. C. Thompson, Commandant 9th Regiment N.I.

SMITH—SCOTT.—On October 3, at St. George's Church, Penang, James Richardson Logan Smith, eldest son of G. H. Smith, M.D., of 80, Great King-street, Edinburgh, to Lucy Grace, eldest daughter of the Hon. Walter Scott, M.L.C.

DEATHS.

DE MORGAN, EDWARD LINDSEY, M.R.C.S., third son of the late Augustus De Morgan, at Aliwal North, Cape Colony, by a fall from his horse, on October 14, aged 35.

MOORE, ST. AUBYN DANIEL, only son of J. Daniel Moore, M.D., of Lancaster, at 3, Queen-street, Lancaster, on November 17, aged 7.

REID, MATTHEW, M.R.C.P. Edin., L.S.A., at 98, Blue Anchor-road, Bermondsey, S.E., on November 13, aged 29.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

LIVERPOOL ROYAL INFIRMARY.—Resident Medical Officer. Candidates must be unmarried. No person is eligible who is not on the Medical Register of Great Britain, and who does not possess at least one medical and one surgical diploma, licence, or degree recognised by the Medical Council. Applications, with testimonials, to the Chairman of the Committee, on or before November 29.

LONDON FEVER HOSPITAL.—Assistant to the Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before November 30.

QUEEN'S HOSPITAL, BIRMINGHAM.—Resident Physician and Resident Surgeon. Candidates for these appointments must be registered practitioners. Testimonials, with certificates of registration, to the Secretary, on or before December 1.

ST. PANCRAS AND NORTHERN DISPENSARY.—Resident Medical Officer. Candidates must be legally qualified to practise medicine and surgery in Great Britain and Ireland. Copies of testimonials to the Honorary Secretary, S. S. Wigg, Esq., 26, Gordon-street, Gordon-square, W.C.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

APPOINTMENTS.

Amersham Union.—James O. McCreery, L.R.C.S. Ire., L.A.H. Dub., to the Missenden District.

Southmolton Union.—Thomas Sanders, F.R.C.S. Eng., L.S.A., to the Fourth District.

Thorne Union.—Thomas S. Pitts, M.R.C.S. Eng., L.R.C.P. Edin., to the Thorne District.

MEDICAL SOCIETY OF THE COLLEGE OF PHYSICIANS IN IRELAND.—The first meeting of this Society for the Session 1877-78 took place in the Hall of the King and Queen's College of Physicians, Kildare-street, Dublin, on the evening of Wednesday, November 14. The President, Dr. Samuel Gordon, occupied the chair, and delivered an opening address. Dr. Hayden subsequently made a valuable communication, consisting of an abstract of 330 cases of phthisis, with observations on symptoms and treatment. A brief discussion ensued, after which the Society adjourned.

SULPHATE OF ATROPIA IN PATHOLOGICAL SWEATING.—M. Royet, in his thesis, furnishes the results of the trials made with this substance by Prof. Vulpian since 1873. These demonstrate the efficacy of atropia in sweating under the most various circumstances—as phthisis, rheumatism, convalescence, prolonged suppuration, hysteria, and the influence of jaborandi. The dose of the sulphate varies from half a milligramme to one and a half, it being very rarely desirable to go beyond this. The most convenient form to administer it is in pills or granules, each containing half a milligramme. In order to act with efficacy, the medicine should be given a few hours prior to the occurrence of sweating. Thus, in the nocturnal sweating of phthisis, the pill should be given at eight or ten o'clock in the evening. At least two hours should elapse between the doses, and, if two or three are required in the twenty-four hours, these should be divided by equal intervals. From two to four days suffice to produce a suppression or notable diminution of the sweats; but, in order that the effect may be durable, the use of the atropia should be prolonged, with some diminution of the dose, for eight or ten days. The author of the thesis agrees with Prof. Vulpian in believing that it is nowise imprudent to suppress sweating in rheumatism.—*Lyon Méd.*, November 18.

GONORRHŒAL RHEUMATISM OF THE HEART.—M. Desnos read a case of this affection to the Paris Hospital Society, observing that although these cases are rare, and usually pass unperceived, yet their true nature and connexion is sometimes brought to light by means of the intervening arthritis. About a month ago the subject of this case came into the hospital with acute bronchitis, the heart being then in a normal condition. Some days after, the patient was seized with pains in the shoulder, which then localised itself in the sterno-clavicular articulation, and it was then discovered that he had gonorrhœa. All of a sudden he was seized with violent palpitation of the heart, and the diagnosis was made of narrowing and insufficiency of the mitral orifice; and œdema and infiltration of the inferior extremities, without albumen in the urine, supervened. At the autopsy a small ulcer was found on the mitral valve, together with a considerable vegetant endocarditis of the aortic valves and the whole of the interior of the heart. M. Fournier observed that this was certainly a case of gonorrhœal endocarditis, although important details were wanting. Was there sweating or fever present? In gonorrhœal rheumatism, in fact, the temperature is never high; and just as sweating is so abundant in ordinary rheumatism, it is absent in the form of the disease consecutive to gonorrhœa. A conclusive circumstance in this case was the seat of the affection, the sterno-clavicular articulation being the joint of predilection in gonnorhœal rheumatism. M. Desnos replied that in his case the temperature curves would not be conclusive owing to the pulmonary complications; but the patient had no sweats, and never before had suffered from rheumatism.—*Gaz. Hebd.*, November 16.

Inebriety in Liverpool.—The recent annual report of Major Grey shows that cases of drunkenness in Liverpool have fallen from 20,551 to 15,763, and the decreaso is sufficiently large to justify the conclusion that inebriety of the more flagrant type is diminishing, although it does not necessarily imply a decreasing prevalence of drinking habits.

A New Adhesive Plaster.—Dr. Martin, after detailing the inconveniences attendant upon the use of adhesive plaster, even of the best makers, and referring to its great importance as a means of making extension in various surgical operations, describes a new form of this plaster, which, after many failures, he has succeeded in perfecting. He has received from numerous surgeons who have tried it the highest praise of its value and its freedom from the objections attaching to the ordinary plaster. It is formed by thoroughly incorporating the best Para caoutchouc and Burgundy pitch, and a small proportion of balsam of tolu. The latter article, besides its agreeable fragrance, renders the plaster unirritating to the skin, and improves it in other respects. These ingredients are combined and spread on a very strongly woven cloth (which has been thoroughly shrunk and deprived of every trace of "dressing" by means of Bennet's [Burnett's ?] antiseptic liq. zinci chlorid.) by very expensive machinery devised for other purposes, but well suited for this new production. The commercial charge of the invention has been consigned to Messrs. Metcalf and Co., of Boston, with the direction to present a specimen to every practitioner who may apply for it, so that he may test it inexpensively, and furnish its inventor with his opinion of its value.—*Boston Med. and Surg. Jour.*, October 11.

The Esquimaux in Paris.—The Paris Anthropological Society has appointed a committee, consisting of Prof. Broca and five other members, for the purpose of examining the party of Esquimaux installed in the Jardin d'Acclimatation, a young Dane of the Greenland Society being also appointed interpreter. These Esquimaux come from Christianshaab, near the bay of Disco, where they lived on the produce of their fishing in wretched earthen huts, scarcely sheltered by some stunted birch-trees. It was here that an *employé* of the Greenland Society proposed to them to exhibit themselves in London and Paris, for which purpose they set off last year, accompanied by their dogs, six white polar bears, ten seals and sea-calves, and their picturesque baggage. They are Christians, having been baptized by the Moravian Brothers. The party consists of Caspar Mikal Okabak, aged thirty-two, and his wife Julia, twenty-three years of age, who is regarded as one of the beauties of Greenland, having with them a little girl four and a half years of age, and another thirteen months old, carried on her mother's back in a sealskin bag. Also two other men of twenty-eight and forty-one years of age. The men are of a copper colour, and their hair, which is black as ebony, falls over their shoulders. In spite of their cordial reception, they frequently regret their independent and wandering life and their long sledge expeditions in the bay of Disco, to which it will not be long before they return.—*Union Méd.*, Nov. 15.

In a former number I drew attention to the danger of using Shanghai ice for the cooling of beverages, except with the precaution of making the cooling mediate. The practice of allowing lumps of ice to dissolve in a fluid intended to be drunk is here always dangerous, and may at any moment prove disastrous. People who adopt it fancy that they escape danger by washing the fragments of ice before they are brought to table—an assumption utterly at variance with common sense,—or hold that the process of freezing, like that of prolonged boiling, destroys all living germs. The pseudo-scientific character of the last-mentioned error makes it all the more difficult to combat. It must suffice to say that the idea that impure water can be frozen into pure ice is absolutely false. I may now, in support of my previously published cautions, refer to an article in the *Practitioner* for September, 1876, page 234, wherein is reported a severe outbreak of intestinal disorder in an hotel at Rye Beach, N.H., which was traced to the use of ice gathered from shallow ponds formed during the winter by the flooding of the meadows, and therefore containing, as a rule, more or less grass and other vegetable matter, and consequently far less transparent than the article commonly supplied in our large cities. I was not particularly surprised, then, to find that the ice in this case was rather impure and opaque, and that it contained numerous foreign substances, varying in size, and apparently of vegetable origin. "Grass and other vegetable matter" are bad enough, but they are a mere joke to the contributions made by clothes- and bucket-washers to our pond water, and therefore to our ice supply.—*Dr. Jamieson, in the Chinese Customs Gazette.*

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

The Penge Case.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

Sir,—In his comments on the Penge case in your number for November 17, Professor Virchow takes the diameter of the English fourpenny-piece to be twenty-one millimetres. None of the fourpenny-pieces at present current have this measurement; the diameter is almost exactly sixteen millimetres. Judging, therefore, from the size of the only coin in his possession, he has concluded that the supposed tubercular patch was more than half as large again as, according to Dr. Wilkinson, it really was; the areas, omitting decimals, being 346 and 201 square millimetres respectively.

Liverpool, November 20. I am, &c., William Carter.

[This only confirms what we have already said as to making these observations accurately, and of giving exact measurement, instead of rough guesses.—Ed. *Med. Times and Gaz.*]

Hertz.—During the academical year 1876-77, the German authorities have licensed 586 persons to practise as surgeons or physicians, of whom 276 are in Prussia, and 149 in Bavaria. In the same period only nine persons have received licences as dentists, 85 as veterinary surgeons, and 334 as pharmaceutical chemists.

Delta.—The phrases, *Naviget Anticyram* and *Tribus Anticyris caput insanabile*, have reference to the fact that sick persons were in the habit of resorting to the three Anticyræ for the purpose of procuring hellebore, for which the places were famous.

Scrutator.—Yes; the gross revenue of the estates of St. Thomas's Hospital is about £42,000 per annum. The net revenue for the actual purposes of the Charity is about £30,000. The new buildings were constructed to contain 600 beds, and they cost nearly £600,000. The Hospital was founded in the City about the year 1540, and opened for the reception of patients in 1552.

Scavengering in Paris.—The cost, by contract, for removing the refuse, garbage, and mud from the Paris streets is, for the Municipality, 700,000 fr. per annum.

Aqua Pura, India.—The Government of India is adopting measures to improve the supply of drinking-water in various military stations. Analyses of all drinking-water in every station are to be made before and after each monsoon.

Victor.—Statistics, recently published, show that the population of Tasmania on October 31, 1876, was 105,484, of whom 49,851 were females.

The Canine Family.—Naturalists say that the average life of a dog, under the most favourable conditions as to diet and exercise, is from eleven to fourteen years.

West London Hospital.—The corner-stone of the west wing and out-patient department of the West London Hospital, Hammersmith, was laid on Monday. The Hospital was established in 1856, and the east wing and central building were opened in July, 1871. The out-patient department, when finished, will consist of six consulting-rooms, and a sorting-room for the house surgeons, and a large waiting-room for male and female patients. The front part will contain three wards with twenty beds. The sum of £11,000 is required to complete these additions.

Experimenter.—It is stated that a German *savant* has exploded the generally accepted notion, that if an animal, such as a man, is almost completely coated with an impermeable varnish, death would ensue in a very short time. He has experimented upon two healthy men, who allowed their limbs to be covered with impermeable plasters, and the remainder of their bodies with several coats of flexible collodion. At the end of a week no ill effects were experienced, and the physiological results were *nil*. Animals, however, treated in a similar manner to the men, quickly die unless the coating is removed.

Patronage.—No doubt the late Sir Samuel Romilly, with good reason, looked forward to being Lord Chancellor, and, anticipating what was not to be, he wrote out some sketch of what he would do when he became Chancellor. The following lines stand in this sketch, and are those to which you refer:—"Invariably to appoint to offices the men who are most fit to fill them; to do this *in every profession, and in every department of the State.*" Sir Samuel, thus resolving, plainly regarded preferment *as duty*. The thing he had chiefly in view was that the place be well filled, the work well done.

Layton.—Forster's "Life of Goldsmith." "There is only one school," cried Hogarth, "and that is kept by Nature."

A Teetotaler.—As to the magisterial dictum that gin shall either be sold unadulterated, or labelled stating what it really is, it is stated that the Local Government Board are now consulting the Inland Revenue Department, and the whole subject will be discussed with a view to determine whether any legislation is practicable or desirable. The computation is that there are only 4,000,000 of total abstainers in this country, as against 29,000,000 who use intoxicating drinks.

Alleged Insanity.

The protracted inquiry, under a Commission of Lunacy, before Mr. N. Nicolson, the new Lunacy Master, and a jury of twenty, to ascertain whether Mr. Arthur Henry Newell, a surgeon, who had resided at Cornwall-road, Bayswater, and is now an inmate of Northumberland House, Stoke Newington, is at the present time a person of sound or unsound mind, has resulted in the jury finding that at the present period he is of sound mind, and capable of managing his own affairs.

Spoliation Years ago.

The first Enclosure Act was passed in 1710. During the following half-century there was a steady, if not a rapid progress in the passing of similar Acts. Before the accession of George III., 334,974 acres were enclosed. In the next eighty years, 7,000,000 acres of common land were enclosed under the authority of private Acts of Parliament.

"These fenceless fields the sons of wealth divide,
And ev'n the bare-worn common is denied."

COMMUNICATIONS have been received from—

Mr. H. Sewill, London; Dr. A. E. Sansom, London; The Secretary of the Obstetrical Society; The Secretary of the Society of Medical Officers of Health; The Registrar of Apothecaries' Hall; Messrs. J. Allen and Sons, London; Mr. C. J. Cullingworth, Manchester; Dr. Sparks, Mentone; Dr. J. Marion Sims, Paris: Sir Jos. Fayrer, London; Mr. J. R. Forresh, London; Dr. Whistler, London; Messrs. Southall Brothers and Barclay, Birmingham; Mr. Maunder, London; Dr. J. C. Moore, Dublin; Mr. Geo. Brown, London; Mr. Peppercorne, London; Mr. R. Edwards, Bala; Miss Bromley, Bewdley; Dr. Carter, Liverpool; Mr. R. B. Carter, London; Dr. J. Collins Warren, Boston, U.S.A.; Dr. Joseph Rogers, London; Mr. W. E. Poole, London; Mr. John Chatto, London; Dr. Thos. Barlow, London; Dr. J. Mitchell Bruce, London; Mr. Haynes Walton, London; Dr. John Williams, London; Mr. B. R. Wheatley, London; Dr. Norman Chevers, London; Dr. H. Ambrose Lediard, London; Dr. J. Balmanno Squire, London; Mr. W. W. Wagstaffe, London; Dr. F. Churchill, London; Mr. T. M. Stone, London.

BOOKS AND PAMPHLETS RECEIVED—

Richard Herring, "Sound Constitutional Principles" in Theory and Practice—Annual Report on the Three Lunatic Asylums in the Madras Presidency during the Year 1876-77—Christopher Heath, F.R.C.S., A Course of Operative Surgery, part 5—W. T. Gairdner, M.D., Two Lectures: I. Lectures, Books, and Practical Teaching; II. Clinical Instruction.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—Medical Examiner—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Iron—Cincinnati Clinic—Bicycling Times—Night and Day—Medical Inquirer—Home Chronicler—Shipwrecked Mariner, January—Proceedings of the Medical Society of the County of Kings—Chicago Medical Journal and Examiner—La Province Médicale.

APPOINTMENTS FOR THE WEEK.

November 24. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

26. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Medical Society of London, 8½ p.m. A Clinical Evening. Cases by Dr. Lichtenberg, Mr. William Adams, Mr. J. Astley Bloxam, and others.

27. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Royal Medical and Chirurgical Society, 8½ p.m. Mr. Morrant Baker, "Removal by Operation of a Hairy Mole occupying Half the Forehead." Sir James Paget, "Cases of Branchial Fistulæ in the External Ears."

28. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.; St. Peter's Hospital for Stone, 2 p.m.

29. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

30. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, November 17, 1877.

BIRTHS.

Births of Boys, 1374; Girls, 1292; Total, 2666.
Average of 10 corresponding years 1867-76, 2297·3.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	725	710	1435
Average of the ten years 1867-76	814·6	804·4	1619·0
Average corrected to increased population ...	...	...	1732
Deaths of people aged 80 and upwards ...	...	...	33

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	3	7	4	2	3	...	4	...	2
North	751729	5	15	27	1	3	...	9	...	6
Central ...	334369	...	4	3	...	3	...	...	...	2
East	639111	...	22	15	2	2	1	4	...	6
South	967692	6	18	12	3	12	1	9	...	7
Total	3254260	14	66	61	8	23	2	26	...	23

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·653 in.
Mean temperature	45·6°
Highest point of thermometer	58·0°
Lowest point of thermometer	31·9°
Mean dew-point temperature	42·3°
General direction of wind	S.W.
Whole amount of rain in the week...	0·83 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, November 17, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Nov. 17.	Deaths Registered during the week ending Nov. 17.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2666	1435	58·0	31·9	45·6	7·56	0·83	2·11
Brighton	102264	43·4	61	30	57·1	28·3	47·5	8·61	1·41	3·58
Portsmouth ...	127144	28·3	74	37	57·0	37·5	48·2	9·00	...	...
Norwich	84023	11·2	55	24	57·0	38·0	46·7	8·17	0·38	0·97
Plymouth	72911	52·3	29	30	63·0	34·0	47·9	8·83	1·98	5·03
Bristol	202950	45·6	172	84	59·6	31·3	46·1	7·84	0·97	2·46
Wolverhampton ...	73339	21·6	41	38	56·0	29·5	42·5	5·84	0·61	1·55
Birmingham ...	377436	44·9	295	158	...	...	...	...	...	...
Leicester	117461	36·7	97	30	56·5	33·8	44·3	6·84	0·66	1·68
Nottingham ...	95025	47·6	74	30	57·0	30·0	44·5	6·95	0·68	1·73
Liverpool	527083	101·2	393	229	60·1	38·5	46·5	8·06	0·87	2·21
Manchester ...	359213	83·7	259	196	...	...	...	...	...	...
Salford	162978	31·5	128	73	61·1	29·2	44·9	7·17	0·82	2·08
Oldham	89796	19·2	82	61	...	...	...	...	...	...
Bradford	179315	24·8	148	83	57·8	38·0	46·4	8·00	0·29	0·74
Leeds	298189	13·8	214	146	60·0	35·0	45·9	7·72	0·41	1·04
Sheffield	282130	14·4	252	138	59·0	33·7	45·2	7·33	0·80	2·03
Hull	140002	38·5	104	54	57·0	32·0	44·0	6·67	0·21	0·53
Sunderland ...	110382	33·4	91	47	58·0	40·0	46·9	8·28	0·41	1·04
Newcastle-on-Tyne	142231	26·5	102	67	...	...	...	...	...	...
Edinburgh	218729	52·2	160	71	57·9	36·8	45·9	7·72	0·71	1·80
Glasgow	555933	92·1	376	235	56·0	39·0	46·5	8·06	...	...
Dublin	314666	31·3	194	170	59·1	29·2	45·6	7·56	0·70	1·78
Total of 23 Towns in United Kingdm	8166734	38·3	6067	3466	63·0	29·2	45·8	7·67	0·75	1·90

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·65 in. The lowest reading was 28·55 in. on Sunday night, and the highest 30·27 in. on Friday evening.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. Salford, however, forms an exception to this rule, as the estimate is based upon the rate of increase of inhabited houses within the borough during the six years ending July 1, 1877. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

ABSTRACT OF A CLINICAL LECTURE

ON CASES OF INHERITED SYPHILIS.

By HAYNES WALTON, F.R.C.S.,
Surgeon to St. Mary's Hospital.

[Reported by J. PERKINS, late Senior House-Surgeon.]

GENTLEMEN,—The eye is an organ in which the morbid influences of syphilis, as an inherited effect, are frequently and strongly developed. The three cases of this ocular juvenile constitutional poisoning, now in the hospital, and to which your attention has been repeatedly drawn, shall supply us with stock materials for this day's clinical remarks.

In the first place, I shall tell how the bad inheritance is derived, whence, and under what conditions it is received. It comes from the one or the other parent. A father or a mother with a primary sore, or with constitutional syphilis, may beget a child and transmit syphilis to it. After impregnation from a healthy male, the woman may receive syphilis by inoculation from a primary sore, and give it to the child in her womb.

A father may beget a syphilitic child without inoculating the mother directly, although she may be secondarily affected by absorbing syphilitic poison from the diseased fœtus. The fœtus or its membranes may show the strongest marks of syphilitic disease.

In all the cases before us, an ophthalmitis—that is, inflammation of the eyeball proper—has been the affection. It is usual to call such iritis; but I have many times explained why I class them as ophthalmitis.

In No. 1 (the oldest), a girl, aged fifteen, the ocular subjective symptoms on admission were, loss of useful vision of the right eye, so that fingers could not be counted a foot off; impaired vision—that is, loss of acuteness of sight—in the other eye. The objective symptoms were alike in both eyes, but much more marked in the left one—namely, redness of the sclerotica, especially in the ciliary region, partial adhesion of the pupil, haziness of the vitreous body. In the left eye, the retinal vessels were not visible; in the right, only faintly seen. According to the patient's account, she had never been well. She had had several inflammatory attacks in the eyes, and an unusually severe one had induced her to seek advice at the hospital.

In No. 2, also a girl, aged fourteen, the subjective symptoms were loss of sight in the right eye, and only enough sight in the left to enable her to find her way about in the ward. The objective symptoms were hyperæmia of both scleroticæ, interstitial opacity of right cornea to a degree that hid the pupil and nearly all the iris, and general interstitial opacity of the left, yet thin enough to enable it to be seen that the iris was discoloured, and the pupillary margin much adherent.

The history told me that the eyes were bad so long as the patient could remember, that the degree of the symptoms had fluctuated, but in later years only had the vision been very much impaired.

In No. 3, a male, seemingly about eighteen, the subjective symptoms were so nearly like those of No. 2, only less severe, that they need not be described; and the objective ones are, in reduced correspondence, alike. No history could be obtained as the poor fellow was deaf, and which deafness must have been acquired within the last few years, as he has full power of speech, and is no doubt of syphilitic origin. Respecting corneal opacities, you must remember that I have endeavoured to point out the distinctions between surface opacities and those which are interstitial, and that the form of corneal inflammation which produces the latter is frequently but a part of general ophthalmitis, *i.e.*, inflammation of the eyeball in which all of its proper tissues partake.

Now as to the evidence of these eye-affections being syphilitic. No. 1 patient was a first child. No. 2 was the first child that lived; it was preceded by a miscarriage. It is usually the first child, or the earlier children, who get the inherited syphilis, and it is common for a syphilised fœtus to be prematurely expelled from the uterus. Abortion from syphilis is well known. There were two marks of former sores about the corners of the mouth. In No. 3 the state of the ears was a syphilitic concomitant. But all the patients had the notched teeth—Hutchinson's teeth—which are an unmistakable characteristic of inherited syphilis.

The usual concurring symptoms of inherited syphilis in infants and young children are—copper-coloured eruptions, snuffles, aphthæ, and mucous tubercles about the genitals or anus. The eyelashes may be exfoliated and the nails may be unhealthy. The specific cachexia is often present. Added to these there may be psoriasis of the trunk and psoriasis palmaris. When the secondary teeth appear, their insufficient development, especially in length, the peg-like form or the notching of the front and lateral incisors, are rarely absent. This is seen in very varying degrees of intensity.

The concurring symptoms are less marked as years are added, as the person grows older.

The time of appearance of inherited syphilis in the eye is either in infancy or in childhood, and the symptoms of it may be so prolonged as to pass into adult age.

There is no essential difference between the symptoms of inherited syphilitic ophthalmitis and syphilitic ophthalmitis in the adult, as one of the secondary symptoms of syphilis. There are not found on the margin of the pupil the gummata characteristic of the adult affection, but there is plastic exudation which ties down the pupil, and more or less fills it; it may even be sufficient to fall into the anterior chamber and nearly fill it. But I may say that, as a rule, the ocular inflammation of the former is subacute; it begins insidiously, is very apt to linger long, and even with long periods of inactivity or repose. But a month ago a farmer, aged twenty-two, came to me with undoubted inherited syphilitic ophthalmitis. Since childhood he had had yearly occurrences of ocular inflammation. Now, with a little interstitial corneitis, partial adhesion of each pupil, and much cyclitis, he can read "long pica" held close to his eyes in a bright light.

Treatment.—The treatment of this should be the same as that recognised for syphilitic ophthalmitis in the adult, adapted to the early age of the patient—namely, mercurial. In infancy and in early childhood the mercury should be used by the inunction method, and rubbed into the soles of the feet, the axillæ, the groins, and the calves of the legs, from a scruple to half a drachm being employed daily. This agency should be continued according to the effect on the inflammation or the exudation. The general health requires most careful attention, and a healthy wet-nurse should be procured during the ordinary suckling period. When a nurse cannot be procured, the food should be cow's milk, with a proper dilution and sweetening, according to the age of the patient, together with cream, and in sufficient quantities until the ninth month. In patients of the ages of those which are the subjects of the lecture, the internal administration of mercury is to be preferred. The medicine cards of these show that they have been taking mercury and hyoscyamus in this proportion, namely, ℞. Hyd. c. cretâ gr. jss., ext. hyoscy. gr. iij.; ft. pil. bis die sumend. Care was taken that neither salivation nor purging was produced. The former may be checked by giving the pill less often, and the latter by reducing the mercury and increasing the hyoscyamus.

I give no other form of mercury internally when I wish to affect the system through this drug. I have long discontinued combining opium with mercury, because it so interrupts digestion, and otherwise enfeebles the constitution for a time. The results of the treatment here are satisfactory. In No. 1 patient you see that the scleroticæ are clear. With either eye she can read the whole of her diet-card, the large and the small type. She is going home. No. 2: The hyperæmia of both eyes is gone. The corneal opacity of the right cornea is much as it was; that of the left is cleared enough to enable large type to be read. Further improvement will follow if she will attend as an out-patient. She will leave against my advice. No. 3 is, at the end of a month, walking about alone, and makes no blunders.

I have fully satisfied myself that this form of syphilitic inflammation is amenable to treatment years after it appears, and may be stopped. Of course, spoiled tissues cannot be regenerated, nor dense corneal opacities removed.

PROF. BILLROTH'S OVARIOTOMIES.—A few days since, Prof. Billroth performed his hundredth ovariotomy. The first occurred in Zürich in 1865, and the others in Vienna. These were executed partly at Dr. Eder's *Heilanstalt*, and partly at the Vienna Clinic, where a room had been expressly constructed for this purpose. The operations were sometimes very difficult and complicated, but not one of them was left uncompleted. The result is, that recovery took place in two-thirds of the cases. This is, indeed, far behind the results obtained by Spencer Wells, as Billroth took the opportunity of remarking, with admiring appreciation of his English colleague.—*Deutsche Med. Woch.*, October 3.

ORIGINAL COMMUNICATIONS.

ELEPHANTIASIS ARABUM.

By Sir JOSEPH FAYRER, M.D., F.R.S.

I HAVE recently received some interesting medical reports from China; and among them is one by Dr. A. Jamieson on the health of Shanghai(a), containing some remarks on the treatment of elephantiasis of the leg by ligature of the femoral artery, on which I have a few words to say.

Alluding to a fatal case in which death resulted from ligature of the right external iliac artery, performed with the view of ameliorating the condition of a woman suffering from elephantiasis of the leg, he says:—"This case once more raises the question whether ligature of the main vessel in elephantiasis is justifiable in itself. Carnochan of New York first suggested it in 1857, and announced a cure. It has since been practised with varying success by Butcher of Dublin, Richard of the Hôpital Cochin, Fayrer, Bryant, Bochard, Baum, Simon, and others. Up to 1872, twenty-eight cases were recorded, in the majority of which the result was negative, while in a few there was a marked diminution of the hypertrophy, and in one or two cases there would seem to have been actual cure. More recently, Werhner (1875) cites thirty-two cases in which ligature gave variable results. Fayrer, Simon, and Demarquay pronounce decisively against it—the last, I think, on theoretical grounds; the two former in consequence of their failures. . . . The latest investigations are summarised in the *Archives Générales de Médecine*, 1876, vol. ii. page 100. But after carefully perusing this summary, in expectation of light to be thrown on the treatment, my impression is that the propriety of ligature is still an open question, only to be decided by its results."

I have no intention of discussing this subject in its surgical aspects, or in relation to the effect of the occlusion of the main artery of a limb in the treatment of local hypertrophy due to other causes. I refer now to it as connected with the disease elephantiasis, and confess I fail to understand what Dr. Jamieson means when he says that I condemn it (*i.e.*, ligature of the femoral artery) on account of the failures only, while Demarquay does so on theoretical grounds. It appears to me that I do so on both. I have very plainly stated my reasons for thinking that this mode of treatment was not hopeful, though I tried it in deference to the opinion of those whom I deemed worthy of confidence; and I find that I have elsewhere made remarks to that effect, and have recorded the experience of certain cases which may be regarded as crucial ones. I had no hesitation in expressing an opinion in 1863, and have repeated it lately, that in theory and practice the treatment of elephantiasis by ligature of the femoral artery was not expedient.

I remarked—"It is difficult to understand on what physiological principle the temporary privation of blood to the limb, by ligaturing the main artery, can have any effect in permanently removing local symptoms of a constitutional disease. . . That it might temporarily ameliorate it (at great risk) there is no reason to doubt, but would not the same effect be produced by pressure on the limb, and by continuance in the recumbent posture." And such, indeed, has been the result in certain cases, where bandaging and protracted rest have been employed. The improvement, however, was only temporary, and the hypertrophy returned on the person resuming the former mode of life.

I may briefly notice that the cases I refer to were typical examples of elephantiasis, where the local hypertrophy was attended by the usual periodic returns of fever. All occurred in Calcutta.

The first case was that of a Hindoo, aged thirty, male. The femoral artery was ligatured on February 23, 1865, and he died of pyæmia (a disease unhappily very rife at the time) on March 15. The circulation had been completely re-established, and there was some diminution in the size of the leg when he died. This case affords no conclusive information as to the permanent effect of the operation on the disease, but it suggests an objection of another kind, and the question of whether the risk is justifiable.

The second case occurred in 1875—another Hindoo male, similarly affected; the artery was ligatured on June 22, and he had recovered completely from the operation on August 1. But the size of the limb had considerably diminished since the operation; it had already begun to return, and with it the recurrence of elephantoid fever; and on November 18 it was nearly as large as before the operation, as follows:—June 21, fourteen inches; July 6, eleven inches and five-eighths; August 1, twelve inches and a quarter; November 18, thirteen inches and three-quarters; and it was still increasing. The progress of this case, therefore, though it indicated temporary diminution of the hypertrophy, affords no evidence of any permanent improvement.

The third case was also that of a Hindoo male, about the same age as the last—forty-five years,—who had also elephantiasis of the scrotum, which was removed on June 28, 1869, and on October 1 following the left femoral artery was ligatured for elephantiasis of the leg. It was then thirteen inches in circumference just above the ankle. On October 24 the patient had recovered from the operation, and the ankle was ten inches—a reduction of three inches; but very shortly both fever and hypertrophy returned, and when he left the hospital (where he was kept to be under observation) on December 30 it was advancing. I saw him again on April 16 following, and made these notes:—

The patient says he is in better health, and much relieved by the removal of the scrotal tumour, but that his leg is now just as it was before the operation, and that it is growing larger. As a matter of fact, the leg was still somewhat smaller than it was before the operation, but it was gradually returning to the original dimensions. When admitted the ankle was thirteen inches, on December 31 it was ten inches and a quarter, on April 16 it was twelve inches and a half, and, as it was still increasing, there can be little doubt it soon attained—perhaps exceeded—the original proportions; so that I think in this case also the operation failed to confer any benefit. My belief is, that the temporary reduction of the swelling after the operation was due more to rest and bandaging than to the ligature of the artery; and I have good grounds for this belief, for I have frequently observed, in the elephantoid legs of those who have been operated on for the scrotal form of the disease, that, with the necessary rest in bed and general wasting that followed, the leg decreased considerably, but increased again when the recumbent position was no longer preserved.

Elephantiasis of the leg, like that of the scrotum, is but a symptom of the general disease, and, as I have before said, is not, in my opinion, likely to be removed by merely altering the channel through which the blood is supplied to the part affected. But it is different in regard to *removal* of the diseased structure, as in scrotal elephantiasis. Here the removal of the outgrowth is generally followed by disappearance of the periodic recurrence of fever as well; and the explanation, I think, is that which I have given elsewhere, as follows:—"The absence of the periodic fever and its cachexia is probably the result of the removal of what had been an ever-present source of blood-dyscrasia—for such I believe the outgrowth to be so long as it remains; and persons have frequently told me that the great relief they experienced from its removal was not so much due to the absence of the tumour as to the cessation of the periodic fever from which they suffered." It is to be understood that I am speaking only of those hypertrophies that result from the disease elephantiasis, and not of hypertrophies ascribable to other causes. I will not venture to assert that temporary blood-starvation (by ligaturing an artery) of the latter may not be beneficial, but I confess I do not understand why it should be so. Be that as it may, I am of opinion that it is not applicable to elephantiasis.

(a) This report on the subject of Elephantiasis has been published in these columns; see page 470.—ED. *Med. Times and Gaz.*

THE RELATION OF GERMS TO INFECTIOUS AND CONTAGIOUS DISEASES.

By ALEXANDER YULE, M.D., C.M.

IT is said by Dr. Roberts, in his address to the British Medical Association, that bacteria are the essential agents in the production of decomposition, and that without them decomposition cannot take place. He shows that organic liquids, and mixtures of vegetable and animal substances, fragments of meat, etc., when exposed to the atmosphere, have remained for years unchanged—bacteria or germs being excluded. In these experiments is it possible to exclude, entirely, atmospheric air and to admit bacteria alone? and, under these circumstances, will decomposition take place? It may be that, to produce decomposition, besides bacteria it is necessary to have atmospheric air and some organic matter, and that if bacteria are excluded no decomposition can ensue, and like-

wise, if bacteria are admitted without atmospheric air, that the result will be the same. In the remarks that I am about to make, I shall endeavour to show, or rather will construct a theory to show, that the cause of the different zymotic diseases is not due to bacteria, but to a poisonous property acquired by the bacterium, which poison is united with it in a very loose form, and can be dissolved in various liquids; or, that it may remain in the atmosphere in union with a bacterium, or in some other form, provided that ventilation is bad, and the supply of air limited—in which case it will slowly multiply itself. Thus, in sewers that are badly ventilated it might be expected that sewer-gas, in which typhoid-fever poison was present, would be highly dangerous. It is not so. This circumstance would indicate the fact that the poison is, then, in a nascent form, and only by a slow process of oxidation, such as would take place on its admission into dwellings, would it become poisonous; however, when there is good ventilation the poison becomes changed into a harmless compound. It may be presumed that in some cases the fever poison may of itself multiply when in a congenial soil, and that independently of the multiplication of bacteria. It may be that the atmospheric bacterium is the carrier of the poison, and that when absorbed, as by milk, the fever poison becomes dissolved out, milk having a higher affinity for it than the bacterium. It may then grow in an albuminous soil, proliferating rapidly, and producing an infinite amount of poison. In a fluid like milk, with such a subtle poison dissolved in it, the danger would be very great, because the atmosphere could not act on it, and change its poisonous composition. The administration of milk in typhoid fever may seem by this mode of reasoning to be founded on false principles, for it may be said that there is introduced into the blood that which is most favourable to the multiplication of the poison. However, when once the fever has arisen, the system becomes protected against fresh infection, although relapses are not infrequent in typhoid fever; and milk, instead of being a hurtful agent, by this mode of reasoning would be quite the contrary, for its great affinity for the fever poison would supply material for its growth, until the system had ceased to respond to its action. In other cases, the poison-laden bacterium, being inhaled, may multiply to an infinite degree, and in this way set up fever, or be dissolved out by the blood and act as in milk or as a ferment. It cannot be said that decomposition is caused by bacteria chiefly, for bacteria are everywhere; and, of course, when matters are decaying they will be there too, and decomposition cannot take place without them: and thus, wherever the air is, there they will be—at times the carriers of zymotic or other poisons. But, doubtless, they mostly in some way influence the nutrition of the body. Thus, we may expect that, wherever there is change, there bacteria will exist. And change is life; and so, likewise, in decomposition there is change, for death and decomposition tend to new forms of existence. Dr. Roberts, in his address to the British Medical Association, quotes various authorities to show that different forms of bacteria give rise to distinctive kinds of fever. I think, if for the word "bacterium" is substituted "specific poison attached to germs, or otherwise, each poison giving rise to its distinctive train of symptoms," another solution of the question will be afforded. "In 1872, Dr. Obermeier, of Berlin, discovered minute spiral organisms (spirilla) in the blood of patients suffering from relapsing fever. This discovery has been fully confirmed by subsequent observations. The organisms are found during the paroxysms; they disappear at the crisis, and are absent during the apyrexial period." These changes may be coincident with the development of the zymotic poison; and the appearance of these organisms may indicate the appearance of the poison of which they are the bearers. These organisms, it is said, are only modifications of the common bacillus, and have been found also in dirty water; so it may be surmised that according to the peculiar constitution of the patient's blood may the peculiar shape of these organisms have been owing. The air is full of germs; and so, according to Dr. Beale, is every organ of the human body; and bacteria are evidently connected with some of the most ordinary nutritive actions in the human body, of which we are, as yet, unacquainted. Germs we must be always breathing, night and day; and, as the atmosphere receives all emanations from the earth and all that is thereon, it is not surprising that septic and zymotic poisons may at times be breathed, carried by these agents. Changes in the blood itself, doubtless, may generate fever poison; and that breathed forth may be taken up and borne along by a germ or germs, which, multiplying under favourable circumstances their kinds, may give rise to epidemics.

I shall now make a few remarks on Dr. Lister's antiseptic treatment of wounds. Three things at least, according to my theory, are necessary for the production of putrefaction, and these are (1) germs, (2) atmospheric air, and (3) some organic material. By the antiseptic method, germs are excluded; therefore, by this theory, decomposition cannot ensue. As germs or bacteria are abundant outside as well as inside the body, it may be hardly possible to entirely destroy them; and as Dr. Lister's method does not entirely exclude atmospheric air, septic poison may occasionally be formed. By the results of treatment, however, it is shown that septic poison seldom or never forms. It is evident that septic and zymotic poisons are of very unstable composition, for there are so many well-known agents that can render them innocuous, so that what may be a deadly poison will by a slight change become quite harmless; and the difference between varying supplies of atmospheric air or oxygen will determine the poisonous or other nature of the compound. Thus, in the badly ventilated sewer, the amount of air or oxygen is insufficient, where there is nascent fever-poison in sewer gas, to render active the poison; while a slow process of oxidation or other change, when the gases escape from the sewer, gives rise to (in those that inhale it, or otherwise receive it into their system) the symptoms of typhoid fever; while, on the other hand, complete ventilation renders the poison innocuous. In the case of wounds Dr. Lister excludes germs; but it may be supposed that by his process he cannot entirely destroy them, for they form in the blood independent of the atmosphere; so that, after all, the exclusion of the atmosphere has as much to do with the success of the treatment as the destruction of germs. Applying the theory of varying supplies of air or of oxygen to the antiseptic system, it becomes evident that neither organisms sufficiently numerous, nor air in sufficient quantity, reaches the wound to produce a septic poison. It may be that bacteria, under certain circumstances, shrink up and remain dormant and adherent to various materials, and only under certain favouring circumstances do they swell out and develope, and then are conveyed into the atmosphere. This may, in a measure, account for the difficulty in getting rid of erysipelas and pyæmia from surgical wards in hospitals; and, likewise, for the circumstance of these diseases being more prevalent at one time than at another; and, likewise, for their temporary absence sometimes. By the theory advanced, it is supposed that these bacteria contain the septic poison, and that, if multiplying, the poison which they contain would increase in a corresponding degree. Treatment of wounds by free exposure to the atmosphere is said to attain results as successful as those attained by the antiseptic method. The difficulty of successfully carrying out the treatment must at all times be great, and the danger of blood-poisoning by neglect extreme. In a wound bacteria multiply rapidly, and septic poison is continually being formed; and if the supply of air is not at all times very free, the poison will not be neutralised, but at times increased, and poisonous bacteria will fill the air and carry infection elsewhere. No doubt wounds may be treated successfully in this way, but, according to my theory, the difficulty of always insuring a sufficient amount of oxygen or air to render the poison harmless is so great as to be almost impossible.

Fernhurst, Haslemere, Sussex.

ON CHINESE HÆMATOZOA.(a)

By PATRICK MANSON, M.D.,
of Amoy.

(*Concluded from page 565.*)

From the foregoing observations I think the following deductions are justifiable:—

1. That a large ratio of the population of this province, and probably of other parts of China, is infested with the Filaria sanguinis hominis. The exact ratio cannot yet be stated, but, if my observations are a fair guide, one in thirteen is near it.

2. That the Filaria sanguinis hominis may be present in the blood, and yet the host be in good health, and exhibit no other morbid phenomena.

3. That in the same person it may be present at one time and absent at another.

4. That at one time or another it is very generally associated with elephantoid disease, and is almost certainly connected with the cause of such affections.

5. That it is sometimes associated with a diseased condition

(a) From the *Customs Gazette*.

characterised by frequently recurring attacks of fever, accompanied by general anasarca unconnected with heart or kidney disease.

This last deduction I make from Case 7 (Liengoo). I have twice closely watched a similar train of phenomena, once in Formosa and once in Amoy. In both these instances, heart, lungs, and urine were carefully and repeatedly examined, but nothing amiss with them could be detected. In one of the cases the anasarca, though general, was peculiarly distinct in the upper part of the body, suggesting pressure on the superior vena cava; but I could detect no aneurism or tumour of any sort to account for it. In both of these cases there was great prostration, weakness of the lower extremities, and what I thought at the time an unjustifiably strong fear of death. Contrary to my prognosis, both died suddenly. I had come to consider that these were examples of beri-beri. After I became acquainted with Filaria sanguinis hominis, I speculated on the possibility of its having anything to do with them. When Case 7 (Liengoo) presented himself, I made a shot at the diagnosis, and told my assistants he had worms in his blood. I was as much astonished as they were to find on examination that I was correct. This man is again ill with fever and anasarca.

I trust that others at the different ports will take up this inquiry as opportunity presents, and above all avail themselves of post-mortem examinations of Chinamen to search for the parents of the embryos found in the blood. Should I have an opportunity, I intend, before opening the abdomen, to follow up any dilated lymphatics I may find in the legs or scrotum, in the hope of encountering the cause of obstruction and probably the mature worm, in the glands, thoracic duct, or their neighbourhood.

I would warn others against a hasty examination of the blood, and against concluding that, because no filariæ are found, none exist. For several years I have been in the habit of occasionally examining the discharge in lymph-scrotum and the blood also, but until lately never encountered the Filaria sanguinis hominis. In fact, I kept a man for three or four years for the purpose of watching the progress of his lymph-scrotum, and though I am convinced now that this man's blood contained filariæ, yet, on account of my examining probably only a small part of one slide and with a high power, I always missed them. At least six full slides should be examined, and every part of them carefully scrutinised. The power employed as a searcher should not be a high one—a quarter or half-inch is sufficient, but powers lower than these will do, provided they will distinctly define a blood corpuscle. If the light is too strong, the very transparent body of the hæmatozoon is apt to be overlooked—at least, it is not picked out so readily, and the eye of the observer becomes fatigued. If blood does not escape readily, or on slight pressure, from the prick in the finger or elsewhere, much force should not be used to express it, as the puncture is probably too small, and any filariæ the blood might contain will be hindered from escaping: a fresh puncture should be made. Another point the observer should attend to is, not to attempt to place too much blood under the covering-glass; a small quantity should be scraped off the finger with the edge of the glass, and this placed with the charged part near the edge of the slide, and then slid along till the blood has almost reached the circumference of the covering-glass. This is an important point, as in nine instances out of ten the filariæ are found quite close to the edge of the patch of blood, and should this escape from below the covering-glass, the chance of finding them is very small indeed. With attention to these details—which, I again repeat, are of the utmost importance to successful investigation—and with patience, I have no doubt that finds will be frequent, and I trust will be duly reported along with the failures.

Exclusion of Negro Medical Students.—The *New York Med. Record* (October 20) strongly deprecates the conduct of the Faculty of Physicians and Surgeons in having refused a student of colour ("drawn the colour line in medicine," as it is expressed) admission to lectures. It has not done this on principle, it seems, and would not have done it if it had been an endowed school, but because the presence of a negro in the lecture-rooms would be offensive to the other pupils, whose opinions on the subject have to be taken into consideration, as the College, although a public institution, is supported by private enterprise. The question was not submitted to the class, the fear of unpleasant results being sufficient to prevent the professors trying the experiment.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

STANLEY HOSPITAL, LIVERPOOL.

EXCISION OF HALF THE TONGUE, PART OF EACH JAW, SUBMAXILLARY GLANDS, AND SIDE OF PHARYNX, FOR EPITHELIOMA, WITH SUCCESSFUL RESULT.

(Under the care of Mr. RUSHTON PARKER.)

J. G., aged fifty-eight, a dock porter, under the middle height, and with a healthy history, family and personal, applied at this hospital early in May, 1876, on account of an excavated ulcerated swelling affecting the left side of the tongue rather to the under side, for a length of about an inch and a half, and extending continuously to the molar gums of the lower and upper jaws adjacent, and involving a small piece of the inner side of the intervening cheek. The glands under the angle of the jaw felt enlarged and hardened; the centre of the main sore was excavated to a depth of about half an inch, and its edges were hard, elevated, and tender. The patient had had it for two years, to the best of his knowledge, and, although a very wiry man, was now much debilitated by pain, and inability to eat with sufficient ease. The growth was judged at the time, and has been subsequently proved to be epithelioma, and the circumstances were considered to justify an operation, if complete extirpation were feasible. Accordingly, this having, after a little consideration, been proposed to him, he readily consented, and gave absolute *carte blanche* as regards extent.

On May 19, under ether followed by chloroform, the left cheek was incised from the angle of the mouth to the submaxillary region. The facial and lingual arteries and veins were sought and tied; the lower jaw was sawn through at the canine tooth, and immediately above the angle; the upper jaw was clipped with forceps at the posterior and lower corners the tongue was drawn out, and transfixed with a sharp-pointed curved bistoury from the middle line at the hyoid bone to the base of the epiglottis, and then slit to the tip; part of the soft palate and side of the pharynx were then separated with the rest. A vessel or two remained to be tied, catgut ligature being used in every instance, and the wound was closed with a pin and sutures. The operation is easily told, but it took nearly two hours to do, the patient being with the utmost difficulty influenced at all by the anæsthetic, and much time being lost in sponging out the pharynx, and giving him breathing opportunity; however, he bore it with great courage, and made a good recovery; but a large piece of skin sloughed from the cheek, and left a pharyngeal fistula, no doubt because, in the operation, about two inches of the facial artery had been sacrificed in removing the submaxillary salivary and lymphatic glands. The latter were found scarcely enlarged, while the former was very indurated.

After five months, the hole in the neck being about the size of a hazel-nut, and having assumed its ultimate shape by cicatrisation, was closed by a plastic operation on October 20. But the tip of the flap, which was taken from the neck below, and slid up along its long axis, did not hold, and the fistula became as bad as ever. Six months later (April 6, 1877) another attempt was made, but this likewise failed.

He manages very well by keeping a lump of cotton on the hole, and tying a band over it round his head and chin.

He was last seen early in November, 1877, eighteen months after the operation, strong and well, continuing his work as a dock porter, which he resumed four months after the original operation, and only discontinued again in order to submit to the plastic attempts.

Condition.—Though he has lost such a considerable part of the lower jaw, this defect is, as usual, hardly perceptible. The remaining half of the tongue is pulled over to the left, and its outer side serves as a front and tip. It is mobile to a useful extent. The pterygoid plate shows on the left side, tightly covered with cicatricial mucous membrane; and close to it, firmly attached by check and cicatrix, is the sawn end of the body of the lower jaw; while between the two is the pharyngeal fistula, about the size of a small hazel-nut. There is not much room in his mouth, it is true, for the fingers of a surgeon; but there is room enough for his own food and its efficient mastication. He has had continuous good health and

strength, which latter, however, is tested to the utmost by his poverty and the rough nature of his work.

Examination of the Specimen.—The extent of the disease was found to be even rather more wide than was expected, and the duct of the submaxillary salivary gland passed immediately under the base of the ulcerated growth.

The microscopical details are somewhat unusual. The extent to which the epithelial masses can be seen penetrating between the bundles of fibrous tissue, and the total absence of small round-cell infiltration, where the epithelial elements are most abundant, give the tissue an aspect which is astonishingly like alveolar sarcoma. Yet everywhere the large characteristic cells of the buccal epithelium—arranged in globes at the centre of each cylinder, yet nowhere forming the horny globes so usually present in cutaneous and buccal epithelioma,—and the unmistakable even front presented by the "lines" of the rete Malpighii, prevent the true nature of the disease from being denied. The round-cell infiltration is, in the adjacent muscular tissue, quite in the usual small-celled style; and where the epithelial ingrowth is more scattered, it is perfectly visible and somewhat larger-celled. The bundles of the fibrous tissue are split up, and the individual fibres widely and often almost singly separated, and singularly invaded by the epithelial columns at the surface, where all trace of papillæ or other sign of mucous membrane is wanting. The indurated salivary gland shows an abundant round-cell infiltration between the gland-tubes and acini, constituting an interstitial adenitis. The sections of slightly enlarged lymphatic gland did not show any secondary infective growth.

EXCISION OF HALF THE TONGUE, HALF THE SOFT PALATE, SIDE OF PHARYNX, SUBMAXILLARY GLANDS, AND PART OF LOWER JAW, FOR EPITHELIOMA—RECURRENCE.

(Under the care of Mr. RUSHTON PARKER.)

Wm. O., aged fifty-four, a full-bodied, strong-looking man, over the middle height, giving a family history and personal antecedents of a perfectly healthy character, came under notice on May 26, 1877. He had, until lately, had a good digestion and lived freely, eating heartily and drinking plenty of alcohol, but not getting intoxicated. His face was spotty, having bright red pimples on the forehead and cheeks; the tongue was furred, and the breath very foul. On the left soft palate was a sloughy and excavated mass, covered with granulations at the edges, which were prominent, extending from the left of the uvula to the pillars of the fauces. Under the angle of the jaw was a globular induration the size of a small walnut. The dorsum of the tongue was unaffected, and some difficulty was experienced in ascertaining the whole extent of the disease, on account of stiff closure of the jaws. But a later examination showed that the under side of the tongue and the molar gum of the lower jaw were included in the affection, which was obviously epithelioma. He was recommended to give up the use of alcohol, and to take his food (liquids only could be used) at regular meal-times exclusively; also to take a tumbler of water containing a little Epsom salts each morning on rising.

By June 6 the tongue was clean and moist, the fetor of breath was all but gone, the face was less spotty and flushed, and the complexion clearer. The epithelioma was perfectly clean, and its granulations slightly less prominent, while the submaxillary swelling was less turgid, but harder and smaller. The only inconvenience he felt was difficulty and pain in swallowing, and constant pain about the left ear. The case was not considered a favourable one for operation; and all that was hoped for was a mitigation of the inconveniences of the disease by a judicious system of diet and, if necessary, other palliative measures. After careful consideration, in fact, the operation was declined by Mr. Parker; but the patient begged, as a favour, that anything that was possible might be undertaken, saying that his prospects could not be worse than if he were left alone. So on June 8, under ether followed by chloroform, the left cheek was incised from the corner of the mouth to the back of the hyoid bone, in front of the facial artery; the lingual artery and vein were tied under the hyoglossus muscle, with the aid of an aneurism needle and catgut; the lower jaw was sawn through about the first molar tooth, and clipped across with forceps above the angle, after stripping the masseter and internal pterygoid muscles; the tongue was then drawn out and slit from base to apex, by median puncture from below to the upper surface at the epiglottis, with a sharp-pointed curved bistoury; then with a probe-pointed bistoury the soft palate was cut vertically to the right of the uvula, and separated from the posterior edge of the hard palate. The whole specimen, consisting of half the tongue, palate, submaxillary glands, etc., was then grasped, and swept off at its pedicle, close to the great vessels of the neck. Sponges were in readiness to instantly control the bleeding which was expected from this final measure. The facial artery was found cut about an inch from the carotid, and tied. A pin and a number of wire sutures were put in to close the wound.

It was hoped that the operation might have been more quickly performed, but the time occupied was at least an hour and a half. The anæsthetic was admirably managed, and the operation unfelt by the patient, except for a few minutes at the finish. For a few days he had a good deal of smarting, but he made a good and rapid recovery, as far as minor matters are concerned. Food was almost withheld for the first few days, a little warm water containing boiled sago being given. A month after the operation there was a glandular enlargement under the sterno-mastoid, and in the pharynx a rosy crop of granulations, quite soft, but which looked ominous.

On July 13 the lump was exposed, and in doing so at least half the thickness of the sterno-mastoid was broken through. On almost completely isolating the growth, it was found to enclose the carotid artery, the jugular vein, and pneumogastric nerve. It was not considered proper to sacrifice the last structure, although the vessels might have been readily extirpated with the epitheliomatous mass of glands; so the latter were burst, and scooped out with the finger-nails and other instruments, and the wound left to heal. A day or two before this second operation his diet was changed with obvious benefit. He had had beef-tea and milk given him by the attendants, and it was noticed that his tongue was persistently furred white; moreover, he spat pints of saliva in the day. He was now ordered three meals daily, to consist of any one, or even two, of the following articles:—Bread, pea-flour, sago, and oatmeal, prepared with hot water or tea; milk was interdicted. In a day or two the tongue cleaned, and salivation ceased. The wound of the first operation healed at once, and was firm in ten days, except a minute hole where the tip of the jaw necrosed, and which closed after the separation of the minute exfoliation. The second wound became the seat of slough, deep down about the fasciæ and vessels. Much fetor was set up by decomposition here, but was completely corrected by filling the wound with magnesia powder. The sloughs then separated amid antiseptic suppuration, which gradually subsided. After all decomposition had ceased, he had a severe attack of erysipelas of the neck and head. His bed had been in a draught, so he was put in another, and the only treatment adopted was the administration of a little morphia, and the limitation of his diet to bread and sago, while the erysipelatous skin was coated with thick boiled starch. Within five days he was desquamating, and walking about as if nothing had happened. But the patch in the pharynx was increasing, and the deep parts of the neck, although the wound was closing, were enlarging again.

He was discharged on August 15 exceedingly well in health, perfectly satisfied with his daily diet of a little bread-and-butter and tea, and pea-flour mixed with boiling water and butter. There was no emaciation, and he was perfectly free from hunger. Since that time it has been ascertained that recurrence had advanced still farther beyond the reach of operative remedy.

Remarks.—It is plain that no operation less extensive than the one performed would have been of any use in either case. When the gum is affected, the whole thickness of the mandibular arch need not always be severed; but when the tongue and reflected mucous membrane are also concerned, the greater sacrifice of bone is of little or no account to the patient (in view of the issues at stake), while it immensely facilitates an operation which is at best not one of the easiest, by permitting the free exposure of the parts involved, and leaving a perfectly accessible wound. The fact that each lingual artery is confined to its own side of the tongue allows the vertical median division of that organ to be bloodlessly effected, while the preliminary ligature of the vessel renders the removal of the corresponding half of the tongue equally bloodless. The submaxillary salivary gland (with or without the sublingual) is better removed, in order to effect a clean sweep; while the lymphatic glands and the whole track of lymph-vessels leading to them from the diseased part were specially included (themselves healthy or diseased) among the tissues whose removal was most thoroughly desired and anxiously attempted. The perfect success of the first case, and the strictly limited area to which recurrence was at first confined in the second, suggest the probability that, in spite of all precautions, the operation in the latter instance may have fallen a little short, in extent, of what ought to have been done. If that could really be proved to be the case, no

better justification of the procedure could be found. The singularly spare diet (as it would seem) which sufficed, in the same case, to fully satisfy and to maintain in good condition a big, strong man, is regarded as a feature of much clinical importance, not only as having afforded an easy means of nourishing an individual who could not masticate at all, and only with difficulty swallow, but as being one out of many instances where the condition of a "sore place" can be improved and kept apparently within bounds by the dietetic amelioration of the "constitutional state."

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Medical Times and Gazette.

SATURDAY, DECEMBER 1, 1877.

THE LONDON WATER-SUPPLY.

The majority of the Board of Works lost no time in taking advantage of the snap-vote which enabled them to carry their scheme for the regeneration of the London water-supply. Before, indeed, the matter could be discussed at an ordinary meeting of the Board, a Parliamentary notice of the scheme had been advertised in the papers—the advertisement appearing on the 23rd, the ordinary meeting not being held till later on the same day. Thus a measure which is avowedly to cost five and a half millions of money, and may cost nearly as much more, was promptly disposed of, many of the members of the Board of Works having no opportunity of considering it, or even of voting on it. Still less was it given to the parochial bodies, which will have to supply the money, to express an opinion upon it. Everything had apparently been arranged beforehand. By a small majority, of which the chairman, Sir James Hogg, seems to have constituted one, it was resolved to proceed with the new scheme, and promptly steps were taken to carry this vote into effect.

It was hardly likely that such proceedings should be allowed to pass without protest, and accordingly, at the last ordinary meeting, an earnest attempt was made to reverse the decision already come to; and it was probably in anticipation of some such attempt that the advertisements had appeared that very morning. Accordingly, the whole reply vouchsafed to the discontented members was that the Board could not stultify itself. There seems to be no very active opposition on any side to the scheme for buying up the Water Companies, and probably there will be none except on the part of the Companies themselves; but assuredly there will be opposition to the proposition to provide London with a double water-supply, when one would suffice. It has indeed been hinted that this proposition has been introduced into the scheme merely for the sake of frightening the Companies into terms; but the Companies would be sorry fools to be thus frightened. The new supply is only calculated at 16,000,000 gallons daily: how much it would reach to is unknown; but, even if we accept the estimate of Sir Joseph Bazalgette (who we are now assured is one of the authors of the scheme) and his allies, this quantity would be altogether inadequate to the wants of London. It must be supplemented; and of course the authors of the scheme would stultify themselves if they proposed either to do away with the old supply and the costly plant of the present Water Companies, or to mingle the chalk water with that of our present river supply. There is nothing for it but a total new set of works, reservoirs, mains, pipes, and taps all over the districts of London and its suburbs supplied at present, and to any other districts requiring water-supply in the future. We do, then, most heartily sympathise with those members of the Board of Works who complained that the two schemes—viz., that for the purchase of the rights of existing Water Companies, and the scheme for procuring a double supply—should have been inseparably connected in one resolution; and, moreover, that there had been no opportunity of fully discussing the whole scheme, or any of its parts.

The only two replies of the slightest moment urged against these important arguments were—first, that no one had publicly opposed the scheme on behalf of the Water Companies; and secondly, that the scheme had been amply discussed in the newspapers. When arguments so trivial as these can be soberly advanced by members of the Board of Works sitting in council on a matter which is to cost millions, it is but too clear that they have little to say for themselves. The Water Companies are keeping their own counsel, but they are girding themselves for an arduous and costly Parliamentary campaign. Is it likely they will let their opponents know their line of defence? But to urge that, because a scheme has been discussed in newspapers by more or less skilled and irresponsible writers, the body on whose shoulders the whole responsibility of making provision for carrying out the scheme rests should be deprived or should despise an opportunity of carefully discussing its merits, is surely a profound joke. Some feeling of the same kind must have actuated that member of the Board who, in his noble indignation, declared that they came there as free agents, not as delegates, because some one suggested that it might have been well to ask the local bodies, who have to supply the money, what they thought of the matter. In short, as already said, we have found in this discussion no single good argument in favour of the action of the Board save this—We have done it, let us stick to it! Nevertheless, so strongly had the members been moved by the difficulties of the proposed scheme, that on a show of hands only twenty-one voted for it in its entirety, and twenty for the cancelling of its latter portion; and on a call of names only twenty-three, as against twenty, voted "not to stultify the Board." We have not heard whether Sir James McGarel Hogg, the chairman, this time voted with the splendid majority of three which now appeals to Parliament. Meanwhile, what are the City authorities doing? Are they prepared to give up their autonomy at the bidding of the Board of Works?

THE VACCINATION ACTS.

Probably very few educated people doubt that a person may be repeatedly punished for repeated offences against a law; yet that this applies to the execution of the Vaccination Acts

has been frequently questioned before magistrates and justices of the peace, and has been just lately brought, for the second time, before the Court of Queen's Bench, by an application to quash a second conviction. It may, therefore, be useful to our readers to place formally on record here the case of Tebbs *v.* Jones, which was tried on the 22nd inst. in the Queen's Bench Division of the High Court of Justice, before the Lord Chief Justice and Mr. Justice Mellor. The question in dispute arose under Section 31 of the Act of 1871, (30 and 31 Vic., c. 84), that if any officer appointed by the guardians to execute the Act shall give information to a justice of the peace that he has reason to believe that any child under fourteen has not been successfully vaccinated, and that he has given notice to the parent to have the child vaccinated, and that the notice has been disregarded, the justice may summon the party, and if he shall find that the child has not been vaccinated, and has not already had the small-pox, he may make an order to have the child vaccinated within a certain time, and, in case of disobedience, the party may be proceeded against, and subjected to a penalty. The question was whether, if the order is still disregarded after conviction, the party may again and again be proceeded against. This question was before the Court in April, 1872, not long after the passing of the Act of 1871, and on that occasion the Lord Chief Justice said, "The continued disobedience to the order may constitute fresh offences, and be subject to fresh proceedings," and Mr. Justice Blackburn observed that, "It might as well be contended that because a man has been fined yesterday for beating his wife, he could not be fined for beating her to-day." It is well-known, however, that, notwithstanding these clearly expressed opinions of the judges, many persons, and especially persons dwelling in towns, have held such strong objections to having their children vaccinated, that, even after conviction under the Act, they have continued to refuse to have their children vaccinated, and the officers have been driven to institute fresh proceedings against them. The case of Tebbs *v.* Jones, which arose in the parish of St. Pancras, was one of these cases. The appellant had been convicted for not having his child vaccinated, and, as he still refused obedience, the parish officer gave a fresh notice, and then laid a fresh information before the magistrate, Mr. Mansfield, who convicted the defendant, but granted a case for the Court; and the question raised was whether fresh proceedings could be instituted. Mr. Baker, the counsel for the appellant, did his best for his client. He urged that the enactment, being a penal one, was exhausted by the conviction under it of the same party in respect of the same child; but, as to this, the Lord Chief Justice observed that it would enable every obstinate man, who thought himself wiser than the rest of the world, to set the law at defiance. Mr. Baker urged that there were men so strongly opposed to vaccination, that, rather than have their children subjected to it, they would go to gaol; but this only drew from the Lord Chief Justice the remark—"Then let them go to gaol: but the law must be obeyed;" and Mr. Justice Mellor said, "Until the child is successfully vaccinated, the enactment is applicable, and is to be enforced." It was urged that, according to this, the parent might be sent to gaol again and again until the child was fourteen, so as to be continually in gaol for twelve or fourteen years; but Mr. Justice Mellor replied that "the object of the Act was to protect the public health, and that object was paramount to the inconvenience of the individual." It was further argued that there was a provision in the Act that proceedings should not be taken after the lapse of twelve months; but the Court pointed out that this applied to each offence. And the Lord Chief Justice remarked that the construction contended for would render the Act entirely abortive and ridiculous. To hold that because a man persisted in not having his child vaccinated he may endanger the public health as well as the life of his child, and may continue to do so with entire immunity from the law, would be to make the legislation on the subject as worthless as waste-paper. Again, it was urged that men would retain their opinions, and could not be deterred from doing so by being called idiots; on which the Lord Chief Justice observed that this was, no doubt, true, for the more idiotic men were, the more obstinate were they. Counsel for the appellant again contended that it never could have been the intention of the Legislature that a man, on account of his conscientious objection to vaccination, should be kept for years in prison. The Court replied, however, that the Legislature could not have intended that their legislation should be rendered abortive and ridiculous. It was not merely an opposition to vaccination, but to the law which prescribed it, and which all were bound to obey.

Eventually the Court, without calling on the counsel for the respondent, the parish officer, proceeded to give judgment in his favour. The Lord Chief Justice said "there was really nothing in the objection raised in this case to the conviction—that because a man had been once convicted for non-compliance with the enactments, therefore he could not be convicted again, or only once in twelve months. Such a construction would make the Act perfectly abortive, and a man would be allowed, at his pleasure, to endanger the life of his child and the health of his neighbours. The penalty was not heavy, and it was evidently intended that it should be inflicted as often as the offence was committed and an order for vaccination disregarded." Mr. Justice Mellor concurred; and said, "The great object of the Act is the public health, which requires that it should be enforced so as to carry out the object. The object was to compel and obtain successful vaccination of children under the age of fourteen. As there were always some persons who thought they knew better than the Legislature, the Legislature had provided that penalties should be inflicted in such cases, and it was evidently intended that the penalties should be inflicted as often as the offence was committed—that was, as often as there was a refusal to have the child vaccinated. It was not enough for the man to set up 'conscientious objection' to vaccination. No one was more disposed than he was to allow for conscientious objections; but they could not be yielded to when contrary to the law, and opposed to the welfare of society and the common experience of mankind."

It is no doubt vexatious to have the time of one of the superior courts of justice taken up by the discussion of such a question as that which was raised in this case—a question which had been argued and decided only five years ago. But we are not disposed to regret it much, and we have given the case in full, because it is just as well that people should now and then be reminded that a law for insuring the public safety against any disease demands complete and unqualified obedience, just as much as do laws for securing public safety from robbery, murder, or any other legal crime; and when set at defiance they must be pressed against the offender with like rigour. All stand on the same footing, and of each alike the object—the public safety—is "paramount to the inconvenience of the individual." At the same time, we are willing to admit that, as our contemporary the *Times* says in commenting on the case, the law for compulsory vaccination, "though it answers to an urgent necessity, and has a superabundance of evidence in its favour, comes into conflict undoubtedly with some powerful hallucinations, which it is not easy to dissipate by force. It is a law which peculiarly needs to be put into operation discreetly and with moderate views of what is immediately possible," though we can hardly believe that "a too rigorous application of it might easily make it odious to the people, and provoke a dangerous resistance." And it is because we agree, to some extent, with these statements, that we insist so often that

Government ought to supply the means of animal vaccination. One of the objections to vaccination as ordinarily performed—that is, to what is called arm-to-arm vaccination, or vaccination with humanised lymph—is not an hallucination. Vaccination, like every other operation, great or small, must be performed with care, with attention to health, to the perfect cleanliness of the lancet or other instrument employed, etc. But it also demands some special precautions. It is a proved fact that in using humanised lymph which has not been selected and taken with due caution and care, a vaccinator may inoculate, and has inoculated, children with another and a terrible disease. No other objection to careful vaccination possesses any pretence, even, to validity, nor with any other can we have any sympathy; but this objection can be entirely met by the offer of the alternative of vaccination with lymph from the calf, and that this can be done easily and most successfully has been amply shown by very extensive experience in Belgium and in America. We do therefore contend that it is the duty of a Government which makes, and rightly makes, vaccination compulsory, to offer the alternative of animal lymph when the use of humanised lymph is objected to. It is no real reply to this to say that syphilo-vaccination is extremely rare, or that the results of animal vaccination are not always satisfactory. Neither are the results of arm-to-arm vaccination always satisfactory; and as human machinery must always be employed to select vaccinifers and to take lymph, the human fallibility which has caused vaccino-syphilis may cause it again, and the only possible absolute guarantee against this is the employment of animal lymph. And it is becoming more and more important to urge this upon Government, inasmuch as accumulating experience and knowledge point with increasing distinctness and force to the desirability of making revaccination as well as vaccination compulsory.

SATIRE AND MEDICINE.

No history of Medicine can be nearly perfect which does not include an attempt, at least, to give a fair account and estimate of the influence that satire has exercised upon the progress of Medical Science and Art. Those unpleasant but effective educators, the satirists, have certainly not spared us in times past, and we probably really owe them not a little gratitude. In thinking of the amount of satire which has characterised conversational and literary comments on the medical profession, we experience also some sense of regret that no satisfactory attempt has ever been made to compile such a book of medical table-talk as would place within the reach of busy doctors a record of the bright witticisms, and both satirical and pleasant banter, which have been directed against themselves and their predecessors in the science and art of Medicine. Such a collection would not only have a great amount of what may be called domestic interest to the medical profession, but would possess considerable intrinsic literary value. Both the characteristics of medical men, and the nature of medicine as a science, have invited displays of bitter satire, keen wit, and irresistible humour. Looked at from a personal point of view, the disciple of medicine has, in all ages, possessed that amount of individuality which lays men open to either hostile or favourable criticism. Satire in literature, like caricature in art, depends for its success upon the appropriation of some feature already well pronounced, and the magnification of it to such a degree as to produce a ludicrous effect; and those angularities of character which are so apt to accompany all forms of earnestness, and which the satirist seizes with such avidity, have always been strongly marked in the disciples of Æsculapius. The prevalent weakness of medical men has, at all times, been a tendency to mon-ideism, and to the consequent distortion of judgment and deformity of character, which supply as valuable material for the use of the satirist as that which the caricaturist finds in a distinctive nose or in a striking mannerism. It may be observed, also, that the empiricism which during so many eras has been the leading feature of the science, has exposed the profession, as a whole, to the satire which has been so freely lavished on individual members of it. In a pursuit in which, till recent times, so little was known for certain, dogmatism was the substitute for scientific precision; but unfortunately the dogmatism of assumption can be, and usually is, as strongly accentuated in one opposing doctrine as in another; and a process of reasoning open alike to educated and uneducated can show that antagonistic doctrines cannot both be right, while a tendency to contemptuous self-satisfaction too readily prompts the suspicion that both are likely to be wrong. Consequently, Dr. Sangrado with his drenching and bleeding, and Dr. Cuchillo with his desiccating regimen, come equally under the fire of the satirist. And even in more advanced stages of the science, when theories are extensively acted upon before they have been logically established, and when the personal influence of a teacher is accepted by his followers as equal to proof, while by others holding different views it is regarded as the surest guarantee of error, sufficient scope is afforded for the play of all those forms of witty, satirical, and humorous criticism, which require only intellectual sharpness as the agent, and an open question as the field of operations.

In another respect, also, the medical profession has been naturally adapted for the exercise of satire. The satirist to be completely successful must deal with questions of universal interest—his words must express parallelisms which the populace can recognise; and the consequence of this necessity for breadth in the employment of satire is that the weapon has been most freely used upon those whose duty it is to watch the interests either of the soul or of the body. Thus, Boccaccio's fame rests securely upon that response which rises in all honest hearts to his merry strictures upon the depraved ecclesiastics of his time. Rabelais, by sketching the character of his Friar John, who could drink best in his frock, finds generations of readers. People of all ages join in the detestation of the friar who looked upon his cloak as an incentive to drunkenness and gluttony. "If I should lay it aside," said he, "I should lose my appetite, but if in this habit I sit down at table I will drink both to thee and thy horse, and so courage frolic, God save the company! I have already supped, yet I will eat never a whit the less for that, for I have a paved stomach as hollow as St. Benet's boots, always open like a lawyer's pouch."

For similar reasons no comedy has surpassed in popularity Molière's *Tartuffe*, and well-known instances show that the great and lasting interest which is taken in satire directed against the erring devotees of religion is extended also to that levelled at the votaries of medicine. If there is nothing in Boccaccio to show that the medical men of his time had any more reprehensible qualities than the frolicsomeness which is now the popular characteristic of medical students, and if Rabelais—himself a doctor of medicine—could find no more productive field for medical satire than is exemplified in the discourse of Rondibilis the physician upon marriage, Montaigne, in his pleasant gossip of a century later, could find occasion to employ his humour to show that if bodily ailment constituted one disease the only effect of medicine was to produce another. Still later in the history of society, Butler, the author of "Hudibras," did not fail in his running comments on the vanities of his time to satirise the astrological tendencies of medicine, and to recount the pretensions of

> "A cunning man hight Sidrophel."

And it is not difficult to see that at the time when Butler wrote, the practice of medicine was open to the gravest satire, when, in a text-book issued from the press seven years after the first

publication of "Hudibras," we find formulæ for ordinary use, of which the following recipe for a poultice may be taken as a favourable example. The receipt is from Shroder's "Chemical Dispensatory," published in 1669, and is recommended under the designation of *Mynsecht's Poultice*:—Take "A swallow's nest; Album Græcum 2½ ounces; Althea, White lily roots, of each one ounce; figs and dates, of each number three: Boil them in water to a poultice, and add—oil of violets, camomile flowers; fœnugreek, linseed, white meal, of each 6 drachms; the brain of a cat; the powder of a burnt owl and of a burnt swallow, of each 2 drachms; yelks of 2 eggs; saffron one scruple. Make a cataplasm." "It is good in a desperate quinsey, applied often hot to the neck." And the internal remedies indorsed by the same authority show that common sense had so completely become isolated from medicine that satire was eminently required for its correction. Thus we find for various diseases the commendation of such therapeutic agents as the following:—Rasped man's skull, spirit of man's blood, shavings from man's skin, or bones calcined, foxes' lungs, live spiders, etc. On reading these contemporary items of therapeutics, we cease to think that Butler's quaint sarcasms were not completely justifiable, because it becomes evident that medicine had in some degree been perverted into a form of fetichism, in which virtue was ascribed to particular substances on account of obscure modifications of astrological influence. At the same time the nature of Butler's comments shows how grossly the medicine of his time was mixed up with exorcism and magic, when he says that Sidrophel could

> "Fright agues into dogs, and scare
> With rhymes the toothache and catarrh;
> Chase evil spirits away by dint
> Of sickle, horse-shoe, hollow flint."

Immediately afterwards, as if to show the universality of error, and the rise of intellect against it, we have the racy satire of Lesage in the Adventures of Gil Blas of Santillane, in which he depicts the honest but perverse performances of Dr. Sangrado, in his advocacy of vegetarianism, venesection, and hydropathy. And prosecuting the history of medicine still further, we find excellent materials for the satirists in the tendency which many men, ignoring the advantages of exact science, have shown to accept the speculative notions of Mesmer; of Hahnemann, whose doctrines were tinged with belief in Mesmer's theories; and the hundred other forms of error which spring up as easy means of attaining to the notoriety, so easily confounded with celebrity, which can only be attained legitimately by the patient pursuit of truth.

There is still another opening by which satire can readily find access to medical science. That opening is voluntarily formed by the occasional recoil from one mode of treatment to some mode completely antagonistic. When one thinks of the absolutely matter-of-fact way in which our predecessors of the first half of this century practised venesection and mercurialisation, and of the revolution which with comparative suddenness banished every lancet to its sheath and branded mercury as a despicable or pernicious metal: when one thinks of the calm reasoning that within a few years has restored the former as an agent which, when judiciously employed, may be a potent means of preserving life in the last extremities of disease, and restored the latter to an honourable position as the only safe antagonist of a virulent and insidious disorder: we are compelled to think that we owe our later exemption from satire, not to the absence of occasion, but to the fact that the censer of Sangrado has not been represented in modern society, and that the mantle of Butler, who, with exquisite humour, threw into rhyme the vagaries of Sidrophel, has not yet fallen upon any poet of recent times. And, to those who may have occasion to dread the venom of the satirist, it may be some consolation to be told that the medicine of the present is not so openly amenable to general criticism as that of the past. Thanks to the progress of exact science, a store of facts has been accumulated, which must be studied by critics as well as by scientists, before censure can be rendered effective; and there are few who combine in themselves the capability of brilliant satire and the power of mastering scientific detail. The consequence is, that when the modern critic turns his attention to the demolition of modern science on the strength of a telegram or of a police-court trial, he finds that his sharpness is turned against himself by gross errors of his own in science, and that his satire is more than neutralised by his display of unjustifiable ignorance.

THE WEEK.

TOPICS OF THE DAY.

At a meeting of the Wandsworth District Board of Works, held last week, the General Purposes Committee reported that they had inspected the works of the Southwark and Vauxhall Water Company at Nine Elms and Hampton. The Committee found at the works at Nine Elms that the filter-beds were being cleansed and reconstructed, and that improvements were being made there for the purpose of more effectually filtering the water: but, after a careful inspection of these works, the Committee came to the conclusion that such works ought to be entirely removed from their present position, where they are exposed to a deleterious atmosphere. The Committee were informed that land had for some years been obtained by the Company at Hampton for the purpose of improving the character of the water-supply. They were, however, surprised to find that nothing had hitherto been done there towards constructing subsiding-tanks and additional filter-beds, so repeatedly insisted on by the Government Inspector as the only way of insuring the supply of pure water; and the Committee now recommended that the Local Government Board be requested to insist upon the immediate construction of such subsiding-tanks. The Committee also recommended that a communication be addressed to the Local Government Board, strongly urging that some measures should be at once adopted to prevent, or at least to decrease, the pollution of the water at and above the intake. The report was unanimously adopted without discussion.

A munificent donation has just been made by Mr. Edward Pugh, who was formerly extensively connected with the iron trade of the Wolverhampton district, of £1000 towards the erection of a medical and surgical reference library in connexion with the Wolverhampton Hospital. Mrs. Bell, widow of the late Dr. Bell, of Wolverhampton, after whom the proposed library is to be named, had previously given 1000 guineas for the same object.

When taking into consideration the excessive price of that necessary but expensive alkaloid, quinine, the following piece of information will not be considered unimportant. The cinchona plant has been introduced into the West Indian Islands, and promises to become a remunerative industry; the first seed was planted in Jamaica in 1860, and, according to recent advices, the plantations of cinchona now cover 300 acres, containing about 80,000 trees. These have been favourably reported upon by competent chemists, and the most advanced trees are stated to be at the present time worth £1 each; it is further estimated that in the course of a few years their value will be doubled, on account of their increased size, and the corresponding value of the bark arising from the increasing development of the alkaloids it contains. The cinchona has become so naturalised that hundreds of thousands of seedlings are said to be growing over the fields. The introduction of the tree is ascribed to the Government, to whom, as yet, all the plantations belong; but the report adds that no doubt private enterprise will now step in, seeing that large profits are likely to result from the successful undertaking.

A prize of 150 marks has just been awarded to Otto Hehner, F.C.S., Public Analyst for the Isle of Wight, and Arthur Angell, F.R.M.S., Public Analyst for the County of Hants, for their essay on butter analysis. The award was made by Professor Heintz, and Professor Knop, of Leipsic, examiners for the Pharmaceutical Association of Leipsic. Six essays were sent in for competition—two from Germany, one from Austria, one from Italy, and two from England.

The third inquiry under the 12th Section of the Rivers' Pollution Act was opened last week at the Town Hall, Barnet, by Mr. R. Rawlinson. The Local Board of Barnet have been put to great expense for some time past through legal proceedings which have been successfully brought against them at the Hertford Assizes, and in the High Court of Chancery, for the pollution of a stream known as Dallas Brook with sewage from their sewage outfall works. A short time ago they applied for a certificate under the 12th Section of the Rivers' Pollution Act, and Mr. Rawlinson attended upon the occasion in question for the purpose of inquiring into the circumstances of the case, and of deciding as to the granting of the certificate. After considerable discussion the inquiry was adjourned. At Canterbury and Sandown, the only other places where, up to the present time, inquiries under the 12th Section of the Act have been held, no certificates have been granted.

The first lecture in connexion with the Volunteer Sick Bearers' Association was delivered last week by Surgeon-Major Staples, at the rooms of the Society of Arts, Colonel Loyd-Lindsay, M.P., presiding. The lecturer observed that he should prefer that this Association should be known as the Volunteer Ambulance Department, and would advise that the administration should be vested in the Government. He desired to impress upon the meeting the uselessness of spasmodic efforts in a work of this kind, and indicated the means which, in his opinion, were calculated to perpetuate the movement. It would be important to secure an organisation which would be efficient for use in time of war, so that assistance could be promptly rendered to the wounded on the field of battle. At the termination of the discussion which followed, the chairman announced that the Government were willing to supply the teachers, and consequently it only remained to insure a full attendance of pupils.

The facts detailed in a case recently heard before Vice-Chancellor Sir Richard Malins—Davis *v.* Nathan,—when carefully considered, will assuredly convince all thinking men that in the carrying out of the lunacy laws in France they do *not* "manage these things so much better" than we in England. A Madame Mégret, mother of the plaintiff in this action, an English Jewess, married M. Mégret, a Frenchman domiciled in England; in 1870 she suffered from an attack of puerperal mania, and, with her own consent, was placed in the asylum of Dr. Jules Luys, at Ivry. Within a year she had perfectly recovered, but was detained, against her will, in this asylum till the end of 1875. In the December of that year the family solicitor, having proved that she was of sound mind, communicated with the family, and steps were immediately taken which resulted in her release. In the year 1876 she was induced to live once more with M. Mégret, and he shortly took the opportunity of again placing her in an asylum at Charenton. In delivering his judgment, his Lordship earnestly hoped that what had occurred in this case could not happen in England; and under the present condition of our lunacy laws we think he may rest assured that such an occurrence is not to be feared. In making this assertion we would call attention, however, to the case of Mr. Arthur Henry Nowel, who, although an inmate of an asylum at Stoke Newington, was, after a protracted inquiry, conducted by Mr. N. Nicholson, the new Lunacy Master, adjudged to be of sound mind, and capable of managing his own affairs.

The Sanitary Commissioner of the Punjaub has issued a most satisfactory weekly report for the period ending September 15 last. The annual death-rate of the province, from all causes, which in the two previous weeks had been equal to 17 and 16 per 1000, was again only 16 during the week under notice. Only one death was registered under the head of cholera, and this occurred in the village of Langa, in the Gurdaspur district. From small-pox fifty-six deaths were registered, against seventy-three in the previous week; and from fever 3281, against 3257 in the preceding week. The health of the province is therefore pronounced to be very satisfactory.

The great amount of infant mortality in Birmingham has been occupying the attention of the public authorities of that town, and last week a meeting was held, under the presidency of the Mayor, to consider what steps should be taken for its reduction. In opening the proceedings the Mayor said the question of infant mortality had long engaged the attention of the Health Committee of the Town Council, and they had called upon Dr. Alfred Hill, the Medical Officer of Health, to make a report upon the subject. This report had now been rendered and in it Dr. Hill estimated that there were between 1300 and 1400 deaths of infants under one year of age annually arising from preventable causes. Dr. Hill was further of opinion that the evil could only be partially dealt with by a sanitary authority. An organised society of ladies to visit low-class houses, and instruct women in a simple manner on the best mode of feeding and nursing children, together with the establishment of nurseries or crêches, where infants could be properly taken care of while the mothers were at work, would be most valuable. Resolutions were then passed, deploring the high rate of infant mortality in Birmingham, and declaring that as ignorance about diet and management caused probably half the deaths of children under one year old, efforts should be made for a wider dissemination of knowledge on health subjects. Should these efforts take a practical form we shall carefully watch for the result, in order that other localities may benefit by the experience of Birmingham in this important matter.

At the last meeting of the Uxbridge Rural Sanitary Authority, the inspector reported that 208 cases of scarlet fever had occurred, exclusive of upwards of forty cases at the St. Marylebone Schools. For a long time the disease was confined to Southall-green, and principally among the children of the poorest inhabitants, but within the last few months it has spread to other parts in the neighbourhood. Five deaths have occurred in the Schools, and twenty-nine outside; but of seventy-three cases treated in hospital, only four have proved fatal. It is still thought that the patients' clothing has not been properly disinfected before their discharge from hospital.

Dr. Thomas Stevenson, Lecturer on Chemistry at Guy's Hospital, and Medical Officer of Health for St. Pancras, has been appointed to the chair of Medical Jurisprudence at Guy's Hospital—a vacancy created, it will be remembered, by the resignation of Dr. A. Swayne Taylor.

SMALL-POX HOSPITALS AS SOURCES OF CONTAGION.

A CORRESPONDENCE has been forwarded to us by Mr. Walters, surgeon, of Faringdon, Berks, which is so instructive that we make bold to give its substance to our readers. A girl named Rosa Ball, belonging to Faringdon, had been a servant in Marylebone, and was there attacked with scarlet fever. She was taken and admitted to the Stockwell Fever Hospital, where, during her recovery from the scarlet fever, she was attacked by small-pox so severely as to be in danger of her life. Her father was informed of this, and on July 29 left Farringdon, and went to the Hospital, where he was permitted by the authorities to see his daughter. He was told she was very ill, and he was not to stay long with her, but was not informed of the nature of her disease, and no other precautions were taken against his receiving or conveying contagion. He

returned to Faringdon, was taken ill on August 11, and died of small-pox on the 16th. His wife caught the disease and recovered. A woman who laid out his body also caught it, and died. Her daughter conveyed the infection to four other houses, although herself escaping. This woman's furniture was, after some attempt at disinfection, sold, and the wife of the purchaser became infected, was prematurely confined, and died. One of her children now lies ill of it. Thus, writes Mr. Walters in a letter to the Local Government Board, through the man Ball being allowed to visit his infected daughter in the Hospital, we have had nine cases of small-pox out of which four have proved fatal. The evidence as to the source of the disease is in this case exceptionally clear, and is doubtless an illustration of the way in which outbreaks sometimes arise, although tracing their origin may present insuperable difficulties. It cannot be supposed that, where it is *the rule* to admit visitors to see relatives lying dangerously ill of infectious disease, misfortunes of this kind are infrequent. The Local Government Board communicated with the authorities of the Stockwell Fever Hospital, and in reply they wrote that the facts as stated, and as far as they knew, were correct, and that the following were their rules in respect to such cases:—"That when any patient is, in the opinion of the Medical Superintendent, in a dangerous condition, his or her name be placed in a book, to be sent down to the gate-porter, and that the nearest relative of such patient be allowed to see him or her; that, except in such cases, no visitors be allowed to patients; and that, as soon as a patient is out of danger, his or her name be removed from the visiting-book." In addition, each visitor to a patient suffering from small-pox is furnished with a printed copy of the following notice, before being allowed to go into the wards, viz.:—"The Committee hereby give notice to the friends of patients that they run great risk in visiting the hospitals, unless they have been previously properly vaccinated. It has come to the knowledge of the Committee that persons not thus protected, who have been allowed to see relatives lying dangerously ill in the hospitals, have themselves caught the disease and died; no person, therefore, should attempt to enter the wards of the hospitals without having been revaccinated; and the Committee recommend all persons residing in a house where a case of small-pox occurs, at once to call on the Public Vaccinator, whose address may be obtained from any of the parish officers. In the public interest it is necessary to limit the visiting of patients to the nearest relatives or intimate friends of persons lying dangerously ill, and even then the Committee would urge such persons not to enter the wards unless they have been properly revaccinated; and these visits, which can only be made by the permission of the Medical Superintendent, must be strictly limited in their duration." They add: "The difficult question of the visitation of the sick in these hospitals has, on many occasions, engaged the attention of your Committee, who, while fully conscious of the danger attendant upon entering infectious wards, are not prepared to recommend the entire prohibition of the visiting of patients by their friends. The Committee are convinced that, were they to enforce the complete isolation of patients, as suggested in the letter of Mr. Walters, and prevent parents from visiting their children, and husbands their wives, when lying dangerously ill, such a rule would be so repugnant to the general feeling that great opposition to the hospitals would arise from all classes, concealment of disease would follow, the usefulness of the hospitals would be much impaired, if the object for which they were established were not entirely defeated, and worse consequences would result to the community than are likely to accrue by the occasional contraction of the disease by visitors admitted under the restrictions already laid down. Of two evils, therefore, your Committee have chosen that which they believe to be the least, and have adopted a practice which is most in accordance with humanity, and with a respect for the feelings of the sick poor themselves. Your Committee, however, believe that while nothing will absolutely insure the safety of persons visiting the patients in these hospitals, the danger may be very much reduced if proper precautions are taken by the visitors themselves. The avoidance of actual contact with the patient or the bedclothes, with the breath or cutaneous emanations, together with an ablution of the hands and face with carbolic soap before leaving the building, would do much to protect the visitor and prevent the exportation of the poison." There is no doubt we are here face to face with a serious difficulty, but we fear that weakness to the verge of imbecility is the prime characteristic of the Committee's procedure—certainly it is of their final suggestions; for they seem utterly to forget that though visitors may not contract disease themselves, still they may become its vehicles to others, when washing the face and hands with carbolic soap may not quite arrest its ravages. It seems to us that there is no middle way—either complete seclusion, or complete disinfection of all visitors; and certainly the number of visits ought to be limited in all cases for the good of both patients and friends. We think Mr. Hopkins Walters has done good and loyal service in thus laying so clearly open to the public the dangers likely to arise from the present system as existent at Stockwell.

ARTIFICIAL ANÆMIA AS A MODE OF TREATMENT FOR DISEASES OF THE LIMBS.

A NEW application is suggested for Esmarch's elastic bandage, namely, as an anæsthetic and curative agent in painful inflammatory affections of the extremities. Dr. Bernhard Cohn, of Steglitz, relates (*Berl. Klin. Wochenschrift*, October 29, 1877) two cases in which the induction of artificial anæmia by the bandage was followed by great relief—a case of phlegmonous inflammation of the foot in a man of sixty-three, and one of simple œdematous inflammation of the forearm in a maid-servant; and he gives the details of a third case in which a practical cure resulted from Esmarch's method after all other modes of treatment had been exhausted. The patient, a boy of three and a half years, had white swelling of the left knee-joint of eighteen months' standing, with considerable enlargement of the condyles of the femur, and thickening of the tissues around the patella and the head of the tibia.. There was great sensitiveness of the parts to pressure, movement was impaired, and walking only possible for a step or two, with lowered pelvis, and with the tips of the toes alone reaching the ground on the left side. After a few weeks' daily application of the bandage for fifteen to sixty minutes, the improvement was so great that the limb could be moved in all directions or handled without pain, the entire sole of the left foot could be brought to the ground in walking, and the gait was even on the two sides—in fact, all that was left of the former affection was a little swelling and limitation in the movement of the joint. Dr. Cohn, in his remarks on the cases, declares that in practice the idea that the increase of blood in the capillaries, which follows the removal of the bandage, will entirely undo the effect of the previous anæmia, is not sustained. He considers that the bandage acts mainly by relieving the congestion of the inflamed part, and perhaps by improving the conditions of diffusion between the tissues and the bloodvessels. He recommends an elastic band, one inch and a half wide, encircling the limb so that each turn overlaps the one below, and finished off with five to eight turns completely covering each other. He thinks that the bandage may be allowed to remain on the limb longer than we might *à priori* think justifiable, and that there is less danger of gangrene if both arteries and veins are completely compressed than if the compression be imperfect so as to close the veins and hinder the escape of blood, while it is still allowed to enter by the arteries. In the latter case, œdema,

with enormous rise in the blood-pressure, must be the result. To avoid pain as much as possible, the final turns must not be tighter than absolutely necessary to stop the circulation. The questions, "How often can and ought the constriction to be renewed?" and "Is it better to use single *long* compressions, or frequent short ones?" require further experience to answer them satisfactorily.

EFFECTS OF SEWING-MACHINES ON HEALTH.

A REPORT on the health of persons who work sewing-machines was lately presented by Dr. Nicholls to the State Board of Health, Massachusetts. From observations made by medical men, it was inferred that a healthy person, of average strength, who does not make a business of sewing with a machine, may work one for three or four hours a day without much fatigue or perceptible injury to health; but that among workpeople, disorders of digestion, due to sedentary life and bad ventilation are frequently met with, also pains in the muscles of the trunk and the lower limbs, because these latter are always in motion. There occur also congestions of the ventral organs, weakness, and in some rare cases neuralgias of the legs and spinal irritations. It is recommended to the proprietors of works in which the sewing-machine is used to have (1) a good ventilation; (2) a shorter time for work, with periods of rest; (3) another motor force than that of the feet—*e.g.*, a steam-engine.

PEMPHIGUS NEONATORUM.

EPIDEMIC pemphigus attacking infants, and independent of syphilis, is a well-attested fact, but its etiology is by no means clear. Professor Dohrn, of Marburg, lately related to the Medical Society of that place the history of a midwife living at Wiesbaden, in whose practice thirty-four children out of seventy-three were attacked with pemphigus within a few months. The eruption generally appeared at the end of the first week after birth, and was unattended with danger or much discomfort to the infants. Cleanliness, repeated disinfection, the use of new instruments, and all other preventive measures, were tried in vain. She was advised by Professor Dohrn, to whom she applied, to go away from Wiesbaden for a month and have a holiday. On her return, the first three children she attended remained healthy; the fourth, fifth, and seventh were attacked with pemphigus. She left home again for a month, and, on recommencing practice, the same series of events was repeated. Where does the infection work in such a case? and what is its nature?

WILLIAM GALE AT THE ROYAL COLLEGE OF SURGEONS.

ON Friday, November 23, Gale, the famous pedestrian, attended at the Royal College of Surgeons, by the invitation of the President, for the purpose of undergoing an examination as to his condition of health, after the prolonged exertion of walking 4000 quarters of a mile in 4000 consecutive ten minutes, or a period of twenty-eight days, terminating on the 17th. The examination was conducted principally by Mr. Erichsen, Professor Humphry, Mr. Marshall, and Mr. Holden. Gale is forty-five years of age; his height is only five feet three inches and a half, and average weight eight stone seven pounds. The examination showed that he was not of marked muscular development; the muscles of the lower limbs were small and soft. The heart-sounds were found to be perfectly normal, and the impulse remarkably strong; the pulse was seventy-six, full, strong, and regular. Circumferential measurement of the thorax, just below the axillæ, thirty-two inches; deep inspiration gave an additional inch—thirty-three inches. There was no tendency to hernia, and no varicocele. In the left leg the external saphena vein was largely varicose, in the form of an eel-like convoluted mass on the back of the calf; and below the flexure of the knee a more dilated and thin-walled sacculus appeared ready to yield further. This state of the veins in the left leg had existed for some years in a slight degree; but, during the previous walk of 1500 miles in 1000 hours, at Lillie-bridge, the varicosity rather suddenly and rapidly increased, and when Mr. Gant first saw Gale on that occasion, he at once applied a bandage until an elastic support could be obtained, which was worn throughout the recent long walk. The sense of weight and weakness in the limb, which had occasionally rendered the pedestrian somewhat lame, had thus been entirely relieved, and the varicose condition had not increased. Gale's appearance is remarkably fresh and vigorous, notwithstanding the arduous feats he has achieved in former years. In July of the present year, after being ten years out of practice, he first accomplished the marvellous undertaking he has just now repeated; and, in the interim, the extraordinary performance at Lillie-bridge, which eclipsed Captain Barclay's previously unequalled walk of 1000 miles in 1000 hours. After his examination at the College, Gale gave an illustration—so far as the confines of the theatre permitted—of the style and rapidity of his walking.

THE HEALTH OF BIRMINGHAM.

IN his quarterly report on the health of the borough of Birmingham to September 29 last, Dr. Alfred Hill, the Medical Officer for the district, takes occasion to call attention to the decrease in the death-rate for the period under notice, compared with that for the summer quarters of the last four years; and this, notwithstanding the large number of deaths from diseases of the respiratory organs, measles, and whooping-cough, he considers is entirely owing to the unusually small mortality for this season of the year from diarrhœa, the deaths from which during the quarter have not amounted to two-thirds of the number from this cause in the summer quarter of last year, or to one-half as many as they were in the corresponding quarter of 1875. This diminution, Dr. Hill thinks, is without doubt to be attributed to the remarkably low temperature which prevailed throughout the whole of the quarter. The mortality was equal to an annual death-rate of 22·25 per 1000 of persons living, and must be looked upon as fairly satisfactory. But some steps are evidently required to be taken to still further reduce the mortality, when it is announced that since the commencement of the present year no less than seventeen persons have died in one street of Birmingham from zymotic diseases, nine of them in the period we are now discussing. Dr. Hill refers this unsatisfactory state of things to the water-supply, as on several occasions he has had samples of well-waters, taken from wells in the street, submitted to him for analysis, and has invariably found them to be highly impure, and to contain large quantities of ammonia and other substances indicating sewage contamination. Might it not prove more satisfactory to close these wells compulsorily, and substitute for them an improved water-supply?

THE METROPOLITAN WATER-SUPPLY FOR OCTOBER LAST.

THE reports of the Water Examiner, and of Dr. Frankland, on the metropolitan water-supply for the month of October last, show that the river-water supplied to London during that period was of unusually good quality, that abstracted from the Thames being fully equal to what is usually obtained from the Lea; whilst the water from the Lea delivered by the New River and East London Companies was, on the average, equal in purity to deep well water. Moreover, all the river-water was efficiently filtered before delivery. Such a generally satisfactory state of things has rarely, if ever, been recorded in these monthly reports, and at once excites the reflection whether the proposed scheme of the Metropolitan Board of Works for purchasing the rights of the London water companies can have had anything to do with it. An exceptionally propitious state of the rivers may have contributed to this

happy result, but if this has not been the case, the present agitation must have induced greater attention to the filtration of the water on the part of the companies' officials; and if this latter solution should be at all correct, it would afford an additional proof of the necessity of placing our water-supply in the hands of one central authority which would be responsible for its uniform purity. The reports further state that the water drawn from deep wells by the Kent Company and the Tottenham Local Board of Health was palatable, wholesome, and of its usual excellent quality for dietetic purposes. The Colne Valley Company's water, on the other hand, was exceptionally contaminated with organic matter of vegetable origin, and although such contamination need not excite alarm, Dr. Frankland suggests that the cause ought to be sought out and removed.

SURGICAL SOCIETY OF IRELAND.

The opening meeting of the Surgical Society of Ireland took place on Friday evening, November 23, in the Albert Hall, Royal College of Surgeons, Dublin. The inaugural address was given by Dr. Robert McDonnell, President of the College and of the Society. After alluding to the losses which the Society had suffered since its last meeting, especially by the death of Drs. Cronyn and Henry Wilson, and quite recently of Dr. H. Griffiths, the President delivered a discourse, taking for his theme—"What has experimental physiology done for the practice of surgery?" He first pointed out the effect on practice of the general light thrown on it by physiological discovery. Many excellent practical surgeons, he said, knew but little of physiology; they applied in practice every day principles discovered and worked out by the experimental physiologist, yet oftentimes they knew not the steps by which these principles had been discovered. Like Molière's "Bourgeois Gentilhomme," they were talking prose without knowing it. He who works an electric telegraph may do it admirably well, yet know nothing of Galvani's or Volta's discoveries. So it is with the surgeon and physiology. In this we find the explanation of the strange fact that some practitioners whose names are well known to the public have been found to make the assertion that experiment on animals has done little for practice. Dr. McDonnell then proceeded to compare the surgery of some centuries ago with that of to-day. He set side by side an operation in the olden time with one at the present time. How surprised and delighted, he said, would Sir Astley Cooper be could he witness an operation at once painless and bloodless, and a convalescence disarmed of dangers of fever and suppuration. He then showed *seriatim* the share experiment has had in bringing about these happy results. Several recent specimens were subsequently exhibited by members, after which the Society adjourned.

PATHOLOGICAL SOCIETY OF DUBLIN.

The first meeting of the session 1877-78 took place on the afternoon of Saturday, November 24, in the Anatomical Theatre of the School of Physic, Trinity College, Dublin. The chair was taken by Dr. Hayden, the outgoing President. The business of the meeting was confined to the election of annual officers, and to the making of arrangements for future meetings of the Society under the new system. It will be remembered that last session it was decided to admit students no longer to the meetings, and to have discussions on the specimens exhibited. The Society is to meet in future at 4.30 p.m. on Saturdays, the place of meeting being, as heretofore, the School of Physic. The following officers of the Society for the session were elected:—*President:* Edward Hamilton, M.D. *Vice-Presidents:* John Thomas Banks, M.D.; Samuel Gordon, M.D.; Thomas Hayden, F.K.Q.C.P.; George H. Kidd, M.D.; Robert McDonnell, M.D.; and J. Jolliffe Tufnell, M.D. *Council:* Lombe Atthill, M.D.; Anthony H. Corley, M.D.; George F. Duffey, M.D.; Charles E. Fitzgerald, M.D.; Arthur Wynne Foot, M.D.; James Little, M.D.; Thomas Evelyn Little, M.D.; Benjamin George MacDowel, M.D.; William Moore, M.D.; John William Moore, M.D.; John Mallett Purser, M.D.; Henry J. Tyrrell, F.R.C.S.I. *Honorary Secretary:* William Stokes, M.D. *Secretary and Treasurer:* Edward Halloran Bennett, M.D. *Secretary for Foreign Correspondence:* Robert D. Lyons, M.D. The newly appointed President, Dr. E. Hamilton, having taken the chair, a vote of thanks to the outgoing President, Dr. Hayden, was passsed by acclamation. The Society adjourned to December 1.

BETTER LATE THAN NEVER.

The following order, dated the 27th inst., has been issued at all the metropolitan police-stations, by command of Colonel Henderson:—"Whereas, dogs suspected of being mad having been recently found within the metropolitan police district, I, Edmund Yeamans Walcott Henderson, the Commissioner of Police of the Metropolis, pursuant to the Dogs Act, 1871, and in exercise of the powers vested in me as the local authority under the said Act for the metropolitan police district, do hereby order that no dogs, not being under the control of any person, shall be henceforth, for the period of sixty days, suffered to be in or upon any thoroughfare or public place, or any place open to the public, within any part of the metropolitan police district, except within such parishes and places as are now within the jurisdiction of the Metropolitan Board of Works, and to which the provisions of the Metropolitan Streets Act, 1867, already apply and are in force." An addendum states that "all dogs not being under control will be seized by the police, and disposed of in accordance with the law."

THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

It has long been matter of complaint that authors are not allowed to read their own papers before the Medical and Chirurgical Society, but that they are entrusted to a secretary who may have had little or no opportunity of acquiring that mastery over them necessary to good reading. Of this we had an unfortunate illustration last Tuesday evening. Everyone is aware of the style in which Sir James Paget's papers are written, yet through the misfortune of bad reading the paper became nearly unintelligible. Would it not be wise to give authors the option at least of reading their own productions, as is done elsewhere? Might we at the same time suggest to the worthy President that bulletins as to the state of any Fellow's health may sometimes be found out of place.

PRIZES IN BOTANY FOR WOMEN.

The Society of Apothecaries have decided to offer two prizes for competition by young women under twenty years of age, in the science of botany. The prizes will consist of a gold and a silver medal and books, to be awarded to the first and second candidates respectively in order of merit. The Rev. M. J. Berkeley (the examiner for the prizes given by the Society to medical students) will conduct the examinations. The date of the examination and the conditions of competition will be published shortly.

HEALTH OF DR. STOKES.

We have pleasure in stating that the latest accounts of Dr. Stokes's condition are somewhat more favourable. There has been no return of apoplectic seizure since that which on Saturday week excited the liveliest apprehensions of his host of friends.

ROYAL MEDICAL SOCIETY, EDINBURGH.

At a meeting of this Society, held on the 23rd inst., the following gentlemen were elected Annual Presidents:—Robert Roxburgh, M.B., L.R.C.S.; Johnson Symington, M.B., C.M., M.R.C.S.; David Hart, M.B., C.M.; George A. Gibson, M.B., D.Sc., F.G.S.

HYDATIDS OF THE LUNGS.

"Unbidden guests."—*Shakespeare.*

The subject of hydatid cysts in the lungs is one of great importance, not only to Australian practitioners, but also to practitioners nearer home. A valuable contribution to the subject has recently appeared,(a) and we propose to briefly notice it, in the hope that it may prove useful to those whose opportunities of seeing the disease are not so frequent as those of the author to whom we allude.

Dr. Bird's little book is the result of sixteen years' experience in the colony of Victoria, where the disease may be said to be endemic. We need not more than glance at the subject of the origin of hydatid cysts in the human body. The researches of Cobbold and Küchenmeister show that the ova of the Tænia echinococcus, a parasite which infests the bowels of dogs, will, if introduced into the human body, develope into what we call the hydatid cyst. Dr. MacGillivray, in a paper in the *Australian Medical Journal*, 1869, gives an interesting account of the special facilities afforded by mining and agricultural life for contracting this disease; but other causes than these must be at work, as the inhabitants, both rich and poor, of the city of Victoria are equally liable to it. It is believed that the droppings of the sheep-dogs, dried by the hot winds, and readily pulverised by the traffic in the streets, are inhaled as a fine dust during respiration. Not only does it seem highly probable that this supplies the *materies morbi*, but it explains also the remarkable frequency of lung hydatids as compared with those in the liver or elsewhere. It is well known that the sheep is obnoxious to the echinococcus, as well as its more familiar parasite the fluke; but whether either is communicable to the human subject by the vehicle of partially cooked mutton, as is the popular belief, we have no positive data at present to determine. The use of half-washed watercress, and such-like plants, growing in creeks and water-holes readily accessible to dogs, as food, affords one common explanation of the entrance of the larva into the digestive canal.

The most important part of the subject is, of course, the diagnosis, especially while the parasite is still in its integral state. The author's experience is "that the only absolute evidence of the existence of hydatid in the lung, whether originating there or in process of passage from the liver, is the appearance in the sputa of the characteristic cysts or portions of them, or fragments of the hooklets of echinococci." This unfortunately does not happen till what we may call the second stage of the disease, when the entozoon has begun to die, and be expelled from the body. An examination of the sputa with the microscope becomes of great importance, almost as a matter of routine. So long as the cysts remain entire, and no definite information can be got from an examination of the sputa, we must fall back upon a systematic physical examination of the chest—"a successive exclusion of morbid states within the thorax other than hydatid, which may give rise to a group of signs more or less resembling it, being the safest and most scientific method of procedure." The symptoms are (1) general, (2) special. The general symptoms may at first be very slight. If the cyst be of moderate size and of slow growth, it does not much interfere with surrounding structures, and thus may cause little disturbance; indeed, often it remains unnoticed by the patient for a considerable time, especially if, as often happens, he have a capacious chest. The accommodating power of healthy lung-tissue to increased work is indeed most wonderful when there is no constitutional mischief at work. But as the cyst enlarges, which it invariably does if not interfered with, symptoms of pressure or irritation, or both, begin to show themselves. Dyspnœa and duskiness of the skin may be observed, and are more or less marked, according to the size, locality, and rapidity of increase of the tumour, and the capacity and mobility of the affected chest. In women, if the cysts occur in the upper lobes, these last-mentioned symptoms are usually very prominent. The presence or absence of pain, and its character, acute or otherwise, are determined by the same conditions. A more or less phthisical appearance, *even when the case is not complicated with tubercle*, is often noticed, with progressive loss of flesh; and in some instances Dr. Bird has seen well-developed clubbing of the finger-ends, and incurvation of the nails (all which symptoms have disappeared after the hydatid cyst had been tapped or expectorated). Cough nearly always occurs, and it varies in character in the early stages; but when the cyst is large and situated near the base of the lung, the cough is usually violent and paroxysmal in character. Expectoration at first is simple mucus, which may or may not be stained with blood; as the case progresses it becomes more or less purulent. Dr. Bird has seldom or never seen profuse hæmoptysis, though he has "seen several ounces at a time in an aggravated case when tapping had been long delayed." Should these symptoms—dyspnœa, deficient aëration, wasting, clubbed fingers, cough and expectoration—remain persistently after the expulsion or death of the hydatid, the probability of course is in favour of further complications. 2. The special symptoms include the physical signs given by auscultation and percussion. It is just this part of the subject which our chief texts-books pass over without giving us much information. The physical signs vary very much according to the *size* and *locality* of the sac. Out of 150 cases of hydatid disease in the thorax, which Dr. Bird's personal experience embraces, one occurred in the mediastinum, one in the cavity of the pleura, two in that of the pericardium, and the remainder were seated in the lung-substance. Dr. Walshe believes that the hydatid sacs are rarely surrounded by healthy lung-substance. Dr. Bird, on the contrary, has frequently seen them so, and hence he considers that the condition of the surrounding lung-tissue is of great importance from a diagnostic point of view; he says, "the small amount of irritation caused by a slowly enlarging cyst in the lung, and the very trifling modification in the breath-sounds in the immediate neighbourhood which may be caused by it, are most important negative signs in the diagnostics of hydatid." There is "a nullity of respiration sound, no air whatever entering the compressed lung, though beyond the clearly defined margin of the cyst the breath-sounds are at once normal." He sums up the physical signs of a hydatid tumour of *moderate* size as follows:—"Expansion more or less deficient on the affected side; mensuration but little affected; absolute dulness on percussion, with absence of respiratory sounds, over a space of of the chest-wall not smaller than the palm of the hand, generally in the lateral and infra-clavicular regions, with absence of vocal fremitus in most cases. This dull space always presents a rounded outline, is limited by a line of demarcation so exact that it can be mapped out with pen and ink, and is unaltered by position. Beyond the boundary-line percussion is clear and normal. The respiratory sounds, though inaudible over the dull surface, commence immediately beyond the pen-line; and, though probably rather harsh and puerile in character, are indicative of healthy lung-tissue. . . . Thus one is reduced to the conclusion that there is a sac containing fluid within the chest-wall, slowly enlarging, causing little or no pain or local irritation, not the result of any inflammatory effusion, but foreign to, though growing in, the thoracic viscera. A hydatid cyst alone combines all these characters, so that the diagnosis may be reduced almost to a certainty." Should the disease progress without interference until the pressure of the surrounding tissues is more than they can bear; or if the enlargement take place much more rapidly than usual, very serious effects are produced, which greatly complicate the diagnosis—patches of pneumonia, with rusty or bloody sputa, sometimes even with gangrene, obstinate bronchitic symptoms limited to the affected side, occasionally effusion into the pleura, or perforation of that membrane, or even of the diaphragm, as related by Laennec. But such complications are rare in this colony, as the disease is almost always recognised at an earlier stage. When a cyst has attained a large size without relief, and degeneration of its wall ensues, with rupture into a bronchus, the symptoms become distressing indeed. Intense prostration, hectic, the ceaseless expectoration of blood, pus, and half-putrid acephalocysts of excessive fetor, and often portions of gangrenous lung-tissue, go on sometimes for months, till the patient, in most cases, sinks from exhaustion, unless relieved by the evacuation of the sac and its contents by a free incision between the ribs. The distinction between cases of hydatid expectoration from cysts in the lungs and those where a liver-hydatid has burst into the lung is generally easy, from the previous hepatic symptoms, and the staining of the sputa with bile.

(a) "On Hydatids of the Lung: their Diagnosis, Prognosis, and Treatment." By S. Dougan Bird, M.D., Lecturer on Therapeutics in the University of Melbourne. Second edition. Melbourne: Robertson. 1877. Pp. 64.

The diseases most likely to be mistaken for hydatids of the lung or pleura are:—(1) An unbroken cyst in the liver, high up and far back on its convex surface, may not be distinguishable from one in the base of the lung immediately over the liver, or one in the cavity of the pleura; (2) phthisis; (3) localised pleuritic effusions; (4) circumscribed abscess of lung; (5) mediastinal tumour, or abscess; (6) a solid tumour of the lung.

Concerning *treatment*, Dr. Bird looks upon an exploratory puncture with a fine trocar as the only appropriate treatment for such cases; "and in exceptional cases of old standing, when there is a thick adventitious external wall to the cyst, which is generally closely adherent to the ribs, or in cysts of the pleura, free incision." He recommends that the trocar should be not less than six inches long, and of the smallest diameter that is made, always providing that it is strong enough to bear the strain of a firm pressure. Speaking of the aspirator, he says, "they always do so well if tapped early enough with the simple trocar and canula, that the evidence in its favour is not very conclusive." Dr. Bird has seen it used on two occasions; both cases did well as usual, but recovery was not quicker than if the ordinary instrument without the suction apparatus had been used. "Theoretically, however, the more complete emptying of the cyst, and possibly its dislocation from its nidus, should aid in destroying the vitality of the parasite. If the cyst is tapped early, and has not been much irritated or interfered with till then, the limpid fluid will flow freely through the fine canula; and the expansion of the lung, which commences immediately the pressure of the fluid is removed, is generally sufficient to empty the sac, especially if aided by efforts of coughing, which indeed are generally involuntary." The treatment of old suppurating cysts is rather different; the centre of the sac, as nearly as can be judged, is fixed upon, an incision is then made through the skin and muscles, and the largest-sized trocar and canula that will pass between the ribs is introduced into the sac. This gives exit to a quantity of pus, and fragments of cysts of various sizes. Dr. Bird thinks it better to leave the canula in for some days or even weeks, and to wash the sac out frequently with some disinfecting solution. He considers some delay is always necessary to allow of the separation of the parent cyst from its nidus, and the gradual expansion of the lung. "Immediate attempts at its removal by forceps are generally unsuccessful, and portions are very apt to be left behind." The opening must be free, and kept patent with perforated drainage-tube. For cysts which are separated from the chest-wall by a layer of healthy lung-substance the fine trocar is the most appropriate, because it is almost impossible to perforate comparatively healthy lung-tissue with a large trocar. This, the surgical treatment of hydatids, is the most important; it occasionally, however, cannot be adopted, and then medicinal treatment has to be resorted to; but it is preferable to combine the two whenever it is practicable. Turpentine, from its well-known anthelmintic powers and ready diffusibility, has naturally suggested itself as a remedy, and it has proved of great service in many cases, while in others it has signally failed. Dr. Bird thinks it ought to be tried in all cases. He recommends also "that the bromide or iodide of potassium, combined with kamela, be given continuously for several weeks"; it has a distinctly sickening and irritating effect on the acephalocyst.

The *prognosis* is one of no less moment nor of lesser interest. An early diagnosis, and tapping with a fine trocar, with persistent and appropriate drug medication, render the death of the individual parasite almost a certainty; and this being accomplished, the danger is done with as far as it is concerned. But there is always the possibility of *other* hydatids making their appearance in the lung or *in other organs*. Everyday experience shows the peculiar liability which some persons betray to parasitic disease. "Weakness or strength of constitution seems to have little to do with it, but rather idiosyncrasy." "An individual who has once had hydatid thereby proves his title to susceptibility to such disease, and has therefore, *cæteris paribus*, more chances of again contracting it than his neighbour, who has hitherto escaped it." "Such susceptible persons can but avoid drinking any water but what has been boiled or stone-filtered, the former being by far the safest; and if, in spite of this, they contract hydatid, it is their misfortune, and not their fault."

The question of probability of recurrence of hydatid is one of special importance in reference to the selection of lives for assurance. Should an applicant be refused because he has formerly had hydatid of an internal organ? Dr. Bird says, "not always, but he certainly requires considerable 'loading' to bring him to the level of others who have been unaffected. . . . He has proved his susceptibility, and should the disease reappear, no human foresight can predict that it will not be in the brain or heart, where it is probably fatal."

We have endeavoured to pick out the most interesting points of this little book. Dr. Bird earns our best thanks for having given us the benefit of such an extensive experience of this rare disease. His book is a model of what a book should be: it is concise, agreeably written, and contains a digest of other writers' views; but its chief recommendation is, that it is the author's own experience and views of a disease on which he speaks with the authority of a master. We heartily commend it to the further attention of our readers.

FROM ABROAD.

The Paris Faculty of Medicine.

The Paris Faculty of Medicine continues to resist the high-handed decree, to which we have before referred, by which it was sought to force on it two supplementary professors, without its consent being asked. It has taken the matter before the Conseil d'Etat, and there can be little doubt that there will be a decision given in its favour. According to a statement made by M. Alglave, the editor of the *Révue Scientifique* (No. 18), the matter resolves itself into what with us is denominated a "gross job" for the purpose of finding places for two favourites. One of these gentlemen is M. Voisin, brother of the Préfet de Police of the De Broglie Ministry; and the other M. Mauriac, who acted as electoral agent for M. de Fourtou at Riberac. They had to be provided for, and it was desirable to give them posts which they would not have to give up on the retirement of their patrons from office.

For several years past the Faculty has been in the habit of supplying deficiencies in its professorial staff by creating a certain number of temporary supplementary chairs for special diseases. About eighteen months since, the Minister of the day offered to convert four of these chairs into permanent professorships; and, as was thought at the time, the Faculty most injudiciously declined his offer. One such chair, however, was so created for mental diseases, and M. Ball, the successful competitor, was presented to the Minister and nominated to the professorship. Five other specialties remained in the position of supplementary clinics, for diseases of children, ophthalmology, syphilitic diseases, diseases of the genito-urinary organs, and diseases of the skin. These were confided to *agrégés* of the Faculty for a period of five years. On August 20 last, however, a decree was issued declaring that supplementary lectures might be founded, and that they might be entrusted to hospital medical officers, who need not be *agrégés* (or deputy professors) of the Faculty, from among whom all such appointments had hitherto been made. They also were declared capable of participating in the examinations. Many of the Faculty being absent from Paris, this decree did not receive the prompt opposition it would have done, while various similar projects had passed away as dead letters. However, on October 11 a new decree was issued, appointing for ten years the five *agrégés* who had been already chosen by the Faculty, but requiring M. Fournier, the *agrégé* appointed for the clinic of venereal diseases, to confine himself to the secondary and tertiary forms of syphilis, the primary forms being confided to a new professor, M. Mauriac, the friend of M. de Fourtou—two clinical courses on syphilitic diseases! The case of M. Voisin is still more extraordinary, for he is provided for at the expense of M. Ball, the new Professor of Mental Diseases, and who, notwithstanding his strenuous efforts, has never yet been able to get any hospital service assigned to him. M. Voisin, in fact, is to deliver a supplementary course of lectures on mental medicine, and a service is ordered to be at once prepared for him—M. Voisin (who has an appointment at the Salpétrière, conferred upon him formerly by ministerial nomination, like any other *employé*) not being even a hospital medical officer, and never having furnished the guarantee of capability supplied by the *concours*. The professors and *agrégés* have each protested against these nominations, and the Faculty has announced its determination to resist the carrying out the decree. It is true that

MM. Mauriac and Voisin may deliver lectures in spite of the Faculty; but they can have no right to participate in the examinations, which can only be conducted by professors and *agrégés* nominated by the Dean of the Faculty. It seems that the only professor who refused to sign the protest was Prof. Chauffard, the Inspector-General of Medical Schools and Faculties; and this, joined to his clerical proclivities, caused him to be met with a most stormy reception at his lectures.

Transfusion in a Case of Cancer Uteri.

A woman, aged fifty, was admitted to the St. Pierre Hospital, Brussels (*Presse Méd. Belge*, November 4 and 11), with cancer uteri, the hæmorrhages which had taken place having had great effect upon her. In a clinical lecture which he delivered on her case, Prof. Thiry stated his conviction that the disease must terminate fatally before long, and added that for some time past he had asked himself whether, in cases of this kind, it would not be proper to try the effect of transfusion of blood. Up to the present time all measures employed against cancer have proved of no avail; and we are justified in trying all the measures at our disposal for the relief of the accidents the patient is exposed to, and for investigating one of the resources of art which has as yet been but little experimented with. If we infuse into her veins a rich and young blood we may find important transformations take place. The vital activity thus considerably increased may induce notable changes in her condition; and if we do not succeed in obtaining a modification of the terrible diathesis under which she suffers, we may at least place her in a condition which will allow of her resisting for a longer period the disease which is exhausting her. We have a precedent which authorises us to believe that, if we do not effect a cure, we may obtain an amelioration. Thus, at the Hopital St. Jean, transfusion was performed on a woman who had undergone an operation three times for cancer of the breast, and who had arrived at a point of extreme debility. Transfusion was executed *in extremis*, and perfectly succeeded, the immense wound rapidly healing; and the woman, who was believed to be at the point of death, left the hospital six weeks afterwards, dying only a year later, cancer being found at the autopsy in all the organs except the other breast. "Is it nothing," M. Thiry asked, "to prolong the life of a mother of a family for even a year?" And this is what transfusion did. In two other cases the operation was also tried by the same surgeon under analogous circumstances, and in both the patients found the hæmorrhages diminish, and their general state improve. This ought to induce us to make new trials, and even in the present case, which seems desperate, success may follow. It would be a crime on the part of the practitioner not to try, even in cases that afford little hope, all the means which therapeutics places at his disposal.

Prof. Thiry represented to the patient how desirable it was that she should submit to treatment that had already been followed by encouraging results, but, alarmed at an operation of which she had never before heard, she refused. The actual cautery and various caustics were several times employed during the subsequent four weeks, when she consented to the transfusion. This was performed on November 18 by M. Casse, who, having chosen a very small vein, in view of other transfusions being required, demonstrated to the pupils that the injection of blood (thirty grammes of defibrinated in this instance) can be effected even in the smallest vessels. He further called their attention to the innocuity with which bubbles of air may be allowed to enter. Without considering it desirable that air should be injected, he protested against the exaggerated views generally held of the mischief ensuing on its entrance. Accidents which may ensue on the admission of a large quantity at one time, are never met with when some bubbles are slowly introduced. Considerable improvement ensued, although blood still continued to be lost; and on December 2 a second transfusion was practised, and on the 16th a third, the losses of blood abating considerably upon the whole, although recurring. The woman, however, was very indocile, and at last, feeling herself better, she, in spite of remonstrances, left the hospital on January 8. Arrived at home, she refused all further transfusion, and died in February. One consequence of her indocility while in the hospital was the production of phlebitis, which, unlike what is usually the case, assumed a centrifugal direction. Upon the whole, in spite of the fatal issue of the case, enough was observed during its progress to encourage further trials of transfusion in cases in which the disease has not advanced so far.

Croup and Diphtheria.

Dr. Lewis Smith (*New York Med. Record*, October 13) enters his protest against the doctrine laid down by Prof. Steiner, in "Ziemssen's Cyclopædia," that these two affections are only varieties and modifications of one and the same process, which, in consequence of special influences and collateral causes as yet imperfectly understood, makes its appearance at one time as croup, and at another as diphtheria. On the contrary, he maintains, "Croupous laryngitis and diphtheritic laryngitis, however closely their anatomical characters may approximate each other in certain cases, are totally distinct maladies." In support of this view he adduces the following reasons:—

1. Difference of causes. Croupous inflammation, like any other inflammation of the larynx, is usually due to what is called "taking cold," and is especially prevalent in the cold and changeable months, and in moist and cold climates, those children suffering who are most exposed to cold and changeable temperatures. These are the exciting causes, although there are also probably predisposing causes in many instances existing in the individual. The cause of diphtheritic laryngitis is a *materies morbi*, which acts independently of thermal changes in the atmosphere. The conditions required are the presence and reception into the system of the diphtheritic poison. Thermal atmospheric changes can only be a cause of diphtheritic laryngitis by the fact that, in an individual suffering from diphtheria, surfaces that are already the seat of catarrh, which usually occurs in cold and changeable weather, are more likely to be the seat of the diphtheritic deposit than those which are in a normal condition. 2. Croupous laryngitis occurs upon all parts of the earth's surface, though it is said to be more common in high latitudes than in tropical regions—as would be expected from the nature of its cause. Diphtheritic laryngitis only occurs in localities where diphtheria prevails. Many towns in the United States have never yet been visited with diphtheria, but from time to time, in these, cases of obstructive laryngitis with pellicular exudation occur, a considerable number of which prove fatal, and which can only be considered as cases of croup. 3. The supposed anatomical differences which able pathologists have insisted upon—viz., that while the croupous pellicle lies upon the surface of the larynx, and does not penetrate it, the diphtheritic exudation pentrates the mucous membrane. "I am not prepared to state to what extent this distinction holds true as regards croup, but I know that the diphtheritic pellicle does penetrate the mucous membrane of the larynx; while it lies upon, but does not penetrate, that of the trachea and bronchial tubes." 4. "The highest authorities in pathological histology, as Rokitansky, state that croupous inflammation may occur upon all the mucous surfaces, but that it is more common in the respiratory tract than elsewhere. And it is to be observed that Rokitansky made this remark after observing 30,000 dissections in Vienna, where diphtheria had not yet appeared. Now, it seems to me unreasonable to deny this statement, and to regard those isolated cases which have been long known under the name of croup, and which occur in localities that have not as yet been visited by epidemic diphtheria, as a form of diphtheritic inflammation, when we admit that an inflammation occurring further down the respiratory tract, and which appears to have similar anatomical characters, is croupous and not diphtheritic. I refer to croupous bronchitis and croupous pneumouia." 5. Croupous laryngitis is neither epidemic nor contagious. This is testified by numerous observers in New York. Diphtheritic laryngitis is but one manifestation of an epidemic and highly contagious malady.

Education of Men and Women together.—The Board of Visitors of the Wisconsin University condemn the system of co-education in that institution, on the ground that it entails loss of health among the females in their efforts to keep up with their classes and overcome the physical frailties of their sex. "Education is greatly to be desired," the report concludes; "but it is better that the future matrons of the State should be without a university training than that it should be obtained at the fearful expense of ruined health—better that the future mothers of the State should be robust, hearty, healthy women, than that by over-study they entail upon their descendants the germs of disease. And there is no more certain law than that of heredity. The overwrought nervous system undermines the general health stealthily but certainly, and its evil consequences are prolonged in many cases through life."—*New York Med. Record*, October 20.

GENERAL CORRESPONDENCE.

THE SUBCUTANEOUS INJECTION OF CURARA IN HYDROPHOBIA.

LETTER FROM DR. E. W. COLLINS.

[To the Editor of the Medical Times and Gazette.]

SIR,—While attention is directed anew to the pathology and treatment of hydrophobia, owing to its recent prevalence in some parts of England and of Scotland, the records of any recent and well-authenticated cases of this dreadful malady, in which treatment has been rewarded with success, are of importance. We can thus determine whether any new line of therapeutic action, which can be based on rational physiological principles, is indicated as deserving of extended trial, and whether the special manner in which it should be put into practice can be approximately arrived at.

For the treatment of hydrophobia it would appear that in curara we have a valuable therapeutic agent; and I desire to strengthen the hands of the Editors of the *Lancet* and *Medical Times and Gazette* in their recent able editorial comments on this subject. In these articles it has, I think, been too hastily assumed that no proof exists that any case of genuine hydrophobia has ever been cured, unless it be that recorded by Dr. Offenburg, of Wickrath, in 1874, to which allusion is made (*Medical Times and Gazette*, October 6, 1877). It is my object to show that this statement, which so far has escaped criticism, does not represent the sum of our therapeutic knowledge regarding the successful treatment of this disease. The other two recent cases, which I shall bring under notice, are besides of much value, as they point in exactly the same direction as that of Dr. Offenburg, and, taken together with it, warrant the hope that, in similar cases, curara, when pushed rapidly to the manifestation of its peculiar physiological effects, may be found equally efficacious.

In the *Amer. Jour. of Med. Sci.*, July 1876, page 81, Dr. B. A. Watson, of Jersey City, minutely discusses, and gives the fullest particulars of, a case which he and Professor Austin Flint regarded as an instance of true rabies canina. The symptoms of rabies developed themselves forty-seven days after the individual—a strong, healthy man, forty-five years of age—had been bitten in the finger by his own rabid dog. His servant-girl, who had been bitten at the same time and by the same animal, died five days before the commencement of her master's illness, of unmistakable hydrophobia. In this man's case there was a gradual increase in the severity of the symptoms till after the subcutaneous administration of curara in full and rapidly augmenting doses ($\frac{1}{16}$ grain : $\frac{1}{3}$ gr. : $\frac{1}{6}$ gr.) every third hour. The unfavourable symptoms forthwith subsided, and disappeared completely after the third injection.

The second case was treated by Dr. Polli, and an abstract of it appeared in *Le Paris Méd.*, May 17, 1877. A child, twelve years old, had been bitten by a rabid dog eighty days before the manifestation of the hydrophobic symptoms. Subcutaneous injections of morphia and chloroform inhalation having been tried without success, curara was injected subcutaneously on seven different occasions within the short space of five hours and a half. During this period twenty centigrammes (three grains) of curara were injected. The hydrophobic symptoms quickly subsided, being replaced by paralytic phenomena of a very pronounced character. Two days subsequently some renewed hydrophobic symptoms were completely banished by a fresh injection of three centigrammes (nearly half a grain) of curara. The child slowly recovered.

In Dr. Offenburg's case (*Medical Times and Gazette*, October 6), where characteristic symptoms of rabies manifested themselves in a woman aged twenty-four, eighty days after she had been bitten by a rabid dog, the subcutaneous injection of one-third of a grain of curara at intervals of fifteen minutes at first, and subsequently at intervals of an hour, resulted in the cessation of the hydrophobic symptoms, and the supervention of general paralysis, rendering artificial respiration necessary. In this case, within the space of four hours and a half, seven injections were used, representing altogether nineteen centigrammes (nearly three grains) of curara. On the evening of the third day renewed hydrophobic symptoms, which had assumed a serious aspect, were permanently controlled by one other injection of curara.

If it be conceded that these well-authenticated cases were instances of genuine hydrophobia (as their narrators with good reason maintain, from a careful consideration of their history and all the symptoms), they are uniformly and highly suggestive as regards a method of treatment of this malady which hitherto has not received the attention it thus demands. More than ten years ago, Trousseau, when suggesting the possible advantage of the subcutaneous administration of curara in hydrophobia, was not deterred by the want of success which had attended its use in tetanus. "Perhaps the want of success," he remarks, "may be largely due to the mode of administration of the drug" ("Clinique Médicale," vol. ii., page 380). This, it appears to me, is the point on which these three cases are so instructive. They demonstrate that, to be of service, curara must be employed in full and (probably best of all) in rapidly augmenting subcutaneous doses, varying from one-tenth to one-half a grain, at short intervals, until the paralytic symptoms, which experimental physiology has taught us to recognise as the manifestation of the full influence of the drug, begin to develope themselves. At this stage artificial respiration may even become necessary, as in Dr. Offenburg's case. The variation in strength of specimens of curara renders it important that the injection fluid should be procured from those who are likely to have exercised special care in the selection of the drug. A solution so concentrated (half a grain in five minims) as that prepared by Messrs. Gale, of Bouverie-street (*Lancet*, November 10), if reliable, seems to supply such a desideratum. I am, &c.,

EDWD. WOLFENDEN COLLINS, M.D., F.R.C.S. Ire.,
Surgeon to Jervis-street Hospital.

33, Lower Baggot-street, Dublin, Nov. 25.

THE TREATMENT OF SPINA BIFIDA.

LETTER FROM DR. JAMES MORTON.

[To the Editor of the Medical Times and Gazette.]

SIR,—In your issue of Saturday last (November 24), I rejoice to see a notice of the success of both Dr. J. S. Caradoc, of Brest, and Dr. Rosebrugh, of Hamilton, Canada, in treating cases of the above malformation. It is the first notice of either case that has reached me, and it may be admitted that all medical men, myself included, ought to have known of Dr. Caradoc's case; but we, unfortunately, do not all read *L'Union Médicale*. This ignorancee proves that I did not borrow anything from Dr. Caradoc; and Dr. Rosebrugh does not say that he published his case till now. In a former note I remarked that the injection of iodine was not a novelty; the solution I use and recommend is a novelty, which no one on this side of the Atlantic has called in question (I suspect Dr. Rosebrugh does not yet know its composition), and I ground my preference for it on its comparative non-diffusibility, and consequent safety. Moreover, one injection of it often suffices, and in no case have four or five been required. I regard water as one of the worst diluents for tincture of iodine, as precipitation of the iodine is certain to occur, and will continue to use the iodo-glycerine solution till a better method of treatment is devised. I am sure Dr. Rosebrugh will be glad to know that now eighteen cases have been treated by myself and others, that fifteen of these proved successful, and in no case did the operation appear to do injury. He must excuse me for still claiming the moral right to call the method "a new method," and to say that it has been recognised as such. Full credit ought to be accorded to Dr. Caradoc, in which I most cordially join, taking leave to remark that his case, and that of Dr. Rosebrugh, serve to strengthen my position in regard to the management of this malformation; and I thank the latter gentleman for calling my attention to them, and shall be pleased to hear of many more successes, though failures should also be stated. I am, &c.,

199, Bath-st., Glasgow, Nov. 26. JAMES MORTON.

THE FRENCH CENSUS OF 1876.—The population of France in 1872 amounted to 36,102,921 inhabitants, and, according to the census of 1876, had increased to 36,905,788. Of these, 18,373,639 were males, and 18,532,149 were females. Of the 18,373,639 males, 9,805,761 were unmarried, 7,587,269 were married, and 980,619 were widowed. Of the 18,532,149 females, 8,944,386 were unmarried, 7,567,080 married, and 2,020,683 widowed. Thus there was an increase of 802,867 (or 2·17 per cent.) inhabitants since 1872.—*Rév. Scientifique*, November 17.

REPORTS OF SOCIETIES.

OBSTETRICAL SOCIETY OF LONDON.

Wednesday, November 7.

Charles West, M.D., F.R.C.P., President, in the Chair.

Tarnier's Forceps.

Dr. Wiltshire exhibited a pair of Tarnier's forceps, and explained to the members the latest modifications which had been made in it.

Dr. Fancourt Barnes applied the forceps to the fœtal head on a model invented by Messrs. Budin and Pinard.

Dr. Playfair asked if the instrument would permit rotation in occipito-posterior presentations. The greater the curve of the instrument, the more difficult was its application in such presentation.

Dr. Braxton Hicks said the great desideratum in instruments was simplicity. There were two or three advantages claimed for Tarnier's forceps: one was that it indicated the rotation of the head; but the English forceps did this also. Traction was made with the new instrument by means of handles attached to the back of the blades, but it appeared to him that they did no more than the long straight forceps. The perineum presented a difficulty in the use of both instruments. The blades of Tarnier's were less curved than those of the French forceps generally, so that they might not injure the fœtal head. The instrument was too complicated to come into general use.

Dr. Matthews Duncan observed with satisfaction that no provision was made in Tarnier's forceps for the use of the pendulum movement. He did not like the fixing of the blades by a screw-nut, for it ensured a constant pressure on the child's head. In the ordinary English forceps there was a great deal of latent ingenuity; the instrument permitted of relaxation of the pressure on the head.

Dr. Galabin said there were two imperfections in the instrument—the indicators were too heavy, and it did not permit free extension of the head, by reason of the point of insertion of the traction handles. They would endanger the perineum.

Dr. Fancourt Barnes observed that when applied to the head above the pelvic brim the head was drawn backwards into the hollow of the sacrum, and did not exert pressure on the symphysis, as was done in the use of the ordinary long forceps.

Dr. Aveling said that the sigmoid form of these forceps was correct. Dr. Johnson first introduced the perineal curve; the idea was further developed by Hermann, Hubert, Morales, Tarnier, and ten years since by himself.

Dr. Wiltshire said the compression could readily be intermitted by unscrewing the handles, which he thought could be made lighter.

Dr. Galabin showed his forceps, and pointed out that the instrument was similar in principle to several named by Dr. Aveling. It had straight handles, a large perineal curve, and an English lock, and permitted of traction being made in the axis of the brim of the pelvis.

Dr. Braxton Hicks said there was danger of displacing the blades backwards when traction was being made with this forceps.

Dr. Aveling said that they were identical in form with those of Morales. He thought the long straight handles unnecessary.

Phantom.

Dr. Fancourt Barnes described the model of Messrs. Budin and Pinard.

Dr. Braxton Hicks showed and described the phantom he had used for years.

Dr. Routh thought that the dead body would be much better than phantoms; it was used in Vienna.

Mr. Brown asked if the uterus was natural, as well as the rest of the body.

Dr. Edis objected to operations on the dead body, because they would unfit the physician for practice.

Dr. Gervis thought the pelvis in Dr. Hicks's phantom was placed too far from the edge of its stand.

Dr. Hicks said it was placed so in order that students might be taught to apply the forceps without moving the patient to the edge of the bed.

On a Diagnostic Sign of Vaginal Hæmorrhage during Parturition.

Dr. Paul Budin, of Paris, communicated a paper as above. The author pointed out that when, during the birth of the child, a stream of blood ran over the neck and back (the presentation being occipito-anterior), such hæmorrhage was not from the uterus, but from the anterior wall of the vagina, a little behind the clitoris.

Dr. Edis had met with a case of this kind. He found a rent near the clitoris, applied perchloride of iron and a T bandage with success.

Dr. Wiltshire asked if sloughing followed the application.

Dr. Edis said it was a question of saving life.

Cancerous Growth.

Mr. Worship showed a cancerous growth involving the ovaries.

On the Choice of the Leg which should be Seized in Version for Presentation of the Upper Extremities.

Dr. Galabin in this paper said that the case referred to is that in which the liquor amnii has escaped, and bipolar version is no longer possible. The doctrine commonly taught in England is, that in such cases it is necessary or desirable to seize the upper knee or that opposite the presenting shoulder. This is recommended on the ground that in this way the child is rotated on its longitudinal as well as on its transverse axis, and by that means the presenting shoulder more effectually carried away from the os uteri. By taking the lower leg the fœtus is rotated on its bilateral plane. By taking the upper leg it is intended to rotate it in the antero-posterior plane, which passes through the presenting shoulder and the opposite hip—a movement which is equivalent to rotation on its transverse and longitudinal axis at the same moment. In dorso-posterior positions, however, this rotation often fails, as is proved by the back being found still directed backwards immediately after version. In such case the same kind of rotation is produced by taking the lower leg, but at a less mechanical advantage. By two figures drawn to the same scale, representing sections of the fœtus, first in the bilateral plane, secondly in the antero-posterior plane through the presenting shoulder and opposite hip, it is shown that traction on the lower leg acts at a greater mechanical advantage in effecting rotation on an antero-posterior axis than traction on the upper leg in effecting the combined rotation on a transverse and longitudinal axis. A more important advantage in seizing the lower leg is, that if a noose be placed on the prolapsed arm the operator will have in the after-extraction complete command of the anterior arm, which is always the one which gives trouble in liberation, and often thereby causes the death of the fœtus. Moreover, if the lower leg be seized, the more usual dorso-anterior position is not converted by the version into a dorso-posterior—a point of very minor importance, but one which may sometimes be worthy of consideration. The author has practised this method in eight consecutive cases without being obliged in any one of them to bring down afterwards the opposite leg. In some cases, however, if the fœtus be dead and flaccid, the shoulder fails to rise if version be performed in this way. In these instances the upper leg may be brought down afterwards with as much advantage as if it had been seized in the first instance. In such difficult cases of version there is an actual benefit in bringing down both legs, for not only is a means thereby afforded for more powerful traction, but more room is furnished within the uterus. Moreover, if the breech be first drawn down as low as to a transverse position by traction upon the lower leg, traction upon the upper leg will afterwards act at greater mechanical advantage in rotating the fœtus on its longitudinal axis, and so aiding the elevation of the shoulder. The conclusion drawn by the author is that in the majority of cases it is preferable to seize in the first instance the nearer and lower knee, or that on the same side as the presenting shoulder.

Dr. Matthews Duncan said he had for many years taught the preference of the leg homonymous with the presenting arm, according to the views which Dr. Galabin had now so elaborately and successfully advocated.

Dr. Holman said he had for many years followed the practice of bringing down the nearer or more dependent knee, and had always succeeded in effecting version.

ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.

FRIDAY, NOVEMBER 16.

DR. STEVENSON, President, in the Chair.

In consequence of the destruction by fire of the accustomed place of meeting—the Scottish Corporation Hall—a room was engaged at the Cannon-street Hotel for this meeting. The Secretary having read the minutes, letters of sympathy from kindred societies were submitted for consideration. Allusion was made to the generous offer of the use of "the Library of Social Science for meetings on that day and any future occasions when not required for other purposes." Mr. Chadwick also made a similar offer on behalf of the Society of Arts.

Dr. DUDFIELD proposed a vote of thanks to the societies for their kind offers, and it was referred to the Council to make suitable replies.

Dr. TRIPE urged the Society to give full powers to the Council to arrange a place of meeting for the next and all subsequent meetings. Ho hoped that any unnecessary outlay would be spared, as he desired to see the Reports of the Society published with less condensation than heretofore.

Drs. WHITMORE and RADCLIFFE also spoke on this subject.

The PRESIDENT, at the suggestion of Dr. Dudfield, moved a vote of sympathy with the Scottish Corporation (whose hospitality they had enjoyed for some years past) for the irreparable loss by fire of many valuable works of art and ancient records.

The report of the Council was read on the following subjects:—The Registration of Epidemic Infectious Diseases; the Proposed Metropolitan Buildings Bill. The Council decided to reaffirm the two regulations framed last session on the Registration of Diseases, with the addition of the words "legal obligation" on the person in charge to report the fact without delay; and that the medical officer in attendance be required to give "written" (not verbal) information of the nature of the disease to the person in charge. Consideration of the Buildings Bill was postponed till copies could be obtained.

Dr. TRIPE urged the Society to advise the authorities as to the desirability of making the Metropolitan Board of Works and the Local Government Board the confirming authority of by-laws under the proposed Act. There are many matters of drainage and water-supply over which the health officer has no control at present. He moved that it is desirable for the vestries and district boards to have the power of framing by-laws, subject to confirmation by the Metropolitan Board. This, being agreed upon, was added as a rider to the report.

Mr. Henry Armstrong was proposed as an extra-metropolitan member, and Dr. G. A. Heron as an associate.

Dr. DUDFIELD alluded to the desirability of officers of health being placed in direct communication with School Board visitors, who are alike interested in checking the spread of infectious diseases. He also requested that the Council be empowered to report upon the proposal to frame by-laws for the management of cow-sheds.

RIVERS AND THEIR RELATION TO PUBLIC HEALTH.

Professor ANSTED then commenced reading his paper. In his opening remarks he referred, with regret, to the unfortunate death of Dr. Letheby, conjointly with whom, from a chemical point of view, the subject of river pollution was to have been worked out in the paper, of which we subjoin an extract:—

From time immemorial river-banks have been selected in every part of the world as the most convenient and the best situations on which to build towns. No doubt this selection had reference to facility of transport, as well as to water-supply, and was partly due to the fact that the river afforded a means for the removal of sewage and other impurities. From the very nature of water a proximate element capable of holding in solution almost every known substance, absorbing atmospheric air and almost all known gases, existing to some extent in all solids, present as a vapour in the gaseous atmosphere that envelopes the earth, an essential and even large component part of every form of organic existence, and a necessary article of food both directly and indirectly, the circulation of water on the earth is a phenomenon of the highest interest and of the greatest importance. This circulation is effected by evaperation, rainfall, and rivers. The evaporation takes place largely from the whole surface of the earth, but especially from the surface of the warm seas within the tropics. Conveyed over the surface by the winds, the evaporated water first becomes cloud, and then falls to the earth as rain. The proportion of the rainfall that runs off the surface is never large if calculated for any such period of time as shall include all seasonal changes. The daily flow of some of the streams in the Wharfe Valley during the six summer months was less than three millions and a half gallons, whereas, in the month of December only, it amounted to fifty millions. The river Thames carries only about one-seventh of its rainfall to the sea, while the Severn is believed to deliver nearly half, by far the greater part running off during floods. It will readily be understood that the physical features of a drainage area and its geological composition must affect the proportion of water that runs off the surface very considerably, and also affect the quality of the water. The presence of large surfaces of absorbent rock in one part of a drainage area, contrasts strongly with extensive tracts of country elsewhere, covered with thick beds of clay, or occupied by hard, unfissured limestone, gritstone, quartz rock, slate, or granite; and these conditions affect not only the amount of supply of water obtainable from the surface, or running off to the sea, but also by their mineralogical character they influence the quality of the water, and thus effect sanitation. We may consider rivers in their relation to public health—first, as receiving by innumerable channels water nearly pure; secondly, as the receptacles of foreign substances regarded as impurities, and caused by the conditions of animal and vegetable life on the land which the river drains; thirdly, as affording means by which these foreign substances of organic origin become exposed to the action of the atmosphere, and are thus oxidised or rendered innocuous; fourthly, as channels for carrying off material that would otherwise accumulate, suffer decomposition, and taint the atmosphere. First, then, we regard rivers as obtaining pure water from the atmosphere, and becoming charged with mineral matter as they pass on their way. The mineral matter that enters river-water, and is dissolved by it, can only be derived from the rocks over which the water flows in its course, or those through which it passes before joining the stream. The Severn, which rises in the metamorphic rocks of the Welsh mountains, and which is fed by large and important streams proceeding from the same sources, is known to yield waters of unquestionable excellence, little affected by the mineral contents of the rocks it crosses. On the whole, it may be safely asserted that river-waters are, for the most, very pure, and sufficiently soft to be well adapted for domestic use if taken near their sources, especially when these sources are in rocks of the older or Palæozoic period. The quality of the water of rivers must depend, so far as mineral impurities are concerned, on the nature of the rocks of their drainage area. In all drainage areas in the British Islands the rocks are apt to be covered with, and concealed by, superficial deposits, sometimes derived from the disintegration and decomposition of the rocks themselves, and sometimes due to a comparatively recent deposit of clay and gravel of sufficient thickness to affect the nature of the water flowing over the surface, or derived from springs. Few things are more important than the influence thus produced. The water from gravel in towns, obtained from land springs and shallow wells, is always of doubtful, and generally of bad quality, and being often tainted by drainage from graveyards, it may be almost assumed to be dangerous. It is known that water containing mineral impurities is liable to change or to lose them in long transmission through the earth. In the second place, rivers cannot run over the surface of the land without conveying mechanically large quantities of material lying on the surface, and thus becoming charged with foreign substances regarded as impurities, derived from the presence of decaying animal and vegetable life, and the natural excreta of animals of all kind, whether healthy or diseased. Life is everywhere; death follows life; and before or after death, water falling from the skies sweeps away into the river all this vast wealth of organic existence, past and present. It follows, as an inevitable consequence, that if the presence of decaying and decomposing matter is injurious, there must be in water some means of purifying itself, or the earth would be rendered uninhabitable, and become a vast pest-house. We know that such a means exists. We know that water absorbs atmospheric air, and that the oxygen of the absorbed air is separated from the nitrogen to oxidise or burn off so much of the impurity as can be done in the time

during which it is exposed. When the oxygen thus leaves the water, a further supply is obtained from the same source, and thus every large body of water exposed to the air, however it may at one time be loaded with organic matter, is purified and becomes once more clear and potable. In a thickly peopled country such as England the work required of the river is a maximum, and we sometimes overtask the power of running water to retain its purity and fitness for food in especially crowded districts. The inorganic matter carried down by floods is rarely injurious, except to property; but a quantity of organic matter, whose decomposition might seriously injure life, is carried away at once, and removed from the chance of doing mischief. The value of running streams can hardly be overestimated; and the assumption that, because in a few instances our smaller rivers are polluted and rendered noxious by the amount of industrial work carried on near their banks, rivers generally are not valuable for purposes of health, is one not justified by facts. All the larger rivers of England, and many of the smaller streams, are utilised, but, in spite of the uses made of them, and the impurities to which they are exposed, it is not a little due to them that our country enjoys so large a share of health; and it is a fact that towns near rivers are generally more healthy than those not so situated. It is certain that there is a limit, and a very well-defined limit, to the quantity of pollution that a river can receive per mile of its course without its waters being sensibly injured. That this limit was reached and passed a few years ago in the neighbourhood of London, below the point where the tide terminates, there is no doubt. I believe there is equally little doubt that, with moderate care and reasonable attention, the natural purification of the stream by oxidation may be sufficiently secured to permit the river-water to be safely used for household purposes when taken at a moderate distance below well-drained towns, whose direct sewage is kept out of the stream. It must not be supposed that I ignore or deny the nature of that previous sewage contamination of which we have all heard so much of late years. No doubt the presence of nitrates and nitrites may indicate the presence at some former time of animal contamination, although nitrogen may certainly also be derived for these purposes from other sources. The water from lakes and reservoirs is generally more free from foreign mineral substances in solution; the water from springs has fewer nitrates and nitrites, and less ammonia; but the water of rivers, whose course has been for a considerable distance through open country, exposed to sun and air, is not in reality more liable to induce fatal disease than the others. Are rivers to be avoided because they once received sewage, if the whole of the sewage received has been oxidised? I do think that the value of rivers for sanitary purposes has been neglected. The possible danger from the use of river-water has been exaggerated, and the certain good insufficiently considered. There are causes of possible mischief affecting springs, quite as powerful as those affecting rivers, the consideration of which has been neglected, while some of the advantages of spring-water have been exaggerated. A complete interference with any of the natural uses of rivers, whether for cleansing purposes, manufactures, conveyance of goods, or removal of sewage, seems to me so serious and so likely to add to the many difficulties under which all branches of industry are now suffering, that I cannot but urge the extreme importance of caution in carrying to an extreme the endeavour to remove all sources of pollution from our rivers. It is doubtful whether, if we were to succeed in appearance, the sanitation of towns and the value of human life would be increased. It is certain that we should inflict a mortal injury on some most important industries. In Yorkshire, Lancashire, and the adjoiuing counties we should so far interfere with manufacture as to produce more deaths by starvation than will be produced by permitting rivers to be utilised.

In the discussion following the reading of the paper several inquiries were made by the speakers.

Mr. Whitmore asked the Professor to state what he considered the best potable water, and what amount of carbonate of lime per gallon would be tolerable. At Norwich, for instance, the water was very hard, and it was supposed that the prevalence of calculous disorder in Norfolk was due to the large quantity of lime in the water. It has been stated that hard waters are more healthy than soft.

Dr. Bartlett remarked that it was doubtful whether, because rivers in their flow will oxidise impurities, these bodies were rendered innocuous. Nearly all are agreed that the purity of a water is tested chiefly by the absence of organic matter, not by the proportion of mineral constituents. In the deep chalk springs considerable filtration takes place through the chalk. Rivers are made up for the most part of surface water; a very small part of the water has passed through strata. It is needful to decide definitely what should be considered as mineral impurities, and what as organic, and how much filtration is necessary to render impure waters potable.

Dr. Bischoff remarked upon the statement, "if all the organic matter is oxidised the water is wholesome, but all depended upon the conditional 'if.'" The reports of the Registrar-General show that large quantities of organic matter are detectable by the microscope in many drinking-waters. If we are to rely upon rivers for our water-supply, what is to be done in time of floods to oxidise all the organic matter?

Mr. Bailey Denton inquired whether the Professor would allow sewage to be discharged into the river-water used for drinking purposes, and if not, how are towns to dispose of their sewage? Is it to be "treated" first? There are rivers in the North so dark that the Commissioners said they might have written their report with water from them instead of ink.

Dr. Tripe remarked that it was a question whether rivers could be so purified by oxidation as to make them fit for drinking purposes, with as little risk to life as other eventualities of daily occurrence. We are bound to protect the public from secret dangers as much as possible. If typhoid and other germs get into water, it is impossible to ascertain when they have been destroyed. It may be that they are capable of propagation in this medium. A filter may remove cells of organic origin, but the spores remain.

The President remarked that the mineral constituents are not so important as the organic. People get acclimatised to drink with impunity the water of a given locality, whereas by changing their residence they often suffer from impure water. When water is polluted by excrementitious matter it is undoubtedly injurious to health, and may produce disease of an infectious nature. Water in which unoxidised matter exists must be regarded as bad, although by oxidation important changes are being effected in its constitution. Filtration will not remove infecting organisms. Undoubtedly rivers are more polluted now than formerly. Some of the members might remember when the water of the Thames was pumped up from the river at London-bridge for drinking purposes.

Professor Ansted, in his reply, said that the question of filtration did not rightly belong to the subject under discussion. We have filtration through the surface, and that through rocks. The water of chalk wells passes quickly through fissures, and not through the chalk itself, in much the same condition as it entered. The quantity of water obtainable from chalk wells is very limited. Rivers, in their passage through a sparsely peopled country, become purified. In some cases the water is too much polluted for drinking purposes. Some populations, under certain idiosyncrasies of health, suffer from waters which would not affect other people. There are so many other causes which produce disease that water is not the only factor to be considered. Disease germs may exist in spring-water as in river-water. A potable water is one in which no impurity is discoverable. Undoubtedly sewage should be excluded from rivers. Often where old churchyards are dug over, fever-germs are disturbed. Long-continued residence on the same soil may cause fever-germs to remain buried and dormant—*e.g.*, the prevalence of fever in Rome may be due to the thousands of dead bodies lying in the Catacombs. It is still an undecided question as to the desirability of sewage farms. The method of burning sewage, as at Manchester, seems well worthy of more extended trial.

THE PATHOLOGICAL SOCIETY.

Tuesday, November 20.

Charles Murchison, M.D., LL.D., F.R.S., President, in the Chair.

Aneurism of the Hepatic Artery in the Cavity of an Abscess of the Liver.

Dr. Pearson Irvine showed this specimen. The patient, a soldier, aged forty-five, had served in India nineteen years, and had suffered from frequent attacks of dysentery and ague. He was discharged in 1876, and until six weeks before his admission into Charing-cross Hospital, on October 10, 1877, had for a year enjoyed good health. Then he began to suffer from perversion of taste, disinclination for and swelling after

food, and from a peculiar throbbing in the epigastrium. A fortnight later he had a severe hæmatemesis, and fainted in the street; six days later another attack of a milder kind; and a few days before admission he again vomited large quantities of blood, which "came up in streams," and was followed by fainting. When examined on admission a distinct localised fulness, with sense of resistance, was found in the epigastrium; but next day this was gone, and the patient passed tarry blood by the bowels. He had on several occasions quasi-convulsive seizures, and attacks of fainting; frequently passed blood by the bowels; but did not vomit until shortly before death, which occurred on October 25. He complained for some time of epigastric pain and tenderness. Post-mortem the stomach was adherent, not very firmly, to the under surface of the left lobe of the liver, over the seat of an abscess the size of a small orange. Perforation had occurred between the hepatic abscess and the stomach, and in the latter a large blood-clot was found. The abscess contained a quantity of greyish-yellow odourless pus. On a primary branch of the left hepatic artery, which ran along its wall, was an aneurism the size and shape of a large almond, filled with moderately firm clot, and having well-defined walls. It fitted into irregularities on the inner wall of the abscess, and had evidently caused perforation of the abscess into the stomach, and ruptured at the point of least support. The spleen was not enlarged. Dr. Irvine thought the specimen interesting as analogous to what happens in the cavities of phthisical lungs, where aneurisms, from want of support of vessels, are now so commonly met with. There seemed no doubt that this aneurism arose in exactly the same manner as pulmonary aneurism. Possibly, also, as was pointed out at a late meeting, some of the aneurisms met with in the brain, in the vicinity of softened tissues, were due to want of support of the vessels. The specimen had also an importance in association with such cases as that of aneurism of the cœliac axis, which Dr. Irvine showed at the last meeting of the Society, where suppuration had, by involving the walls of the vessel, led to their failure. Clinically the case was interesting, as in it much the same group of symptoms as those met with in some of the cases of aneurism of the hepatic artery outside the liver (five only recorded) existed. It was worthy of note that Dr. Ross, of McGill University, has lately described an aneurism of the right branch of the hepatic artery, which was associated with suppurative hepatitis.

The PRESIDENT said that perhaps aneurism in this situation might prove not to be so rare as was supposed, if it were carefully looked for. Free hæmorrhage was not uncommon from opened abscess or hydatid of the liver. Dr. Irvine's case was probably the first on record of the kind.

Aneurism in Wall of Ulcer of the Stomach.

Dr. DOUGLAS POWELL showed this specimen. A man had been in the Brompton Hospital for three months, suffering from excavation of the lungs, and localised empyema of the right side. On October 17 he suddenly brought up a quantity of purulent matter. The pleura refilled, and signs of peritonitis supervened. He was improving under treatment by opium, etc., when, seven days later, he was suddenly seized with copious hæmorrhage from the mouth, and died in a few minutes. Post-mortem: The stomach contained much blood. On the lesser curvature, midway between the pyloric and œsophageal openings, was found a shallow ulcer, as large as a florin. On its floor was an oval aneurism, as big as a pea, with an aperture at its free extremity. It proved to be connected with a branch of the gastric artery. In the duodenum was found a second ulcer, and the base of this was adherent to the liver by lymph, which appeared to have lately been partly disturbed. General peritonitis was present in an early stage. Dr. Powell said that this specimen belonged to a set of aneurisms, which had now been found in the lung, the liver, and the stomach, and of which the specimens which he had brought forward from the lungs of patients of all ages, and the specimen just shown by Dr. Irvine, were examples.

Dr. C. T. WILLIAMS asked whether these ulcers might not have been tubercular.

Dr. POWELL replied that no other ulcers were found in the intestinal tract.

Influence of Pleuritic Effusion on Tuberculosis.

Dr. POWELL also described the condition of the lungs in the subject from which the preceding specimen had been taken. A large cavity occupied the apex of the right lung, and a smaller cavity the apex of the left; there was old caseous disease of the extreme left apex, and scattered miliary tubercles pervaded both lungs below. In the left lung the fresh tuberculosis was general, but in the right lung the process involved that part only which was not compressed by pleuritic fluid. At the distance of an inch below the apical cavity the tubercular growth terminated abruptly. Dr. Powell said that he believed that pressure on the lung exempted it from tuberculisation, and that effusion might even cure a pre-existing tuberculosis.

Hyperostosis associated with Cancer.

Dr. CAYLEY showed specimens of bones from a case of this nature. The patient, a man of sixty-five, died on October 6, in the Middlesex Hospital. There was no family history of cancer, and he had previously enjoyed good health. In 1873 he consulted Mr. Nunn for fistula connected with the alveolus of the lower jaw. He was also dyspeptic. Two years and a half ago he had rheumatism in the legs. For fifteen months before his admission he had been suffering from bronchitis, and he came under Dr. Cayley's care with dyspepsia, vomiting, cough, expectoration mixed with blood, pain, and emaciation. Physical examination indicated shrinking of the right lung; and there was a loud systolic murmur over the heart. The skin was studded with the small nævi to which De Morgan had drawn attention in connexion with cancer. The tibiæ were curved and enlarged, but not painful nor tender; the lower jaw was considerably enlarged generally, and the left parietal bone and clavicle were also affected. The patient improved at first, but died suddenly from dyspnœa. Post-mortem the right lung was found to be carnified and adherent, with cancerous masses and cavities at the apex. The liver contained eight or ten cancerous nodules. The mucous membrane of the stomach was atrophied. The tibiæ were much increased in circumference, and this enlargement proved to be chiefly due to thickening of the compact tissue: the medullary cavity was enlarged, and filled with gelatinous marrow. The compact tissue was remarkably porous. The lower jaw was greatly thickened and almost edentulous, a bicuspid that remained being lodged in a cavity, and presenting nodulation of the crusta petrosa. The bones of the calvaria were greatly thickened and of a porous character, and the left clavicle was in a similar condition. Dr. Cayley said that this case belonged to the group described by Sir James Paget in the new volume of the *Medico-Chirurgical Transactions*. In some of these cases also the disease was associated with cancer.

Dr. CAYLEY also exhibited, for Mr. Nunn, a cast of the left lower limb, showing hyperostosis of the tibia. A lady, aged seventy-five, when she was first seen by Mr. Nunn in 1871, presented swelling of the left leg, which exceeded its fellow in circumference by one inch and a half. The condition was attributed to a fall out of bed. At that time there was severe rheumatic pain of the knee. Twelve months later the pain had gone, but the tibia had increased in size and was curved. Next year (1873), similar enlargement was found of the right humerus. In 1874 there was a constant distressing cough, with expectoration. At the present time the lady was in fair health, being eighty-one years of age. The family history was one of remarkable longevity; rheumatism had appeared in several of the members.

Mr. BUTLIN asked Dr. Cayley what the nature of the "cancer" of the lung was in his case.

Dr. CAYLEY replied that it was medullary cancer.

Syphilitic Tumour of Cerebral Artery.

Dr. GREENFIELD gave a further report of the microscopical appearances of a syphilitic tumour of the anterior cerebral artery, which he had shown to the Society two years ago. The tumour had been as large as a pea, and had given rise to thrombosis and softening. There was no certain history of syphilis in the case. The microscopical examination was somewhat imperfect on account of the softness of the growth. It illustrated well the character of an early gummatous growth; its centre being caseous, and the outer portion fibrous. The chief interest was connected with the bloodvessels. The main structure of the tumour was of roundish cells, with a reticulum between them. The growth had probably taken place around small vessels; and the new vessels of the growth were in both parts of the tumour much thickened by a fresh growth from their endothelium, which had gradually obstructed them. In the case of pre-existing vessels, the new growth appeared in the outer coat; but in the new vessels it was purely endothelial in origin. Dr. Greenfield considered this an excellent example

of the special characters of a syphilitic growth. It had long ago been shown at the Society that caseation was probably due to obliteration of vessels. Some pathologists had stated that the mode of growth described occurred in certain other diseases; but it certainly did not occur to anything like the same extent.

The PRESIDENT remarked that the evidence of syphilis was doubtful in this case; but the point was of great pathological importance, whether this kind of growth was peculiar to syphilis or not.

Dr. GOODHART said that he had a specimen of fibroid change without syphilitic history, in which both vertebral arteries were blocked by growth inwards. There was no other evidence of syphilis in any other part of the body.

Dr. COUPLAND asked whether Dr. Greenfield had seen psammoma of the dura mater arising from the endothelium in connexion with the bloodvessels.

Dr. GREENFIELD replied that he had a specimen of psammoma, which was a fine endothelioma. With respect to his present tumour, it had occurred in a man who was a sailor, and its naked-eye appearances were all those of syphilitic growth. An almost precisely similar change might occur in cases of old thrombosis. But the change was, in this instance, found not in one vessel only, but in all the minute vessels of the new growth. He considered it something quite peculiar.

Hæmorrhagic Pachymeningitis.

Dr. GREENFIELD also showed this specimen of a disease which, if regarded as common in chronic mental disease, did not appear to occur frequently in connexion with alcoholism. The subject, a man of thirty-nine, was admitted into St. Thomas's Hospital with a simple comminuted fracture of the leg. He was drunk at the time of the accident, and had had delirium tremens more than once. Delirium tremens supervened soon after the man's admission, and he was treated with chloral and bromide of potassium. One evening, convulsions came on, the temperature rose, and death occurred in three hours, the urine being loaded with albumen. Seventeen hours post-mortem, in cold weather, the body was warm to the hand, and the blood was fluid and of a deep plum colour. The organs generally were healthy. On the arachnoid surface of the left half of the dura mater was a cyst containing blood, and presenting the appearances of a "hæmatoma." There was no hæmorrhage in the brain itself, in the pia mater, or on the surface. Evidences existed of old atrophy of the brain. The vessels in the wall of the cyst next to the contents appeared cavernous. In the lower part of the spinal canal was a quantity of semi-coagulated blood. In the lungs the blood was very fluid. This condition of pachymeningitis hæmorrhagica was also known as hæmatoma of the dura mater, and, though said to be of frequent occurrence among the insane, had never been brought before the Society. With respect to the connexion between it and delirium tremens, the disease had been produced experimentally in dogs by the administration of alcohol; and had been observed in cases of chronic alcoholism and of delirium tremens. Virchow had described the lesion as produced by a growth from the dura mater, into which hæmorrhage afterwards occurred; but Wilks and Moxon had stated their belief that all might be due to hæmorrhage. In this case there was evidence of hæmorrhage in the spinal canal.

The PRESIDENT asked what the state of the spleen was, because similar appearances on the dura mater occurred occasionally in fevers. It was a fact that when Kremiansky's many cases of hæmorrhagic pachymeningitis were published in *Virchow's Archiv* there was abundance of relapsing fever and typhus along with them in St. Petersburg. It was therefore a question whether this cranial lesion was not due to fever. Sir William Jenner had observed it in typhus, and he (the President) had done the same.

Dr. GREENFIELD replied that the spleen in the present case was described as "resembling that in typhus"; and all the viscera were in a state of parenchymatous degeneration. But the pachymeningitis must be considered old, for the delirium tremens was of but four days' duration, and supervened on a sudden accident.

A Case of Chyluria.

Dr. RALFE brought forward this case, and exhibited specimens of the urine and the blood. The patient, a gentleman of thirty-seven, was seen on October 31 for dyspepsia. He was a native of Barbadoes; was ruptured at the age of five; had ague between the ages of twelve and twenty-one; and at twenty-seven went to live in New York, where he had no ague, but where he suffered from his first attack of "hæmorrhage from the kidneys." Returning to Barbadoes, he had ague again more than once, and frequent attacks of chyluria, one of which lasted for two months on end. Coming to London, the patient had here two attacks of chyluria. The "ague" took the form of dyspepsia, "agueish" feelings, pain in the calf of the left leg, and flatulence, abdominal pains, and vomiting. The periods of chyluria were characterised by pain in the back and milky urine. The urine was always clear in the morning, but became milky in the course of the day. The patient was a sallow man of middle size; the hepatic and splenic dull areas were somewhat enlarged. On November 10 he passed the specimen of urine exhibited, three days after being seen. The liquid was of a milky appearance, without urinous odour, was slightly alkaline, and coagulated in a few hours. Its composition was as follows in 100 parts:—Water, 94·35 parts; solids, 5·65 parts. The solids consisted of—albumen 1·45, fats 0·78, extractives 1·88, and salts 1·02 parts. The albumen comprised—serum-albumin in small quantities; fibrin; and albumen precipitated by acetic acid, a considerable amount. The fatty matters were saponifiable. The extractives contained urea and glucose. Of extreme importance was the fact that the milky urine readily passed through filter-paper, and along with it even its bloody deposit. It therefore appeared that some of the albumins had passed into the conditions of peptones. Microscopically, the urine had been examined by Dr. Mitchell Bruce, who found that it presented the following characters:—A grey fluid, semi-opaque from the presence of excessively minute granules; red blood-corpuscles slightly altered in appearance; a few highly refracting protoplasmic particles; masses of corpuscular matter, from the borders of which large oil-drops were escaping; a few peculiar elongated spear-shaped bodies, which were possibly filariæ sanguinis hominis altered by the urine; abundant bacteria; and a few casts. Dr. Ralfe said that, considering the diffusibility of some of the albumins in this specimen of urine, the fluid might easily have been pressed through the walls of the renal capillaries by ordinary tension, without rupture of the vessels.

Dr. DICKINSON said that it was doubtful whether the bodies found in the urine were filariæ, for these had never been observed but in the East Indies. With respect to the association of chyluria and ague, he believed that this was rare; ague was rather associated with intermittent hæmatinuria. Lewis's discovery of the filaria in chyluria was certainly most remarkable, but the bloodworm had not been found in all cases of chylous urine. At present he had a case of chyluria under his care in St. George's Hospital, in a young woman who had never been out of England; neither in the blood nor in the urine was filaria to be found.

Dr. MORISON related a case of chyluria, at present under his care, in a lady of fifty-six, an Algerian by birth, but for the last eighteen years a resident in England. Since the climacteric period she had had almost constant chyluria, the urine being clear in the morning, but becoming milky as the day wore on. The patient suffered from pain in the right side of the back, increasing in severity until something seemed to burst, when mucoid clots were passed in the urine. Neither the urine nor the blood presented filaria. The urine always contained sugar, being of specific gravity 1030 to 1020; while an etherial solution of the urine deposited crystals of margaric acid. If the milky fluid was diffusible, the agency of filaria was not necessary to account for its passage from the vessels.

Mr. BERKELEY HILL said that he had seen a case of chylous discharge from the thigh of a man, who passed as much as six ounces at a time by orifices, from which the fluid "wept" or even squirted at times. The occurrence of the discharge was preceded by nausea and shiverings, and followed by lassitude. The fluid was pinkish in colour from its mixture with blood; it contained no filaria, and diffused through filtering-paper. The man had never been out of England.

Mr. MORRANT BAKER said that Mr. Hill's patient had been in several London hospitals, and his case had been reported at the Society years ago (see vol. xix. of the *Transactions*). Why was not the fluid clear, and not milky, that came from the thigh?

Dr. DICKINSON said that he doubted greatly whether the chylous discharge came from the kidney. Casts were rare; and one could hardly conceive the molecules of chyle coming through the walls of the renal capillaries. There was more probably a discharge of chyle through the walls of the bladder.

Dr. RALFE replied that his patient had pain in the testes, and other symptoms pointing to the kidney.

The PRESIDENT requested Dr. Dickinson and Dr. Morison to send specimens of the urine from their cases of chyluria for examination by the Chemical Committee of the Society.

OBITUARY.

ROBERT KERSHAW, M.R.C.S.

MR. KERSHAW was born at Heywood, in Lancashire. He was educated at Middleton, and afterwards at the Liverpool Collegiate School. He had a decided desire to enter the medical profession, but he belonged to an old and well-known family, which at that time had an extensive business as cotton-spinners, and, in compliance with the wishes of his friends, he also went into business. Shortly after the cotton panic, however, he relinquished business; and at the age of thirty-nine entered as a medical student at the London Hospital, thus carrying out what would have been his own wish from the very first, had not circumstances rendered it desirable that he should adopt a different course. While engaged in trade he had taken an active part in the Militia movement, and for some time was Captain of the 4th Royal Lancaster Militia. He was an expert rifleman, and one of the "crack shots" of his neighbourhood. His business training, however, fitted him to enter on his medical studies with an earnestness and methodical regularity which from the first were a guarantee of success. These qualities were manifest in all he did and undertook, and were advantageous to many others besides himself, for the example of such a man is infectious. He gained several prizes during his studentship, and finally carried off the medical scholarship—a fitting termination to a very successful career. The resident appointments, under these circumstances, were all open to him, but he was obliged to decline them for family reasons. He filled, however, important non-residential appointments, both medical and surgical, one of the most important being that of private assistant to Dr. Sutton in the pathological laboratory; here his precise, regular habits and love of order were of the greatest importance, no less than his mechanical skill in all the kinds of practical work, including microscopy, which now engaged his attention. He received a well-merited tribute in connexion with this work from Sir William Gull and Dr. Sutton, at the reading of their remarkable paper on arterio-capillary fibrosis at the Pathological Society last session. In 1876 the London Hospital Medical College was reconstituted on the basis of closer amalgamation and co-operation of the College and Hospital authorities. The latter felt the importance of having all their resident medical officers as highly trained as it was possible to get them, and in order to secure this they determined to pay over to the school funds an annual sum of money. A contingent of lay members was then added to the Medical Council, which was henceforth to be called the "College Board"; and this Board was to watch over the College and control it in all its departments. It can easily be imagined that this reformation, unless carried out very carefully, would have met with great opposition. The Board, in electing Mr. Kershaw as their secretary, not only paid a great compliment to him personally, but they gained just the man who was of all others—by his age, his previous business training, his professional education and status, and his habits of mind—best fitted to fill such an appointment; for he moreover brought with him an accurate knowledge of all the defects and shortcomings of the old system: he was personally known by, and of course knew personally, both the members of the staff and the students of the school, and was esteemed by all alike. Under his management the new scheme has worked remarkably well, and is already beginning to bear fruit. The duties of such a position are necessarily of a delicate and not always agreeable nature, but Mr. Kershaw discharged them admirably and so conscientiously as to gain the entire approval of his Board.

About three years ago he had had a rather severe attack of perityphlitis, but, thanks to careful nursing, he had pulled through. Three days before his death he was seized with severe and sudden abdominal pain, and symptoms of collapse coming on very quickly, it was feared that perforation of the colon or vermiform appendix had taken place. A post-mortem examination, however, revealed volvulus of the small intestines. Mr. Kershaw will long be remembered, and always regretted, at the London Hospital; and it will be very difficult to find a man as well adapted as he was for the duties of his vacant post.

MEDICAL NEWS.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, November 22:—

Bigger, Samuel Ferguson, 2, Albert-street, N.W.
Crick, Samuel Arthur, Cosby, near Leicester.
Evans, Charles Walter, Arlington-road, N.W.
Rugg, James Foster, Middle-street, Brighton.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Atkinson, John Mitford, London Hospital.
Evans, James William, University College.
Fox, Joseph Tregelles, London Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

LAWSON, ROBERT, M.B., Senior Assistant Medical Officer to the Third Middlesex Asylum—Medical Superintendent of the Wonford House Lunatic Hospital, Exeter, *vice* Thomas Lyle, M.D., appointed to be a Consulting Physician to the Hospital.

NAVAL, MILITARY, &c., APPOINTMENTS.

ADMIRALTY.—Staff-Surgeon William Robert Bennett, M.D., has been promoted to the rank of Fleet-Surgeon in her Majesty's Fleet, with seniority of October 31, 1877.

WAR OFFICE.—Surgeon-Major Andrew Knox, half-pay, Medical Department, has been permitted to commute his retired allowance.

BIRTHS.

BREWER.—On November 25, at 201, Queen's-road, Dalston, the wife of Alexander Hampton Brewer, L.R.C.P. Lond., M.R.C.S.E., of a daughter.

DURANT.—On November 19, at Cheltenham, the wife of E. Durant, L.R.C.P., M.R.C.S., L.S.A., of a son.

TAYLER.—On November 25, at 224, Lewisham High-road, S.E., the wife of Francis T. Tayler, M.B., L.R.C.P. Lond., of a daughter.

WOOD.—On November 25, at 86, Seymour-street, Hyde-park, W., the wife of Henry Thorold Wood, M.R.C.S., of a son.

MARRIAGES.

HOPKINS—FENN.—On October 29, at Manora, Kurrachee, India, Nathaniel Hopkins, M.R.C.S. Eng., Surgeon-Major, Civil Surgeon of Kurrachee, to Lucy Vanderzee, youngest daughter of the late Thomas Harrold Fenn, Esq., of Nayland, Suffolk.

HORNE-STREET.—On November 21, at the Church of St. John the Baptist, Westbourne, Sussex, Thomas Horne, L.R.C.P. Edin. and L.R.C.S. Edin., of Sandwich, Kent, to Mary Pauline, second daughter of the late James C. Street, C.E., of Penge.

LUSCOMBE—ROBINSON.—On November 22, at the parish church, Esher, William Edmund Luscombe, L.R.C.P. Edin., M.R.C.S. Eng., second son of the late Rev. Edmund Peard Luscombe, M.A., of Melbecks, Richmond, Yorks, to Catherine, fifth daughter of the late Edward Robinson, Esq., of Milbourne Lodge, Esher, Surrey.

NICHOLS—HARRISON.—On November 17, at St. Luke's, Chelsea, John Moore Nichols, L.R.C.S.I., to Margaret Mary, second daughter of the late Thomas Harrison, Esq., of West Hampton, County Dublin.

VANNECK—ARMSTRONG.—On September 24, at St. James's Church, Toowoomba, Queensland, the Hon. Walter Vanneck, fourth son of Lord Huntingfield, of Heveningham Hall, Suffolk, to Catherine Medora, eldest daughter of William Armstrong, M.D., Toowoomba.

DEATHS.

CLARK, JAMES, eldest and last surviving son of Samuel Clark, M.D., of Folkestone, at Burgess-hill, near Brighton, on November 21.

DRURY, JOHN THOMAS COCKIN, M.D., at Mentone, Alpes Maritimes, on November 24, aged 44.

GIMBLETT, JOHN, M.D., of Lydney, Gloucestershire, at Weston-super-Mare, on November 13, aged 37.

GUPPY, WM. GOOD, Surgeon, eldest twin son of Thomas Stokes Guppy, M.D., of Falmouth, at Erzeroum, of fever, on November 17, aged 22.

HALLETT, JOHN JAMES, M.D., at Buninyoung, Victoria, Australia, on September 19, aged 69.

MARSON, JAMES TURNER, F.R.C.S E., late Resident Surgeon to the Small-Pox and Vaccination Hospital, Upper Holloway, for upwards of forty-one years, at 11, Liverpool-terrace, Worthing, on November 15.

MOORE, PERCY ST. AUBYN DANIEL, only son of J. Daniel Moore, M.D., F.L.S., at 3, Queen-street, Lancaster, on November 17, aged 7 years.

PIRRIE, GEORGIANA ISABELLA, youngest daughter of William Pirrie, M.D., Professor of Surgery in the University of Aberdeen, at Clapton, London, on November 23.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

Inverness District Asylum.—Assistant Medical Officer. Candidates must be duly qualified and registered. Testimonials to Dr. Aitken, the Medical Superintendent, on or before December 12.

Queen's Hospital, Birmingham.—Resident Physician and Resident Surgeon. Candidates for these appointments must be registered practitioners. Testimonials, with certificates of registration, to the Secretary, on or before December 1.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATION.

East Ward Union.—Mr. J. P. Brumwell has resigned the Ravenstonedale District; area 33,200; population 2907; salary £17 per annum.

APPOINTMENTS.

Berkhampstead Union.—Augustine Dennis, L.R.C.P., M.R.C.S., to the Berkhampstead District and the Workhouse.

Keynsham Union.—Nathanael Crisp, M.R.C.S., L.S.A., to the Workhouse.

Newark Union.—George K. Barton, F.R.C.S. Eng., M.D. Aber., to the Fulbeck District.

Rochdale Union.—Thomas Collingwood, M.R.C.S., L.S.A., to the New Workhouse.

Thingoe Union.—Charles E. Wing, M.R.C.S. Eng., L.R.C.P. Edin., L.S.A., to the Third District and the Workhouse.

The Middlesex Hospital.—Dr. Robert Liveing has just been appointed Lecturer on Dermatology at this hospital, a post recently created by the Committee with a view to further the study of that important subject among the students.

Treatment of Burns and Scalds.—Dr. Watson, of Boston, recommends the bicarbonate of soda as an application, this being sprinkled over the injured part, and a wet cloth applied over it. The pain is almost immediately relieved, and the healing process goes on very rapidly.—*New York Med. Record*, October 20.

The Royal Academy.—Professor John Marshall, F.R.S., on Wednesday last, at Burlington House, commenced his fifth course of nine lectures on Anatomy. Some of the Royal Academicians were present as well as his large class of most attentive students. These lectures, which are delivered on Mondays, Wednesdays, and Fridays, at eight o'clock, will be brought to a close on Monday, December 17.

The German Universities.—Professor Köbner, of Breslau, has been obliged to resign the direction of his clinic for skin diseases and syphilis at Breslau, owing to bad health; and Dr. Oscar Simon, of Berlin, the author, *inter alia*, of an excellent monograph on "The Localisation of Diseases of the Skin," which has failed to attract the attention it deserves in this country, has been called to succeed him as Professor Extraordinary. Dr. Linhard, Professor of Surgery at Würzburg, has lately died, at the age of fifty-six. Professor Gegenbauer, of Heidelberg, was recently offered the chair of Anatomy in the University of Amsterdam, but has refused it.

Death of M. Bouvier.—The Académie de Médecine has just lost one of its oldest and most zealous members in the person of M. Bouvier, of the Section of Anatomy and Physiology. M. Bouvier, who had almost entirely lost his sight, was walking on Wednesday in the Tuileries Gardens, and went too near the great basin, so that he fell into it. Although he was immediately rescued, the fright and cold induced pulmonary congestion, to which he succumbed a few hours afterwards. He was born in 1799, and was elected into the Academy in 1839. His works on Orthopædics created for him a very honourable reputation, which in 1837 was acknowledged by the Académie des Sciences conferring on him a prize of 6000 fr.—*Union Méd.*, November 24.

The New West Herts Infirmary.—The old Infirmary at Hemel Hempstead was founded in 1826 by Sir John Sebright, who expended no less than £13,000 on its building and endowment. The whole cost of the new building just opened, when completed, will considerably exceed £13,000. The site of the new building adjoins that of the old, and is admirably suited for the purpose. The building, which is in the Italian style, perfectly plain, and constructed entirely with a view to hygenic requirements, has a very pleasing appearance. It is divided into three blocks: the centre is for the administrative offices and the out-patients, while the in-patients will occupy the two wings. It will hold fifty patients. The sum actually received on account of the building fund is £8018.

Vaseline as an Excipient.—In the name of Dr. Galezowski, Dr. Guéneau de Mussy directed the attention of the Société de Thérapeutique to the importance of the new substance, vaseline (*Gelatum petroleum*), as a substitute for fatty matters now in use, inasmuch as it undergoes no alterations, and possesses the power of preserving the properties of the substances it is mixed with, without modifying them—even nitrate of silver. M. Limousin, after corroborating the above opinion, added that vaseline had been known in France for eighteen months, and that its price, although considerably higher than that of lard, is still not excessive. Mixed with lard, also, it is capable of rendering great services. It is much employed in perfumery united with lard (one part of lard to three of vaseline), because used alone it does not retain the odours. Unlike lard, after having been liquefied, it regains all its primitive properties on cooling.—*Gaz. Hebd.*, November 23.

Royal College of Surgeons.—The half-yearly examination for the Fellowship of this institution was brought to a close on Saturday last, when ten candidates were reported to have acquitted themselves to the satisfaction of the Court of Examiners, and at the next meeting of the Council will, in all probability, be admitted Fellows of the College. Only three candidates were rejected. We cannot publish the names until confirmed by the Council. The following were the questions on Pathology, Therapeutics, and Surgery at the written examination on the 22nd ult., when it was necessary to answer all four of the questions:—1. Describe the methods adopted for excision of the whole or part of the superior maxillary bone; and state what vessels and nerves are likely to be implicated in these operations. 2. Give the pathology of acute specific bubo, from its commencement to its termination in spontaneous cure. In what way may treatment modify the progress of such a case? 3. On what morbid changes may stricture of the rectum depend? Describe the diagnostic characters of each variety, and its appropriate treatment. 4. What are the accidents and risks incidental to lithotrity? How are they to be avoided? and, if they occur, how are they to be treated?

The Philadelphia Centennial Exhibition.—It seems, from the report of the Medical Director, that there was an enormous percentage of very serious illness among the Japanese exhibitors, due partly to the change in mode of life and climate, and largely to their mode of living. Their dwellings were so slightly built as to afford very little protection against either heat or cold; and in cold weather the occupants were crowded into rooms almost hermetically sealed, with no outlet whatever for the emanations from the body or for the fumes of the charcoal braziers which furnished the only means of heating. No wonder that 18 per cent. suffered from typhoid fever. At the Centennial Hospital were treated 6463 cases of injury and disease. Although there were acres of moving machinery, and the railway carried around the grounds 3,784,142 passengers, there was no serious accident; there were only four deaths upon the grounds, no births, and but one abortion. These facts furnish strong proof of the admirable management of the authorities, of the modesty which keeps the American female secluded during the latter months of her pregnancy, and of her retentiveness during the earlier days of her sorrow. Dr. Pepper, we think, makes out a very clear case that there were no foci of fever-poison on the grounds, and that the water-supply and drainage were very carefully attended to, and were good.—*Philadelphia Med. Times*, Sept. 29.

German and French Medical Services.—Signora Jesse White Mario, in her paper in *Fraser* for November, "Garibaldi in France," speaking of Dijon during the temporary evacuation by the Prussians, says:—"The spacious Lycéum and chief Hospital were full of Prussian wounded, left by General Werder in charge of their own doctors, surgeons, and *infirmiers*, money being consigned to the Syndic for their maintenance. Never have I seen a hospital in which such order, cleanliness, and discipline reigned. Compared with the hospitals in which the poor French soldiers were crowded, these wards were cheery homes. I could not then account for the difference, as, assuredly, the French surgeons are a most humane and able set of men, and the French authorities could not have willingly allowed the enemy's wounded to be better cared for than their own; but before the war ended I convinced myself that no small portion of the success of the Prussians was due to the perfection of their ambulances and hospital system, to the absolute independence and responsibility of the Medical Corps, and to the fact that that body, in

other countries so slighted and rendered subordinate to the military, is in Prussia honoured and respected, and placed on an equal footing with the other departments of the army.

UNIVERSITY INTELLIGENCE.—CAMBRIDGE.—Mr. A. M. Marshall, Senior in the Tripos of 1874, has been elected to a Fellowship in Natural Science at his own College, St. John's. His able papers on Embryology have been an important addition to the researches which are making the British school again famous in this subject, and he is the first Doctor of Science in Comparative Anatomy in the University of London. Two of the newly elected fellows of St. John's are studying Medicine—viz., Dr. Marshall and Mr. McAlister, the last Senior Wrangler. At Trinity the open fellowship has been adjudged for the first time to a non-member of the College, Mr. J. N. Langley, B.A., of St. John's, whose services as Demonstrator of Physiology to Dr. Foster are highly appreciated, while his originality and perseverance in research promise to make him, before long, much more widely known than at present. The new buildings for anatomy and physiology are advancing to completion, and are partially occupied, Mr. Balfour's two practical courses of Comparative Anatomy being accommodated in them. Dr. Foster will transfer much of his work here after Christmas. The new buildings will be almost too small as soon as completed, as Dr. Foster has fifty men and several ladies working in his elementary classes this term—a very large number when it is considered that this is voluntary and not prescribed work. Dr. Foster, we understand, sets his senior pupils to lecture on the subjects they make a special study; thus during the present winter the advanced class will receive lectures from Dr. Gaskell, Mr. Langley, and Mr. Lea. Mr. Vines has returned from working in Germany with Sachs, and is lecturing to a large class on Vegetable Physiology.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Dr. J. Bagnell, Pau.—Received with thanks.

Amicus, Suffolk.—We understand the statue to be erected in the Pavilion grounds, Brighton, in memory of the late Sir Cordy Burrows, is completed, and ready to be conveyed to Brighton from the London studio.

Picnic.—The Corporation of London at the present time are the owners of 2975 acres of land in the northern portion of Epping Forest, and seventy-three acres in the southern portion. When the purchase is completed of the manors of Epping, Bury, and Chambers, already formally agreed to, the quantity in the northern portion will be increased to 3466 acres, lying together, and which can be made available for the recreation of the public.

M. C., Bayswater.—The last Indian Government *Gazette* shows that in the current year 19,273 persons had been killed by wild animals and snakes. In the Central Provinces the deaths from this cause increased from 617 in 1875 to 1098 in 1876.

Gymnastics.—The London School Board propose to erect in the playgrounds of eighteen schools suitable gymnastic apparatus.

A Young Doctor.—The new "Volunteer Sick-Bearers' Association" is completely organised. Ambulances, and all the *matériel* required for instruction, have been provided for the Association by the Order of St. John of Jerusalem. A series of lectures and drills have already begun at the rooms of the Society of Arts, John-street, Adelphi, for training the officers and men of the metropolitan volunteers.

Veritas.—Of the three presidencies of British India, Bombay is the most sparsely populated, having only 131 persons to each square mile, while Madras has 243, and Bengal 395.

Argus.—Professor Huxley's observation, both as to the value of scientific doubt, and as to the nature of that sort of doubt which the student should alone permit himself, was—"There is a path that leads to truth so surely, that anyone who will follow it must needs reach the goal, whether his capacity be great or small. And there is one guiding rule by which a man may always find this path, and keep himself from straying when he has found it. This golden rule is: give unqualified assent to no propositions but those the truth of which is so clear and distinct that they cannot be doubted. The enunciation of this first commandment of science consecrates doubt. It removes doubt from the seat of penance among the grievous sins to which it had long been condemned, and enthrones it in that high place among the primary duties which is assigned to it by the scientific conscience of these latter days." But "you must remember that the sort of doubt which has thus been consecrated is that which Goethe has called 'the active scepticism, whose whole aim is to conquer itself,' and not that other sort, which is born of flippancy and ignorance, and whose aim is only to perpetuate itself as an excuse for idleness and indifference."

M.D.—We are not aware whether there is any foundation for the rumour that Mr. Albert Grant's house, at Kensington, is to be converted into a hospital for the well-to-do classes. It is estimated that nearly half a million of money would be required to complete the scheme.

Lex.—The Council of the College of Surgeons have the power to remove the name of any of its members *convicted* of misdemeanour, etc., and, we believe, have invariably exercised it, except in the case of the person mentioned—the late William Brett, whose name, as usual, was ordered to be removed, but at the ensuing meeting of Council the decision was reversed. A superior power to the Council of the College of Surgeons removed his name about two years after—viz., Death. You will find the particulars in the "Proceedings of the Council," published at the time in the *Medical Times and Gazette.*

Dr. Williams, Manchester.—At the suggestion of Dr. Rugg, Mr. Silverlock is about publishing the description of book to which you refer, and which he calls the "Medical Practitioner's Day-Book and Visiting List" combined, being a simple record of the daily work of the medical practitioner. Judging from the few sheets submitted, it appears admirably adapted for the purposes required.

Old Mortality.—It would no doubt be very interesting to preserve such a record. The celebrated Sydenham was buried in the Church of St. James, Piccadilly, with the remains of Drs. Arbuthnot, Akenside, and Benjamin Stillingfleet the naturalist.

L.S.A.—It is a very good qualification. Many past and present members of the Council hold the licence.

Dr. Campbell.—The paper on "Ephidrosis Cruenta" was read by Dr. Anderson. The celebrated Dr. Mead gives some illustrations of bloody sweat in his "Medica Sacra."

A Member.—As the Midwifery Board has ceased to exist, there has not been for some time past any examination for the licence in midwifery of the College of Surgeons.

Professor Flower, F.R.S.—It is a slight mistake on the part of our contemporary; the gentleman who offers the large subscription is the brother, and not the father, of this gentleman.

A Would-be Nurse.—Miss Stephen, in her essay on "The Service of the Poor," writes thus on the subject of your inquiry:—"I have heard a surgeon and a stewardess speak in precisely the same terms of their first six months' experience. They did not think that any earthly consideration would induce them to go through it again, but they laughed at the idea of shrinking from any of the incidents of their respective employments in later years. I am sure, from many inquiries, that this is the common experience of nurses, whether religious or secular. Many of their duties are painful and disagreeable at first, but after a short apprenticeship they infallibly get over the first shrinking from these things, and after a time their painfulness is scarcely felt as a drawback to the employment."

Observer.—It was Faraday, in a lecture at the Royal Institution, who remarked—"Society, speaking generally, is not only ignorant as respects education of the judgment, but is also ignorant of its ignorance. Correct judgment with regard to surrounding objects, events, and consequences becomes possible only through knowledge of the way in which surrounding phenomena depend on each other."

MEAT-SUPPLY OF PARIS.

Official statistics show that the quantity of meat brought into Paris during the year 1876 was 158,972,756 kilogrammes. Of this quantity, 190,270 kilogrammes were seized as unsound, which was bought by the Jardin des Plantes for the food of the animals, and, according to old custom, the proceeds were divided among the renters of the central markets.

A SLASHING BARBER.

Dr. Dudfield reports to the Guardians of the St. George's Union:—"I regret to have occasion to call attention to the way in which the barber carries out his duties. Either from want of care, or want of attention to his razors, he is constantly cutting the men's chins, so that I have many times seen the blood running down a man's face after his visit to the ward. I have spoken to him about it several times, and the nurses have complained as well, but without effect." The matter was ordered to be inquired into.

ADULTERATION À LA FRANÇAISE.

"Some manufacturers," says *Galignani*, "to adulterate sweetmeats, resort to products of coal-tar. For instance, for imparting the flavour of the pear to any composition, the maker, has recourse to the oxide of amyl or to the formiate of propyl, both of which produce an essence with a very agreeable flavour of that fruit. If sherbets, ices, or sugar-plums are wanted with a pineapple taste, coal-tar can furnish a butyric ether, or an acetate of butyl, both of which produce on the palate and the tongue precisely the same effect as the pineapple."

THE INSANITARY CONDITION OF ALEXANDRIA.

A correspondent writes from Alexandria, on November 12, that the health of the country has not been good this autumn—fever has been prevalent both in city and country. Alexandria and Cairo both suffered, and the present cooler weather was anxiously awaited. Ismailia is still in a bad state, and the business of the capital of the Canal is much impeded by sickness. More than one-half the members of the *personnel* of the Tribunal, for instance, are prevented by illness from doing their work. Dwellers in Alexandria must find in the insanitary condition of their city an easy explanation of the occasional sickness. The state of the streets is disgraceful: they may be blocked up with dirt, and the Municipality does not move a finger; and as often as not a man's dust-heap is outside his front door.

COMMUNICATIONS have been received from—

Mr. F. W. Lowndes, Liverpool; Dr. Sullivan, Rome; Dr. Collins, Dublin; Mr. N. Martindale, London; The Registrar of the Apothecaries' Hall, London; Dr. Ross, Manchester; Dr. Sparks, Mentone; Mr. Swan, London; Mr. F. Mason, London; Dr. Greenfield, London; Dr. J. Wickham Legg, London; Dr. Octavius Sturges, London; Dr. Whipham, London; The Secretary of the Obstetrical Society; Mr. W. W. Reeves, London; Dr. Fearnside, Preston; Dr. White, Dublin; Dr. J. W. Moore, Dublin; Dr. Stevenson, London; Mr. G. Brown, London; The Secretary of the Harveian Society; Dr. W. R. Williams, London; Mr. F. J. Gant, London; Dr. Byrom Bramwell, Newcastle-on-Tyne; Dr. J. Morton, Glasgow; Dr. Sturge, London; Mr. J. H. Wathen, Fishguard; Mr. St. V. Mercier, London; Mr. Pugin Thornton, London; Sir Joseph Fayrer, London; Dr. A. E. Sansom, London; Mr. John Chatto, London; Dr. J. Mitchell Bruce, London; Mr. T. M. Stone, London; Mr. Rushton Parker, London; Dr. Thomas Barlow, London; Mr. B. R. Wheatley, London; Mr. W. E. Poole, London; Dr. F. Churchill, London.

BOOKS AND PAMPHLETS RECEIVED—

Transactions of the Clinical Society of London, vol. x.—William Goodell, A.M., M.D., The Mechanism of Natural and of Artificial Labour in Narrow Pelves—J. L. W. Thudichum, M.D., On Polypus in the Nose and other Affections of the Nasal Cavity - John Blair, M.D., F.R.C.S., On Paying Wards in Public Hospitals—Charles H. Burnett, A.M., M.D., The Ear: its Anatomy, Physiology, and Diseases—Bulletins et Mémoires de la Société Médicale des Hopitaux de Paris, 1876—Robert Brudenell Carter, F.R C S., On Defects of Vision which are Remediable by Optical Appliances—Report of the Health Officer of the City and County of San Francisco for the Year ending June 30, 1877—Alfred C. Pope, M.D., On the Causes of Professional Opposition to Homœopathy.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Cincinnati Clinic—Home Chronicler—La Province Médicale—Sunday at Home—Leisure Hour—Révue Mensuelle de Médecine et de Chirurgie—St. Louis Clinical Record - Students' Journal and Hospital Gazette.

APPOINTMENTS FOR THE WEEK.

December 1. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

3. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Royal Institution, 2 p.m. General Monthly Meeting.

Medical Society of London, 8½ p.m. Dr. Woakes, "On the Connexion between Stomachic and Labyrinthine Vertigo."

4. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society, 8½ p.m. Mr. Butlin—Multiple Sarcoma in a Boy (living Specimen). Dr. P. Irvine—Multiple Tumours of the Brain. Dr. Dickinson—Specimens of Chylous Urine. Dr. Ralfe—1. Urine from a Case of Phosphatic Diabetes; 2. Gangrene of the Lung in a Case of Lead Poisoning. Dr. Wilks—Case of Softening Syphiloma of the Liver. Mr. Wagstaffe—Dermoid Cysts growing along line of Branchial Fissures. Dr. Dowse—Specimens from a Case of Paralysis Agitans. Dr. Goodhart—1. Symmetrical Sarcoma of Ossa Ilia, with Hyperostosis of Cranium; 2. Cerebral Tumours in a Monkey. Dr. Morison—Case of Chyluria. Dr. Ord—Fat from Case of Chyluria. Dr. Garlick—Diaphragmatic Hernia.

5. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex; 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.: Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.; St. Peter's Hospital for Stone, 2 p.m.

Obstetrical Society, 8 p.m. Dr. Redwood, "On Secondary Puerperal Hæmorrhage." Dr. John Bassett, "Cases of General Dropsy in the Fœtus." Mr. Thompson, "On Complete Rupture of the Perineum." And other Papers.

Royal Microscopical Society, 8 p.m. Meeting.

6. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

Harveian Society (Ballot, 8 p.m.), 8½ p.m. Harveian Lecture—Dr. Graily Hewitt, "On the Mechanical System of Uterine Pathology."

7. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.; Guy's, 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, November 24, 1877.

BIRTHS.

Births of Boys, 1226; Girls, 1172; Total, 2398.
Average of 10 corresponding years 1867-76, 2244·7.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	816	755	1571
Average of the ten years 1867-76	809·7	791·1	1600·8
Average corrected to increased population ...	...	...	1713
Deaths of people aged 80 and upwards ...	...	...	44

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	18	6	3	6	1	2	1	3
North... ...	751729	10	16	19	1	7	1	10	1	6
Central ...	334369	...	5	9	...	1	...	3	...	...
East	639111	10	20	5	2	3	2	5	1	1
South... ...	967692	7	23	16	5	15	1	9	1	3
Total	3254260	27	82	55	11	32	5	29	4	13

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·439 in.
Mean temperature	42·8°
Highest point of thermometer	55·2°
Lowest point of thermometer	33·6°
Mean dew-point temperature	38·2°
General direction of wind	S.W. & W.S.W.
Whole amount of rain in the week...	1·12 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, November 24, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Nov. 24.	Deaths Registered during the week ending Nov. 24.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2398	1571	55·2	33·6	42·8	6·00	1·12	2·84
Brighton	102264	43·4	51	27	54·0	34·2	43·5	6·39	1·99	5·05
Portsmouth ...	127144	28·3	68	42	53·0	38·0	45·2	7·33	...	...
Norwich	84023	11·2	63	31	54·5	33·0	42·3	5·73	0·47	11·9
Plymouth	72911	52·3	37	32	55·5	36·5	45·9	7·72	1·08	2·74
Bristol	202950	45·6	124	86	53·9	31·7	43·2	6·22	2·05	5·21
Wolverhampton ...	73389	21·6	47	29	53·5	28·0	39·8	4·34	0·75	1·90
Birmingham ...	377436	44·9	274	172	...	...	...	...	...	...
Leicester	117461	36·7	82	31	53·2	32·0	41·2	5·11	0·69	1·75
Nottingham ...	95025	47·6	47	33	53·5	29·5	40·9	4·94	0·66	1·68
Liverpool	527083	101·2	362	266	53·6	34·0	42·4	5·78	1·68	4·27
Manchester ...	359213	83·7	244	160	...	...	...	...	...	...
Salford	162978	31·5	137	73	53·3	29·9	41·4	5·22	1·68	4·27
Oldham	89796	19·2	67	42	...	...	...	...	...	...
Bradford	179315	24·8	97	87	51·0	32·8	41·8	5·45	2·02	5·13
Leeds	298189	13·8	229	133	53·0	33·0	42·5	5·84	1·36	3·45
Sheffield	282130	14·4	211	128	53·0	30·0	41·2	5·11	1·69	4·29
Hull	140002	38·5	117	51	49·0	29·0	40·2	4·55	0·71	1·80
Sunderland ...	110382	33·4	89	56	50·0	35·0	42·3	5·73	0·41	1·04
Newcastle-on-Tyne	142231	26·5	101	53	...	...	...	...	...	...
Edinburgh	218729	52·2	132	85	51·0	28·0	39·7	4·28	0·84	2·13
Glasgow	555933	92·1	410	219	46·0	34·0	40·9	4·94	0·74	1·88
Dublin	314666	31·3	163	158	54·2	26·8	42·2	5·67	1·04	2·64
Total of 23 Towns in United Kingdm	8166734	38·3	5550	3565	55·5	26·8	42·1	5·62	1·17	2·97

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·44 in. The highest reading was 30·12 in. at the beginning of the week, and the lowest 28·91 in. on Saturday evening.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. Salford, however, forms an exception to this rule, as the estimate is based upon the rate of increase of inhabited houses within the borough during the six years ending July 1, 1877. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

A LECTURE ON

THE PATHOLOGY OF HYDROPHOBIA.

ILLUSTRATED BY A CASE AT ST. MARY'S HOSPITAL.

By W. B. CHEADLE, M.D., F.R.C.P.,
Senior Assistant-Physician and Lecturer on Pathology.

At the present moment, when hydrophobia is unusually prevalent, and is engaging much public attention, there has been revived the old doubt whether the disease has any real existence as a distinct affection, or is merely a nervous disorder, the product of an excited imagination, grafted, perhaps, upon some tetanic condition set up by the irritation of the wound.

Sir Thomas Watson, who has described hydrophobia from actual observation with a vividness and reality which renders his account of it as fascinating as it is accurate, refuted this theory very effectually long ago. Speaking of Sir Isaac Pennington, a former Regius Professor at the University of Cambridge, who had never seen a case of hydrophobia, and who was profoundly convinced that it was nothing more than a nervous complaint produced by the alarmed imagination of the patient, he says—"If you meet with such incredulous persons, and think it worth while to argue with them, you may object to their unbelief the improbability that so many persons who have been bitten by mad dogs should have suffered so precisely the same train of symptoms, and at last have died, from the mere force of morbid imagination. You may urge them with the fact that many of these persons" (as in the present case) "have been under no apprehension at all until the disease has seized upon them; that many of them have been men of naturally strong and firm minds, not at all likely to be frightened into believing that they were seriously ill unless they really were so, and still less likely to be terrified into their graves. And if this has no weight with such reasoners, you may bring forward the conclusive fact that the disease has befallen infants and idiots who had never heard or understood a word about mad dogs or hydrophobia, and in whom the imagination would have had no power in calling forth the complaint. And if they are proof against this you must give them up. I can suggest nothing more." I may point out, in addition, that the fear presumed to be so petent is not a sudden fright such as produces chorea, or an attack of convulsions, but a persistent horror or dread, such as exists under varied other circumstances, without in any case producing any nervous disorder dangerous to life. The production of hydrophobia in this way would be without a parallel. Nor does the theory that the disease is a tetanus modified by the imagination seem a whit more feasible. In another passage the eminent authority I have quoted points out the striking features which distinguish tetanus from hydrophobia—viz., the universal tonic spasm of the former, as contrasted with the intermittent spasms of certain groups of muscles in the latter; the absence of thirst in tetanus, as compared with its intensity in hydrophobia; the accumulation of mucus about the mouth and fauces in the latter, from which the tetanic patient is free; the vomiting so constant in hydrophobia, but absent in tetanus; the calm serenity of the sufferer from tetanus, as compared with the restless excitement and irritability so conspicuous in the sufferer from hydrophobia. But indeed the fact that the mental influence is often wanting disposes of this hypothesis, as of the first; and if these criticisms are founded, as I believe they are, upon correct data, they form a sufficient answer both to the theory that hydrophobia is a purely nervous delusion, or is a tetanus modified by mental impressions. The case I here record gives further, although perhaps unneeded, evidence against these hypotheses—first in the important fact that the patient did not appear to apprehend or suspect that he might be suffering from hydrophobia, or indeed to connect his sufferings with the bite in any way; and secondly, in the material changes found in the body, which were such as certainly could not be produced by any feat of imagination. Nor is it conceivable that they could be induced by any extreme of nervous disorder, the offspring of trouble, dread, or violent mental excitement.

Case.—Hydrophobia from the Bite of a Cat—Death on the Thirty-sixth Day after the Injury—Post-mortem Examination, including the Microscopic Examination of the Pons, Medulla, Spinal Cord, and Nerves of the Injured Limbs.

Henry C., a man, aged twenty-three, came to St. Mary's Hospital on August 8, 1874, complaining of some difficulty of swallowing, and was referred to the department for diseases of the throat. The Surgeon in charge, Mr. A. T. Norton, examined the patient's throat, but could find nothing amiss there; he observed, however, that the man's manner was strange—that he was very restless and excitable. Mr. Gascoyen chanced to be present, and Mr. Norton called his attention to the case, which they then examined more minutely together. The man thereupon explained that the original ground on which he had come to the hospital was that he suffered from pain in his arms, but when he arrived there his throat troubled him very much, and he had asked for advice specially for that. The pain in the arms he attributed to rheumatism; he had a brother ill at the time with rheumatic fever in St. George's Hospital, and thought he had got the same complaint. The arms were examined, and the man then mentioned that he had been bitten in both hands by a cat about five weeks previously. The marks were visible enough—one on the forefinger of the right hand, and the other through the nail of the left thumb. He did not appear to attach any importance to this circumstance, or to connect his condition in any degree with the injury; but the surgeons, suspecting that he might be suffering from hydrophobia, advised him to come into the hospital without delay. Nothing whatever was said to him of the suspicions entertained, and he insisted upon returning home to communicate with his family, and to fetch the necessary clothes. He reappeared in a couple of hours, having walked a considerable distance in the meantime, and was at once admitted as an in-patient. The following additional particulars of his story were then obtained:—It appeared that he was a porter at an hotel, but resided when off duty in rooms of his own somewhere in Paddington. There he kept for his amusement some pigeons, and on going to visit them on his return home as usual on the evening of July 5, he found in the cote a strange cat, which had entered, as he supposed, with evils designs upon the birds. He forthwith seized the animal with his right hand, and in return it bit him through the right forefinger. He instinctively seized it with his other hand, and it bit him again through the left thumb. The cat, which he described as a young, gaunt, miserable-looking creature, then made its escape. During the next few days there was some pain and swelling about the wounds, which was relieved by poultices, and the wounds then healed. No caustic or other dressing was applied. From this time the patient continued perfectly well until the thirtieth day, when he noticed some puffiness of the hands, and loss of power in both of them. On the thirty-first day he complained of want of appetite and general *malaise*, and two days later he consulted a medical man, who treated him for cold and bronchitis. The following day—or the thirty-fourth after the bite—the irritation of the throat and difficulty of swallowing definitely commenced, and he was so restless and distressed and noisy during the night that the people at the hotel who slept near complained of the disturbance he created. On the following day his arms were more painful, and he applied to the hospital.

When examined on admission the pupils were widely dilated, the pulse quickened, and the tongue rather foul. The patient was very restless and excited, almost hysterical in manner, and he stated that he had not eaten or drunk anything for four days. On water being offered to him he turned shuddering away, saying that he could not swallow. A hypodermic injection of morphia was given him, after which he became calm, and swallowed three or four spoonfuls of beef-tea. Five hours after, he became again restless, and asked constantly for water to be pumped into him to relieve his terrible thirst, continuing to grow more excited for the next four hours, when he became unmanageable, shouting and crying out, and struggling so violently that it required three or four persons to keep him in bed. He now spat up viscid mucus, and the convulsions were noticed to be made more violent by the breath of persons standing near him. During the convulsive attacks he was quite conscious and sensible, and when quieter he explained that he could not help struggling, and begged not to be tied down. He continued in much the same state for the next three hours, or until about an hour before his death, when he became exhausted and vomited a large quantity of

chocolate-coloured fluid. His skin now became cold and perspiring, and the breathing stertorous, and he gradually fell into a state of coma, which continued until he died, thirteen hours after admission, and before, unfortunately, I had an opportunity of seeing the case. The patient was admitted in the evening after I had left the hospital, and died in the early morning, before his admission was reported to me. Throughout nothing had been said to him of the nature of his complaint, nor did the man himself indicate in any way the suspicion that it might be connected with the bite he had received.

The foregoing history is taken chiefly from the notes of Mr. F. J. Marshall, who was Registrar at St. Mary's at the time, and to whom I am much indebted for this assistance. The symptoms in this instance resembled very closely those which have been observed with little variation in similar cases before. The acute and final stage of the disease, or period of recrudescence, set in after a considerable interval, was ushered in by a return of irritation in the wounds and injured limbs, and ran its course in the brief period of six days, or within the regular limit of a single week, which appears to be so seldom exceeded. The mental excitement, the extreme reflex sensibility, the dread of swallowing, the great thirst, the fierce paroxysms of convulsion and struggling without loss of consciousness, their cessation before death, the vomiting of dark fluid, the preservation of consciousness almost to the end, the supervention of exhaustion and collapse in the final stage, appear to be almost invariable phenomena. Incontinence of urine and fæces, priapism and seminal emissions, frequently observed in hydrophobia, were not here recorded, but it is possible enough that their occurrence may not have been noted down in all the hurry, horror, and excitement of the night. Death in a state of comatose insensibility following exhaustion is by no means invariable. It appears most commonly to result from pure asthenia, consciousness being retained until the last. Sometimes death occurs suddenly during a convulsion from apnœa.

Post-mortem Examination.—For the following account of the rough appearances observed I am indebted to the record of Mr. S. J. Knott, the late Curator at St. Mary's. The microscopic examination of the nervous structures was made by myself from sections prepared after hardening in a solution of bichromate of ammonia and alcohol. The whole of that portion of the cerebro-spinal axis lying between the anterior border of the pons Varolii and the cauda equina was examined with great minuteness in many hundred sections taken in almost unbroken succession throughout the entire length. For some large complete transverse sections of the pons I am indebted to the skill of Mr. G. M. Giles, of St. Mary's Hospital. The nerves leading from the cord to the injured parts were also examined, both teased out when fresh, and transverse and longitudinal sections prepared in the same way as those of the cord. The cerebral hemispheres were not examined.

Post-mortem Examination made twenty-six hours after Death.—The body was found to be well nourished and in good condition. There was a small punctured wound through the right forefinger, and another through the nail of the left thumb. The general condition of the internal organs was as follows:—Fauces and pharynx highly congested. Œsophagus congested in the lower portion. Stomach highly congested at the cardiac end, and patches of extravasated blood were visible beneath the mucous membrane, which was intact; it contained a few ounces of dark grumous fluid. The larynx was much congested down to its lower border. The trachea was slightly congested at its upper part, the hyperæmia being excessive towards the lower portion, and continued beyond the bifurcation to the small bronchi. The lungs were highly congested throughout; full of dark liquid blood. The heart was healthy in appearance and of normal size; it contained one very small soft clot in the right ventricle. The liver was congested—black, treacly blood oozing from it when it was cut—otherwise its structure seemed healthy. Brain: The membranes were intensely congested, the superficial veins distended with blood; the vessels of the pons were especially conspicuous, engorged and dilated. The brain-substance throughout was extremely vascular, showing innumerable puncta oozing dark blood on section. The lining of the spinal canal in patches, and the dura mater of the cord universally, were highly congested. The cord had a corrugated appearance, and was marbled in a striking manner by veins running more or less longitudinally. The blood was extraordinarily dark and fluid everywhere.

Microscopic Examination of the Pons, Medulla, Spinal Cord and Nerves leading thence to the Seats of Injury.—The Pons: The vessels throughout the entire area of the anterior portion near the crura cerebri, of every size and character, were enormously distended with blood, forming a complete injection of the vascular system down to the smallest capillaries (a marked contrast to the normal condition of empty, or nearly empty vessels); in one or two places a few blood corpuscles could be seen lying outside the medium-sized vessels, having apparently made their way through the walls. Immediately round some of these vessels was a zone of refracting, fibro-granular material, which had not taken the staining, and which resembled fibrinous exudation matter. No intermingled leucocytes could be distinctly made out, however, and I confess to some doubt at first whether the appearance might not be due to the partial displacement of the vessel from its greater resistance to the knife in the act of cutting, and the filling in of the space with *débris* and reagents. A careful re-examination and comparison with other specimens, normal and pathological, convinced me, however, that the appearance was due to actual exudation. The nerve-cells of the grey matter were less distinct in outline, and their contents more cloudy and granular than natural. The fibres of the white matter did not appear granular, and nothing abnormal could be distinguished in this structure. Middle Portion of the Pons: This was injected in the same remarkable manner; even small capillaries, capable of holding only a single row of corpuscles, were thus distended. Here and there vessels of medium size had ruptured, and red corpuscles were visible in the tissues outside. At one point linear or rod-like bodies resembling bacteria could be distinctly seen amongst the corpuscles escaped from ruptured vessels. As a rule, the vessels fully occupied their bed in the nervous substance, but in one or two places a zone of colourless refracting material, previously described, could be observed. The large pigmented cells of the nucleus of the fifth pair appeared more turgid, opaque, and dull than natural. In most the nucleus was fully hidden in the dark contents. Posterior Region adjoining Medulla: In this portion, as in the rest of the pons, the vessels were uniformly intensely injected (crammed with blood corpuscles), and at a few points blood-cells were visible, lying outside the vascular walls, and some of the exudation-like material encircling the arterioles. At several points near the raphe, and along the lower portion of the middle line, where the larger vessels were numerous, blood corpuscles in greater numbers were visible, extending more widely into the surrounding tissue. Hæmorrhages still more marked were discoverable in the vascular area immediately below the nucleus of the facial. The cells of the grey matter were also more granular and opaque, and less bright and well defined than usual, but the white structures showed nothing abnormal. Medulla Oblongata: In the upper portion, contiguous to the pons, the same excessive hyperæmia existed everywhere; in two places, close to the nuclei of the eighth pair, were some well-marked hæmorrhages, with extravasation for some distance into the surrounding tissues. Scattered blood-cells were observed outside unruptured vessels here and there. There were also the same zones of refracting material round the vessels in this district which were so observable in the pons. The caudate and rounded cells of the nuclei were perhaps less bright and distinct than normal, but not granular or fatty; nor could any change of the kind be discovered in the white matter, the axis-cylinder and sheath of the tubes showing bright and distinct. Central Portion of Medulla: The same appearances of intense congestion and exudation were observed in this region, but there were fewer escaped blood-corpuscles, and no distinct hæmorrhagic points. Both grey and white matter appeared healthy. Lower Medulla, next the Cord: The congestion was well marked, but less extreme than in the higher portions, the small capillaries being no longer mapped out by blood-injection in the same way. It was supposed at first that this might be due to the drainage of the vessels of the liquid blood by section near this point on removal of the parts from the body; but this was not supported by the condition of the cord still further down. The ganglionic cells and nerve-fibres were healthy. Cervical Portion of the Spinal Cord: The only change observable in this region was the general distension of the vessels by blood-corpuscles, which was most noticeable in the grey matter of both horns. Dorsal Portion of the Cord: The hyperæmia, although still great, showed further decline, becoming less and less marked in successive portions. There was no hæmor-

rhage or exudation observed. Lumbar Cord: This portion highly congested, but in less degree than the preceding; no other change could be detected. Nerves running between the Cord and the Injured Parts: Portions were examined in the fresh state when teased out, and also longitudinal and transverse sections prepared with bichromate of ammonia. Brachial Plexus: The teased-out specimens in the fresh state showed the nerve-fibres in the normal condition. In the hardened sections the vessels generally were seen to be greatly distended with blood, but the congestion was not so extreme as in the nervous centres. In one place extensive extravasations within the nerve-sheath had ploughed up the nerve-fibres. Generally the fibres themselves were cloudy and their white substance finely granular. In the transverse sections the nuclei of the connective tissue appeared unusually bright and numerous; here and there were nerve-bundles which were clear in colour and not granular. The Median and Ulnar Nerves: The condition of these was closely similar. The vessels were full, but there was no exudation or hæmorrhage visible. The nerve-fibres themselves appeared somewhat granular, cloudy, and opaque. The Nerves of the Injured Finger and Thumb: These had been carefully dissected out to their finest branches distributed to the seat of injury. They appeared perfectly normal to the naked eye, and in specimens teased out while fresh no morbid change could be detected. Hardened sections showed some congestion; the septal vessels contained blood, but were not distended. No hæmorrhages were observed, but the nerve-fibres were slightly cloudy and granular.

(*To be continued.*)

ORIGINAL COMMUNICATIONS.

CASE OF

PSORIASIS TREATED WITH PHOSPHORUS "PERLES" AND CHRYSOPHANIC ACID.

By BALMANNO SQUIRE, M.B. Lond.,
Surgeon to the British Hospital for Diseases of the Skin.

It is now scarcely ten months ago since I first brought chrysophanic acid under the notice of the profession as a remedy in psoriasis.(a) In the *Medical Times and Gazette* of February 10 of this year I referred more fully to the subject. Since then the remedy has come into extensive use. The account I gave of the first trials of chrysophanic acid in psoriasis was of so surprising a kind, that others soon began to put statements apparently so extravagant to the test of a practical trial. It was easy to do so; and anything that would promise to cure so obdurate a disease within a short space of time was obviously at least worth a trial which seemed to require so little exercise of patience and trouble. Several communications on the subject have accordingly since been made by different observers to the various medical journals. But if my original account of the effect of chrysophanic acid in psoriasis was rather a startling one, the further accounts of other observers have been no less so. Most of those who have tested my observations by repeating them in their own practice have expressed themselves as scarcely less astonished by its efficacy than I myself was when its effect first became unfolded to me. The last observer who has thus expressed himself is Dr. Whipham, who has quite recently recorded his experience.(b) This observer relates that he at first treated a particularly obstinate case of psoriasis by such well-reputed means as "careful attention to the diet," including the special inhibition of beer, a course of arsenic, the use of nitrate of mercury ointment, then a mixture designed to stimulate the action of the kidneys, then another mixture designed to correct disorder of the stomach (if any), then Donovan's solution of arsenic and mercury, "until finally the gums showed evidence of mercurial poisoning." He further states that this treatment was carried on in the case unsuccessfully for the greater part of three years, until he at length made trial of chrysophanic acid, which cured the case in three weeks. He adds that "it was not without a feeling of despair that I had recourse to chrysophanic acid. The result, however, and the rapidity with which that result was brought about, surprised me extremely—a surprise which is not lessened by the fact that the girl had suffered from the skin disease for five years and a quarter at the time when the acid was employed, and that she was entirely free from psoriasis in twenty-one days." He concludes with the remark that "at present our knowledge of the drug is limited, and recorded cases are few in number." I need, therefore, scarcely apologise for adding another case to the number, the more especially as it illustrates the means of avoiding the more important of those drawbacks to the remedy which, in some of the commentaries that have been made on my views, have been particularly insisted on.

A gentleman, aged sixty, affected with psoriasis, was recently sent to London to be under my care, by his medical attendant, Dr. James Adams, of Glasgow. Our patient had been affected with his disease continuously for the past twenty-seven years, and had latterly become anxious about it. He had begun, as he said, to think that "this thing would never leave him," and he had in consequence got to worry himself very much about the matter. Dr. Adams sent me a complete account of this gentleman's history, so that I was enabled at once to learn that he had experienced a battery of well-directed skill, which would only a year or two ago have convinced me that I had nothing to cap it with. The patient was affected with psoriasis in a fairly copious manner over his scalp and forehead, his belly and back, and his forearms, thighs, and legs. Some of the patches, more especially those on his loins and his forearms, were of very considerable size, and the eruption annoyed him by occasioning him considerable irritation. After inspecting him, I decided to treat him with chrysophanic acid ointment and phosphorus *perles*. Dr. Adams had given me a *carte blanche* to treat him in any way I pleased, with the solitary proviso that I was to cure him if I could. He had directed his patient to remain in London until I was in a position either to say that he was well or that I had found myself baffled. It is not often that so free a course and such ample discretion are offered to anybody. I knew perfectly well that such double-edged weapons as phosphorus internally and chrysophanic acid externally were not without their risks, but I determined to push both of them to extremity with all due speed, so that I might yet have time to resort to other means if they should chance to disappoint me. The full effect of phosphorus in psoriasis, I knew by previous experience,(c) would take a month to assert itself. The effect of chrysophanic acid would, as I knew quite positively, be declared, for yes or no, within a week. My patient was, as is the rule with patients affected with psoriasis, a remarkably robust and healthy man. The firmness of his fibre, his clear ruddy complexion, his bright eyes, and his hearty demeanour, were sufficient justification for the trial of "heroic" measures. He was moreover a man of considerable intelligence, and, as he happened to be a chemical manufacturer, he at once fully appreciated those precautions which are essential in the employment of chrysophanic acid ointment. His scalp and forehead had to be treated in *some* way; and the ointment when used to the scalp, and more especially the forehead, in my own practice, as well as already in the practice of others, has occasionally come to inflame the eyelids and conjunctivæ, and to give rise in some cases to marked œdema of the lids. I accordingly enjoined the use of benzol (the best solvent of the ointment) as a means of freeing the fingers completely from the latter after applying it, and I recommended furthermore the wearing of a nightcap, to avoid the smearing of the ointment at night on to the pillow, and so possibly on to the eyes.

The patient was treated with chrysophanic acid ointment of the strength of two drachms of the acid to the ounce of lard, the former being fully digested in the latter at a temperature of 360° Fahr. (oil bath), to insure the requisite incorporation of the acid with the lard.

The phosphorus, exhibited in the form of "perles"—that is to say, the little capsules containing each one-thirtieth of a grain of phosphorus dissolved in oil, which may be obtained of Messrs. Corbyn, or, indeed, as I believe, of almost any chemist,—was regulated in the first instance to one-tenth of a grain per diem, but was speedily increased to rather over a third of a grain per diem, which proved to be the greatest dose that the patient could tolerate without experiencing gastric pain. The patient was taught to soften his scales efficiently with soap and water, and then to remove them thoroughly by scraping them away with a dull-edged knife before each application of the ointment.

I began treatment on September 24, 1877. By October 1 the greater part of the eruption had disappeared. Certain portions, however, of the disease—that is to say, the circumferential

(a) In the *British Medical Journal* of December 23, 1876.
(b) In the *Medical Times and Gazette* of September 22, 1877.
(c) *Vide* my paper in *British Medical Journal* of November 3, 1877.

part of a good many of the patches (the most difficult of all in every case of psoriasis to cure)—proved themselves to be unwontedly obstinate. However, on October 26 the patient left London for Glasgow in a condition of complete freedom from his long-experienced disease. Dr. Adams is well known as one of the examiners of the Faculty of Physicians and Surgeons at Glasgow, and I therefore quote from a letter he wrote me on October 30, 1877, as a sufficient authority for the nature of the result. He says:—"I saw Mr. —— on the day after his return. I had him stripped, and overhauled him in a state of surprise that gave him intense delight. I am truly astonished. He has had the disease now for twenty-seven years, and, though there have been ups and downs, you got him at the worst." In reporting this case I have deviated from a custom that I prefer as a rule to follow. It is therefore necessary that I should say that I have in my previous papers, herein referred to, contributed the results obtained by me in the treatment of psoriasis by phosphorus used separately, and by chrysophanic acid used separately. It is only on the data acquired by the separate use of these two remedies in this disease that I have ventured, as here, to employ them in conjunction. I must not omit to say that the patient succeeded by the means I have named in avoiding any irritation of his eyes which might otherwise have arisen from the use of the ointment, and that although my desire to acquit myself speedily of my task led me to pushing the effect of the ointment to some erythematous inflammation of the skin, this was, by due care, always kept within fair bounds. The temporary yellow discoloration of the patient's hair occasioned by the use of the ointment was readily removed (when the time arrived for doing so) by means of a weak solution of caustic potash. And, lastly, I must admit that his under-linen was irretrievably stained by the acid of a dingy purple colour. But he, good-naturedly, made light of this annoyance. His only real grievances throughout were that his hair, which properly was white, had become temporarily converted by the colour of the ointment to a brilliant yellow colour; and for the rest, that for one night only (this was at the climax of treatment by the ointment) the tingling sensation awakened in his skin kept him awake.

A CASE OF OVARIOTOMY.

By H. AMBROSE LEDIARD, M.D., F.R.C.S.,
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M. T., aged fifty-eight, a charwoman, was admitted May 24, 1877, into the Cleveland-street Sick Asylum. Has had three children, and one is now living, aged twenty. Father died of pleurisy; mother died of old age. Has had pretty good health all her lifetime up to September, 1876, when she first noticed some swelling in her abdomen, which in a few months increased so as to prevent her stooping and getting about. She was tapped in a hospital in April last. On admission she was found to have fair general health, but the face was anæmic-looking and yellowish. The abdomen was much swollen and very tense. Dulness on percussion on the left side up to the middle line, the right flank being clear. No albuminuria; suffers from constipation and flatulence.

On May 29 paracentesis was performed, and 224 ounces of thick semi-gelatinous brown fluid, which deposited a fatty-looking matter in lumps and granules, were withdrawn from the cyst. This afforded her great relief for the time being; but on June 19 the belly was again far from comfortable from reaccumulation of fluid, and the girth was thirty-nine inches. I tapped her a second time on June 27, and obtained 176 ounces of fluid presenting the same characters as the first drawn.

After some days of hesitation she consented to have the tumour removed, and this was done between 10 and 11 a.m. on July 24. The operation-room in which she was placed was a small ward with four beds, which had been just occupied by a case of amputation of the thigh, which recovered; this ward then was vacated for two days, cleansed thoroughly with carbolic soap, windows thrown open, and all unnecessary furniture taken away, fresh bedding, etc., being supplied. The patient was carefully chloroformed by Mr. H. C. Horner, and during the operation I had the kind assistance of Mr. R. W. Lyell and Dr. S. Rees Philipps. An incision of about four inches was made in the middle line, between the navel and the pubes, and the cyst emptied, but not without a mess, for the fluid escaped by the side of the trocar, and was with trouble only prevented from passing back into the abdomen. The cyst was found free from any adhesion at the upper part; but on withdrawing the tumour, extensive omental adhesions were found requiring patient separation, and very tedious application of catgut ligatures to the numerous bleeding points which came into view. One portion of omentum, the size of the little finger, was ligatured and cut off. The pedicle was found to be of fair size and length, and there was no difficulty in fixing the clamp used. Sponges were freely introduced into the abdominal cavity, and the wound was closed with silk sutures passed from peritoneum to skin. Altogether, more than twenty ligatures were sewn up in the omentum and abdominal wall. The intestines were not seen from first to last, and the operation was fairly straightforward. The pedicle was then touched with perchloride of iron, and the wound fixed with lint pads, cotton-wool, and a binder. The fluid was so spilled that it could not be well measured; but it is sufficient to say that the quantity removed was considerable. The tumour was made up of one large cyst, and numerous small ones at its base within, which, when cut into, presented fluids of various colours and degrees of fluidity. There was no sickness from the chloroform; and to obviate shock, a quarter of a grain of morphia was given hypodermically some hours after the operation. The wound was kept as dry and clean as possible from first to last, and carbolised tow used to cover the clamp, which came away on the tenth day. Around the clamp there was a little superficial suppuration; and the stitches producing some irritation, were removed, and gradually replaced by plaster. There was some abdominal pain occasionally, but very little distension; and she was relieved by a grain of opium now and then. The bowels acted on the eighth day in response to castor oil; and subsequently trouble ensued from the rectum getting loaded and requiring the use of a scoop and enema.

The tongue was moist and never foul throughout. Her temperature never rose to 100°, except on one occasion alluded to, when the rectum became overloaded, and the pulse was also only once over 100. She had a cough for some days, with scanty sputa, due possibly to the increased lung space; but this was troublesome only on account of its causing pain in the abdomen. On the twentieth day she sat up in a chair for a little while, and two days after was moved to a general ward. Food was taken well all the while.

Subsequently, constipation and back-pain were complained of; the latter improved by a good binder made to lace. Before leaving for the country she was well in all respects, and much altered for the better in appearance.

THE STRUCTURE AND FUNCTIONS OF THE NERVOUS SYSTEM.

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(*Continued from page* 459.)

FUNDAMENTAL PROPERTIES OF NERVOUS TISSUES.

We have seen that, when an organism consists of an aggregation of units without any definite arrangements, each part is able to perform all the vital functions. Each part is irritable, automatic, contractile, metabolic, excretory, and reproductive; and it is only as fast as this originally uniform tissue becomes differentiated, that each part acquires the power of performing more perfectly a few functions, and ultimately one habitual function, while losing to a more or less extent the power of performing the other functions. The expanded tentacle of a zoophyte, on being touched, immediately contracts, and after a time it expands, apparently from its own inherent activity. The same tissue is sensitive to external impressions or irritable, as well as automatic and contractile. Of essentially the same nature appears to be the mechanism concerned in the movements of the leaves of carnivorous plants: the tissue which receives the impression also closes the leaves by its contraction, and after a time expands them by its own inherent activity. Such actions foreshadow the functions of nervous tissues, but they fall short of true nervous action. In *Hydra* the internal end of an ectodermic cell is prolonged into a process, which assumes the contractile function; while the external end of the cell becomes specially sensitive to external impressions. The internal end being shielded from external influences, tends to contract only when it receives a stimulus through the external end; and the latter ever tends to lose its contractile property, the more its exposed position requires it to determine when

the former shall be made to contract. In other words, the internal end performs the work, while the external determines when the work shall be done: the one is operative, the other regulative.

This differentiation of structure is carried still further in *Beroe*, where the internal and external ends of the ectodermic cell are represented by two different cells connected together by a thin fibre. The changes set up in the external or sensitive cell are conducted through the fibre to the internal cell, which it excites to contract. This new arrangement of fibre introduces us to a new special function. A part of the tissue is set apart for conveying waves of disturbance from the sensitive cell to the work cell. By this means a molecular motion is followed by a molar motion at some distance from the former in the interior, the two motions being co-ordinated by the internuncal function of the fibre. The next step of development consists in the differentiation of the external or sensitive cell into two cells; the one of which becomes specialised for responding to external stimulation alone, and the other for automatic action. The latter will perform its functions best by being shielded from external influences, and it will therefore be withdrawn from the surface of the body; while the former will retain its superficial position in order that it may respond the better to external changes; and each of these, by being relieved of one kind of action, will perform more efficiently the action or actions it retains. The fibre which originally connected the ectodermic cell and the contractile process now connects the latter with the automatic cell; and a new fibre is required to connect the automatic with the sensitive cell. The automatic cell is a centre to which disturbances originating in the sensory cell are conveyed, and from which issue impulses to the work-organs; hence the fibre which connects it with the sensory cell is rightfully called the *afferent*, and that uniting it with the work-organs the *efferent* fibre. The automatic cell is at present represented as being engaged, both in spontaneous action and in modifying afferent impulses previous to their being passed on to the efferent fibres. But the central cell becomes by-and-by differentiated into two cells, the one of which is restricted mainly to automatic action, and the other to the co-ordination of sensory impulses previous to their conversion into the outgoing discharge. The latter constitutes what is called reflex action.

The fundamental fact, however, which concerns us at present, is that the active elements, of which the nervous tissues are composed, consist of cells and fibres. We must now glance rapidly at the more important properties of these cells and fibres.

Ganglion-Cells.—The cells possess granular contents and a vesicular nucleus with a nucleolus. They vary much in size and form. Some are small, generally spherical or ovoid, and have a regular, uninterrupted outline. Others are much larger, possess a definite cell-wall, and have one or two or more long processes issuing from them. The latter are called caudate or stellate nerve-corpuscles, according to their form; or unipolar, bipolar, or multipolar, according to the number of their processes. The processes often divide and subdivide, and appear to be tubular and filled with the same granular material which is contained in the corpuscles. Of these processes some appear to taper to a point, and to terminate at a greater or less distance from the cell; some anastomose with similar processes from other cells, while others are continuous with nerve-fibres. The latter process is always unbranched as it leaves the cell, and possesses all the characters of the central portion of the nerve with which it unites.

We may expect that the contrast exhibited in the structure of these two kinds of cells will be paralleled by a corresponding contrast in their functions. The first contrast which we notice is that of size. It is evident that a large bulk of the cell will enable it to give rise to a powerful discharge of energy; and we may expect that the more powerful discharges will be required from those cells which are in immediate relation with the outgoing currents to the work-organs, and that the smaller cells will be in relation with the incoming currents, which require to be arranged and elaborated before being reflected outwards. This expectation is realised. The large cells are met with in the spinal cord in connexion with the motor, and the small cells in connexion with the sensory nerves.

The next contrast between the spherical and the caudate cells is, that the former do not possess a definite cell-wall, and have no definite connexions; while the latter not only possess a definite cell-wall, but have also, by means of their processes, extremely definite connexions with one another and with nerves. It is manifest, therefore, that the currents through the former must pass in a somewhat diffused manner, while in the latter they will pass through exceedingly defined channels. The former, then, will be adapted for the first elaboration of the incoming currents, and the latter for the final co-ordination of the outgoing currents. If the afferent currents are few in number, and if they are at the same time exceeding well organised in the race, they may pass more or less directly to the caudate, without the intervention of round cells. The actions to which the internal organs are subjected are extremely uniform in kind, and relatively few in number. The stomach, for instance, passes through the same kind of actions day after day with great uniformity; its actions are also thoroughly organised in all animals; hence, the afferent currents from it to the sympathetic ganglia pass directly into bipolar cells, and issue from these as efferent currents. The afferent currents ascending from the feet during locomotion are also few in number, simple in kind, and thoroughly organised in the race, and it is probable that these pass from the sensory nerves directly to the large motor cells, without previously passing through the small round cells of the posterior horns.

The next contrast I shall notice is one existing between the caudate cells themselves. Some are unipolar or bipolar, and others multipolar, with exceedingly ramified connexions. Some anatomists doubt the existence of unipolar cells; but we may expect to meet with the bipolar cells where the co-ordinations to be effected are few and simple, and the multipolar where the co-ordinations are numerous and complicated. We have already noticed that the movements of the internal organs are comparatively simple and uniform; and it is mainly in the ganglionic centres which preside over the functions of those organs that the bipolar cells are found, while the best examples of the multipolar cells are found in the anterior horns of the cord in direct relation with the nerves which convey efferent impulses to the organs of external relation, where numerous and complicated movements require to be effected.

The order of the development of the nervous system, structurally regarded, is from the round cell without membrane, to the caudate cell with membrane; and from the caudate cell with few and indeterminate connexions, to those with multiform and defined connexions: just as the order, functionally regarded, is from actions which are diffused and simple, to those which are less diffused and simple; and from the latter, to those which are exceedingly defined, multiform, and complicated. This order is equally true, whether the progress of development is contemplated under the aspect of the transition from the lower to the higher animals, or from the initial to the adult stages of animals; or under the aspect of the process known as education in the higher animals.

Nerve-Fibres.—Each nerve-fibre is a tube filled with partly fluid contents. The walls of the tube consist of an elastic membrane provided with large nuclei, and called the primitive sheath or neurilemma. A thin cord, consisting of a large number of primitive fibrillæ, runs in the centre of the tube termed the axis-cylinder. A third constituent of most nerves is a transparent, oily, shining material, which surrounds the axis-cylinder, termed the medulla, medullary sheath, or the white substance of Schwann. When the fibres are packed together so as to form an organ, they are surrounded and held together by a kind of connective tissue called the neuroglia, which must not be confounded with the primitive sheath.

Three kinds of nerves are met with; the simplest kind are called the fibres of Remak, and consist merely of what represent the axis-cylinders of other fibres. These fibres are also termed grey from their colour, or varicose fibres from the regular varicose enlargements which they present in their course. The second kind consist of an axis-cylinder and a sheath, but do not possess a medullary sheath; hence they are called non-medullary nerve-fibres. The third class of nerve-fibres, in addition to the axis-cylinder and sheath, possess a medullary sheath, and are consequently called medullated nerve-fibres.

The axis-cylinder, therefore, is the essential constituent of a nerve-fibre, and has been aptly compared to the "core" of copper wire strands in a submarine telegraph cable. The next most essential constituent is the primitive or nucleated sheath, which has been compared to the outer coating of rope of the cable. The last constituent, and therefore that which distinguishes the most highly differentiated fibre, is the medullary sheath, which has been compared to the layer of guttapercha in a telegraph cable.

It may be noticed, in passing, that the medullated fibres can be made, by a certain method of treatment, to exhibit, at definite distances apart, annular constrictions, at which the medullary sheath is said to be interrupted, and which may be taken as indications of the original formation of a nerve-fibre out of a row of cells, the constrictions corresponding with the divisions between the primitive cells. The nerve-fibres and caudate

ganglion cells are, undoubtedly, connected with one another. Some of the processes of the latter have all the characters of an axis-cylinder, and they may therefore be compared to the fibres of Remak; but by-and-by the exterior of the process becomes more distinct, and then becomes continuous with the primitive sheath, the interior becomes continuous with the axis-cylinder, and the medullary sheath becomes interposed between them.

Glancing now at these three kinds of fibres, the most noticeable feature is, that all of them are adapted for conveying impulses in the direction of their length; but when several of the fibres of Remak are arranged side by side, free lateral diffusion of the currents will take place, while the primitive sheath of the non-medullated fibres will check this diffusion to a considerable extent, and it will be entirely prevented by the medullary sheath of the medullated fibres. We may expect, therefore, to find that the first order of fibre will be found when the function is of a very diffused character, the second when the function is less diffused, and the third when it is very defined, and when consequently any lateral diffusion, or irradiation, as it is called, would mar the effect. The fibres of Remak are mainly found in the intracranial portion of the olfactory nerve; and it is well known that, of all the special senses, the olfactory is the most diffused and least localised. The non-medullated fibres are met with in the sympathetic nerves, which preside over the actions of the organs of internal relation—actions which are much more diffused than those of the organs of external relation; while the medullated fibres alone are fitted to preside over the definite actions of the latter organs. Any lateral diffusion of the nerve-currents would entirely mar the definite and delicate movements of the hand required for writing; while some degree of this diffusion would appear to be necessary for that continuous and diffused contraction of the muscular coat of the bowels which causes peristalsis.

Functions of Ganglion-Cells.—Ganglion-cells contain a store of material possessing potential energy, which, on the application of a liberating force, becomes kinetic. The chemical process which underlies the transformation is probably of the nature of oxidation, since the blood, returning from the brain, for instance, is as venous as that returning from any other part of the body; but we possess no direct evidence of the nature of this change. In reference to the liberating force, it may be noticed that the ganglion-cells do not appear to respond to the usual mechanical and chemical stimuli. By employing strong electrical stimuli to masses of ganglionic cells, such as those of the cortical part of the brain, a response has been obtained from them in the form of muscular movements. These cells are, however, connected with each other by innumerable fibres; and there lie immediately beneath them large masses of nerve-fibres to which the currents, from the strength employed, must undoubtedly be conveyed; hence it is extremely doubtful, to say the least, how far the muscular movements in such a case can be taken as evidence of the direct action of the current on the cells. When the ganglion-cell lies between two nerve-fibres, as those engaged in reflex action, the potential energy of the cell is set free by means of the energy already liberated of the stimulated fibre; and the energy thus set free renders kinetic the potential energy of the second fibre. The cell largely increases the amount of energy rendered kinetic during the action; but, except in degree, the function of the cell in this case does not greatly differ from that of any portion of a conducting fibre. But even in such a simple case the cell generally becomes the point of union of several fibres; and thus it helps to direct the disturbance it receives through one fibre, into two or more fibres, and becomes the active agent in giving a new direction to the current.

The manner in which the energy of the cells is liberated in automatic action is not so easy to understand. It is probable that a great many of the actions included under the title of "automatic," are due to an operation of a reflex nature. There is another way in which the energy of the automatic cell may be supposed to be liberated. The energy set free during one moment may perform the part of a liberating force the next moment on the store of potential energy, which store is being constantly replenished from the blood, just as a fire, when once kindled, may be kept burning if supplied with combustible material. But the liberation of energy effected by this means would be continuous; while the liberation of energy in a stimulated nerve-fibre is interrupted or intermittent. It is quite possible, however, for a continuous liberation in a ganglion-cell to give rise to an interrupted or rhythmical stimulation of a nerve-fibre. Suppose that the energy liberated in the cell has to overcome a certain resistance before acting as a stimulus on a nerve-fibre, a certain tension must be reached prior to stimulation; and when the requisite tension is reached, a discharge takes place through the nerve. This discharge diminishes for a time the tension of the energy liberated in the cell; and as it is probable that the molecules of the axis-cylinder have fallen during the discharge from an unstable to a stable equilibrium, so the resistance to a second discharge through the fibre will be increased. The continuous liberation of energy within the cell soon raises the tension again; while by restorative processes in the axis-cylinder its molecules are once more restored to their position of unstable equilibrium, and the conditions for a second discharge are immediately restored, succeeded by the conditions of a second interval. When the resistance is great it will require a high tension to overcome it; and this implies that the liberation of energy must continue for a long time before the necessary degree of tension is reached, and that when the discharge takes place it will be a powerful one. Strength of discharge, then, involves length of interval between the discharges; or, in other words, the strength of every discharge of energy through a nerve is inversely proportional to its frequency.

Functions of Nerve-Fibres.—Nerve-fibres exist in the conditions of rest, death, and activity. In passing from the one state to the other their physical properties undergo no change similar to muscle; hence, these different conditions cannot be distinguished from each other in nerve by simple inspection. A nerve is living if it possess irritability. When the irritability is not called into activity by any stimulus, the nerve is at rest. No doubt a certain amount of material exchange takes place in a nerve, as in other tissues, during a state of repose; but as nerves are almost destitute of bloodvessels, the extent of material exchanges which take place in them must be slight. When the nerve-fibre gives evidence of evolving energy when acted on by a stimulus, it is in an active condition; and when it gives no response to the action of a stimulus, it is dead. Death of nerve-tissue is also recognised by the appearance of an acid reaction, and by certain electro-motor phenomena, as well as by the loss of irritability.

Irritability.—The laws of irritability have already been considered in a general way; but we must now establish empirically the conditions which influence the degree of nerve-irritability.

1. Continued inaction of a nerve diminishes and finally destroys its irritability, and leads at last to fatty degeneration. It is very probable that the first effect of inaction is to increase the irritability.

2. The irritability of a nerve, after it ceases to be connected with a living central organ, increases considerably at first, but afterwards diminishes, and finally disappears. When the separation is effected by transverse section, the process is accelerated, and it also takes place more quickly in the central than in the peripheral part of the nerve. In this case, some part of the effect is no doubt due to the mechanical stimulus of the section. If the cut nerve be allowed to remain in the body, it undergoes fatty degeneration. But if the cut ends be kept in apposition, they grow together after a time, and they have even been known to grow together when the cut ends were half an inch or more apart.

3. Gentle stimulation of a nerve increases its irritability; over-stimulation diminishes it, and may destroy it at once (shock). Continued activity diminishes the irritability, and may gradually destroy it (exhaustion).

4. Mechanical irritants, such as crushing or pinching, destroy the irritability. If the mechanical stimulus, however, is not too violent, such as section of it with a sharp knife, the irritability is first increased.

5. A decided disturbance of chemical composition, such as desiccation and treatment with strong alkalies or acids, destroys the irritability. Certain agents absorbed into the blood, such as strychnia, first increase and then destroy the irritability of certain nerve-fibres, and probably also of some ganglion-cells. Curara lowers the irritability of the peripheral terminations of voluntary motor nerves; but Bernard found that a moderate dose first increases the irritability, which then becomes diminished and ultimately lost.

6. The state of the nutrition of a nerve has a great effect on its irritability. If the nutrition is wholly arrested, the irritability disappears. But a nerve whose nutrition is defective discharges its energy more readily than one whose nutrition is perfect.

7. Gradual withdrawal of heat diminishes, and gradual addition of heat (within certain limits) increases, the irritability. Too much heat lowers and may instantly annihilate it by inducing chemical change. A sudden rise of temperature acts as a stimulus and causes the nerve to energise.

8. If a constant galvanic current be passed through a portion of a nerve, it acts as a stimulus at the moment of making and breaking contact. When the current is passing through the nerve, it appears to be at rest, but its irritability is profoundly affected. This condition is called electrotonus or the electrotonic condition, but it would serve no useful purpose were we to enter on its consideration here.

Stimuli.—All mechanical impressions, as blows, pressure, section, etc., which cause alterations of the form of a portion of a nerve, act as stimuli while producing the change. Irritability and conductivity are destroyed if the nerve has been permanently injured. Agents which alter the chemical constitution of a nerve with a certain degree of rapidity, act as stimuli. Some substances, as ammonia and solutions of metallic salts, produce death so rapidly as to prevent the development of the stimulating effect. A sudden rise of temperature in a nerve also acts as a stimulus.

Variations in the intensity of an electrical current stimulate a nerve, the stimulation being the more powerful the more suddenly the variations occur. The variation generally employed is that produced on making or breaking a current through the nerve; but a sudden increase or diminution in the strength of a current also acts as a stimulus. The shocks of frictional electricity have a very powerful stimulating effect, since the currents it forms are extremely rapid in their appearance and disappearance.

(To be continued.)

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

ST. BARTHOLOMEW'S HOSPITAL.

CASES OF CEREBRAL HÆMORRHAGE FAR BACK.

(Under the care of Dr. BLACK.)
[Recorded by Dr. ABERCROMBIE, House-Physician.]

Case 1.—*Hæmorrhage into the Pons Varolii.*

M. A. B., aged fifty-two, admitted into Hope Ward under the care of Dr. Black, September 4, 1877. Good health up till to-day, but has been drinking heavily for the past five months. Went to her work as usual this morning; suddenly fell off her seat, and became unconscious. There was no convulsion; no cry.

On admission, deeply comatose; face very livid; pupils equally contracted; no strabismus; conjunctivæ insensible; respiration stertorous; heart-sounds natural; no facial paralysis. She did not rally at all, and died about nine hours after the seizure.

Examination of Body, twenty-three hours after Death.—Right crus cerebri and pons Varolii almost destroyed by extravasation of blood, which has extended into the fourth ventricle. Rest of brain natural. Arteries at base not atheromatous. Lungs congested. Heart: Hypertrophy of left ventricle; no endocarditis. Kidneys contracted, granular.

Case 2.—*Hæmorrhage around Pons Varolii and Medulla from Rupture of Aneurism of Basilar Artery.*

T. I. B., aged fifty-two, slaughterman, admitted into casualty ward, under the care of Dr. Black, October 26, 1877. On the same day, whilst at work, fell off his seat; felt giddy; no loss of consciousness; no convulsion.

On admission, complains of frontal headache; right side of face flatter than left; right pupil slightly dilated; tongue protruded straight; could stand and walk; no loss of power in upper extremities.

About five hours after admission he uttered a cry and put his hand to the back of his neck; there was no convulsion. He at once became deeply comatose; pupils small and fixed; right pupil not so small as left. Pulse 92, regular; respirations fell to six in the minute. After a few minutes the pulse and respirations quickened a little; there was a slight tonic spasm of all his muscles, with convergent strabismus, followed by a cry, after which the coma became absolute. His respirations now became extremely infrequent, and finally ceased. His pulse could be felt for two or three minutes after the breathing had stopped. His urine was free from albumen.

Examination of the Body, eighteen hours after Death.—At the base of the brain there was a large clot of blood surrounding and pressing upon the pons Varolii and medulla oblongata. The left vertebral was much dilated, the right natural. The basilar artery at the place of formation by the two vertebrals was yellow, thickened, and dilated to the size of half a pea; about the middle of this on the left side was a small ragged opening. No atheroma of the other arteries at the base of the brain. Pericardium universally adherent; no hypertrophy of left ventricle; no valvular disease; aorta, as far as end of arch, highly atheromatous. Kidneys granular.

TWO CASES OF EMBOLISM OF THE CENTRAL ARTERY OF THE RETINA.

(Under the care of Mr. SIMEON SNELL, Ophthalmic Surgeon to the Sheffield General Infirmary.)

Case 1.—George S., a collier, forty-three years of age, came under observation on October 27, 1874. He stated that two days previously he had suddenly lost the sight of the left eye. On the day of the occurrence (Sunday) he felt in his usual health, but having been, as he said, "fresh" the night before, he went at four o'clock in the afternoon to lie down, fell asleep, and did not awake until eight the same evening, when he was called by his wife. He awoke as readily as usual, but felt somewhat giddy and bewildered, and everything looked dark and dull before him. He said to his wife, "I feel queer; there's something come to my eye; I can't see." At his request a lighted candle was brought to him, but he found on covering the right eye that he was unable to see it. He experienced no pain or discomfort in the eye. With the right eye he could see perfectly.

On October 27 (just forty hours after the occurrence) the external appearances and movements of the left eye were normal. The pupil was somewhat dilated, and responded to light only in conjunction with its fellow. Vision was absolutely lost in all parts of the retina; strong reflected light from the mirror was not perceived. Examination with the ophthalmoscope showed that the media were clear, but disclosed an emptiness of the vessels, and a general appearance of anæmia of the fundus oculi. The optic disc was pale, its edges ill-defined and merging into the opaque, hazy-looking surrounding retina. The retinal arteries were greatly reduced in size, in some parts appearing as fine threads, and one vessel in particular, coursing downwards (inverted image), was seen to be quite devoid of blood for some little distance after it left the papilla. The veins were also smaller, and contained less blood than those of the healthy eye. No pulsation was produced by pressure. The disc was surrounded by a whitish hazy halo, somewhat obscuring the vessels; it was less marked on the inner side, but became more opaque in the region of the macula lutea. The yellow spot was noticed as a bright reddish dot, surrounded by this film, in which minute arterioles were observable. The right eye was normal. He stated that he had been a free drinker and smoker, but had enjoyed excellent health. There was no history of rheumatic fever, nor had he had syphilis. The heart was free from valvular disease;(a) there was no tortuosity of temporal arteries or rigidity of radials, nor any manifest evidence of atheroma. There was nothing to point to any cerebral lesion. His urine was free from albumen. He was ordered iodide of potass in five-grain doses three times daily.

During the next few days the effusion became more intense, and on October 31 the disc could hardly be distinguished from the surrounding hazy retina; the vessels were more veiled, and the brightness of the macula more marked. Ten days after the occurrence the effusion began to disappear, and about a fortnight later only a little haziness remained in the neighbourhood of the macula. The disc was now whiter, and the branches of the central artery lying on the disc were quite bloodless; their two walls were visible, but there was no blood between them; the arterial branch, coursing downwards for a little distance after it left the optic papilla, was seen as a whitish band, and then again to contain blood to its termination, but, like the other branches, it was thread-like and yet distinct. The veins were also smaller. Vision remained the same, and during an ophthalmoscopic examination he was unconscious of any light, but merely a feeling of warmth in the eye. He continued to present himself for examination until May 1, 1875, when his condition was thus noted:—No

(a) He was afterwards brought before the Sheffield Medico-Chirurgical Society, and examined by several good stethoscopists, who verified the healthy condition of the heart.

return of sight; papilla presented the papery appearance of progressive atrophy; arteries were only distinguished as minute threads, and even then only for a short distance here and there. Since this date he has been lost sight of.

Case 2.—George R. R., aged forty-one, a plumber, had been more or less out of health with bronchitis since the preceding Christmas, and feeling worse on Sunday, August 29, 1875, decided not to go to his work the next day. At about 8.30 on the evening of this day (August 30) he went to lie down on the sofa. After lying there for ten minutes, he rose, with the intention of retiring to bed, and, as he did so, felt as if his left eye were shut. He tried to open it, but it made no difference. He then closed the right eye, and found he could not even see the gaslight. He experienced no giddiness, faintness, or sickness.

On August 31 (nineteen hours after the occurrence) he came under my care. There was total abolition of sight in the left eye, not even retaining the barest perception of light. The pupil was slightly dilated, and it acted only with its fellow. Ophthalmoscopic examination showed that the vessels were much reduced in size, and contained less blood than normal. The portions of artery on the disc were bloodless. The edges of the papilla were indistinct. There was effusion round the macula, which appeared as a red dot with a milky halo surrounding it, in which tiny vessels were coursing. There was very little effusion on the contrary side of retina. Pressure produced no pulsation in the vessels. The right eye was perfect. He had never suffered any ill effects from working with lead, but thirteen years ago had rheumatic fever, and had had two or three subsequent attacks. His urine was free from albumen. The area of cardiac dulness was increased, its action was irregular, and a mitral systolic bruit was plainly audible.

On September 9 it was noted that the effusion generally was more marked; the disc was hardly distinguishable, and the vessels at the lower border of the papilla were quite enveloped in effusion; the tiny vessels coursing round the macula were very distinct, and the halo more milky; there was effusion also on the opposite side of the retina. He was under observation for a considerable period, and the optic disc gradually assumed a white atrophied appearance, as in the previous case, with a thready condition of vessels. The heart-mischief occasioned him a great deal of suffering; and, knowing his end might come at almost any moment, I had prevailed on his wife to give me warning of his decease, so that, as he had given me his consent, I might obtain the eye for examination. Towards the latter end of last year (1876), however, not having seen or heard anything of him for some time, I called at his house, and found, to my disappointment, that he had been buried a week or so previously.

Remarks by Mr. Snell.—These cases present the sudden and complete blindness characteristic of embolism of the main trunk of the central retinal artery. The diagnosis of such cases is generally easy; but hæmorrhage into the nerve-sheath, or interstitial, closely resembles it in the sudden loss of vision, and requires to be distingushed from it. In hæmorrhage, however, the loss of sight is not so complete, and the vessels, instead of being bloodless, are merely filiform. The production of a venous pulse by pressure in a case would point also to hæmorrhage, rather than embolism, as indicating incomplete interruption of blood-current.

THE Council of University College, London, have awarded the Sharpey Physiological Scholarship to Mr. Patrick Geddes.

PHENICATED CAMPHOR IN DIPHTHERIA.—Dr. Souley called the attention of the Société de Thérapeutique to the great utility of this substance as a local application in those cases of diphtheria in which the deposits of false membranes constitute the initial and chief phenomenon—the danger arising from the steady and rapid propagation of these membranes, or the ulterior intoxication of the economy. Under the contact of the phenicated camphor the pseudo-membrane seems to lose its vitality, without that irritation of surrounding parts being produced, whether of the skin or mucous membrane, which is almost always caused by the various solid or liquid topical applications now in use. The solution employed by Dr. Souley is formed by dissolving powdered camphor in crystallised carbolic acid previously dissolved in alcohol (nine parts of the acid and one of alcohol), and which may be employed either in its pure state, or mixed with equal parts of sweet almond oil. He related four cases in support of this mode of treatment.—*Gaz. Hebd.*, November 23.

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Medical Times and Gazette.

SATURDAY, DECEMBER 8, 1877.

HYDROPHOBIA AND RABIES.

SIR THOMAS WATSON has once again made use of the pages of the *Nineteenth Century* to teach and enlighten the public, taking this time Hydrophobia and Rabies for his theme; and undoubtedly the paper will be read as eagerly by the profession as by the public to which it is addressed. It is full of information, and is written with the felicity of style and the simple force of which Sir Thomas Watson is such an incomparable master; and to which the only fault that can be attributed is, that it is so delightful that the reader is too apt to read only, and not to study it. The style carries him along so easily and pleasantly that he thinks the subject is easy too, and that he has digested the article and learnt its lessons, when he has only read it.

Sir Thomas first points out that though there would be no hydrophobia were there no rabies, and there can be no rabies unless it be communicated by a rabid animal, yet the two diseases are not identical. "The term hydrophobia is often erroneously applied to both diseases, but the rabid dog is never hydrophobic." The error here spoken of is unhappily a common one, notwithstanding the frequency with which it has been pointed out; and it is a dangerous error, because it has led to the belief that "the rabid dog, like the hydrophobic man, will shun water, and that if he takes to a river, it may be safely concluded that he is not mad"; while the truth is, as Sir Thomas points out, that, on the contrary, "there is no dread of water, but unquenchable thirst: the animal rushes eagerly to water, plunges his muzzle into it, and tries to drink, but often is unable to swallow from paralysis of the lower jaw, which prevents him from shutting his mouth." Sir Thomas does not believe that hydrophobia can ever reproduce itself. Mr. Youatt believes that the saliva of a human being afflicted with hydrophobia is capable of inoculating another human being with the same disease; and he says that the disease has unquestionably been so produced. This is, however, doubtful, to say the least; though some writers on

hydrophobia hold that it has been proved that a dog can be successfully inoculated with rabies by the saliva of a hydrophobic man. We ourselves, it may be remembered, a short time ago spoke of this as a fact; and Bollinger, in his article on Hydrophobia in "Ziemssen's Cyclopædia," says—"Attempts of this sort have been made with positive results by Busnout, Berndt, Löffler, Majendie, and Breschet," though numerous like experiments have failed; but Sir Thomas Watson, with scientific caution, points out that in Majendie and Breschet's experiment the disease in the inoculated dog "might have had some unknown and unsuspected origin." He admits, however, that it is sufficient to make it "too probable that disease, though seldom or with difficulty communi*cated*, may yet be communi*cable*," and that it is enough to demand from us all requisite precaution when engaged in attending upon a hydrophobic patient. There can be no question that hydrophobia can arise in man by the contact of the saliva of a rabid dog with an abrasion or breach of surface of the skin; but Sir Thomas mentions some remarkable cases that support Mr. Youatt's belief that it may also be communicated by the mere contact of the saliva with the mucous membranes. And we should be inclined to add to these instances a history which Sir Thomas Watson gives from Mr. Wrench, of Baslow, as a proof "that the disease is transmissible from the mother to her offspring through the medium of her milk": —In May, 1876, on Mr. Twigg's farm, Harewood Grange, near Chatsworth, a mad dog bit eighteen sheep out of a flock of twenty-one, which were at the time suckling thirty lambs. The sheep were all bitten about the face, and had evidently been defending their lambs during the night in which the attack had been made. Mr. Twigg examined both sheep and lambs, and could not find a single wound on any of the latter. In about a month both sheep *and lambs* began to die at the rate of two or three a day. The sheep ran wildly about, sometimes carrying stones in their mouths, and the lambs ran away. Of the eighteen bitten sheep sixteen died; and of the thirty lambs, not one of which was believed to have been bitten, fourteen died. On the next farm the same thing happened to a smaller extent.

Now, is it not much more probable that the lambs had been infected by licking the wounded faces of their mothers, than that the milk of the latter should be poisonous, and so poisonous as to be deadly when taken into the stomach? We think so, though we are quite ready to agree with Sir Thomas in holding that Mr. Fleming, who has published some conflicting evidence as to the safety or danger of drinking the milk of a rabid animal, acted wisely in recommending the avoidance of such milk.

Sir Thomas gives admirably graphic descriptions of rabies in the dog, and hydrophobia in man; and he says, as we believe every medical man who has once carefully observed a case of hydrophobia will say—"I feel sure that no one who has even once watched its actual symptoms could fail to recognise it again, or could mistake any other malady for it," or it for any other malady.

When speaking of the interval between the bite and the outbreak of the disease, Sir Thomas observes that prolonged periods cannot be regarded as periods of genuine or normal incubation, and in explanation of them re-states a hypothesis suggested by him some forty years ago, to the effect that "the virus implanted by the rabid animal may remain lodged in the bitten spot, shut up perhaps in a nodule of lymph, or detained somehow in temporary and precarious union with some of the animal tissues, without entering the blood itself, for a longer or shorter time—in some cases perhaps never." He shows that a similar suggestion was made by Dr. Anthony Todd Thompson in 1826; and he quotes two curious cases of what we may call delayed vaccination which appear to support his hypothesis. In one, a girl aged fourteen years was attacked with influenza. "She complained of pain in each arm at the spots where, when an infant, she had been vaccinated; and, in fact, in these places vaccine vesicles now became perfectly developed. An elder sister was revaccinated with lymph thence obtained; beautiful vesicles formed, and ran a natural course."

With respect to preventive treatment, Sir Thomas says:—"The early and complete excision of the bitten part is the only means of prevention in which much confidence can be placed, and even that is open to a source of fallacy. In the majority of cases no hydrophobia would ensue, though nothing at all were done to the wound. No doubt many persons undergo the operation needlessly. But in no given case can we be sure of this. If excision should for any reason be impossible, the wound should be cauterised." And, after quoting Mr. Youatt's evidence of having operated with lunar caustic on more than 400 persons bitten by dogs unquestionably rabid, without losing a case, he adds—"Moreover, a surgeon of St. George's Hospital told him that ten times that number had undergone the operation of excision there after being bitten by dogs (all of which might not, however, have been rabid), and it was not known that there had been a single fatal issue." The method of excision approved of by Sir Thomas is that recommended by Abernethy:—"Let a wooden skewer be shaped as nearly as may be into the form of the tooth, and then be placed into the cavity made by the tooth, and next let the skewer and the *whole* cell containing it be removed together by an elliptical incision." And he adds—"In all suspicious cases, if the operation has been omitted in the first instance, it will be advisable to cut out the wound or its scar within the first two months, or at any time before preliminary symptoms in the spot foreshow the coming outbreak. Later would be too late." He gives the following useful and wise advice for the management of a bite when there is not access to immediate medical help:—"First, a bandage tight enough to restrain the venous circulation should be applied just above the wound, between it and the heart; and next, without any delay, a continuous stream of tepid or cold water should be poured from a height, and therefore with a certain degree of force, upon and into the wound. This might be done from the spout of a tea-kettle, and it should be persevered with, even for an hour or two, or until the arrival of medical aid." In combating the arguments used in favour of the sometimes spontaneous origin of rabies, that it often springs up where no contagion can be traced, and sometimes where contagion seems impossible, Sir Thomas brings forward two striking instances—which, however, we cannot give here—"in which contagion had been deemed impossible, but in which it was at length detected by some very singular circumstances."

Sir Thomas Watson strongly approves of the plan proposed by Mr. Youatt and by Sir James Bardsley for stamping out rabies—viz., the establishment of a universal quarantine for dogs within the kingdom, and a total prohibition of the importation of these animals during the existence of this quarantine. We have noticed this lately, and confess that we doubt the possibility of carrying it out perfectly; but we entirely agree with Sir Thomas that "*all* dogs should be narrowly watched, most especially dogs known to have been bitten or to have been quarrelling, sick dogs, wandering and ownerless dogs, and such as are the playthings of dog-fanciers and others," and that "the superfluity of dogs in the kingdom must be abated by the unshrinking destruction of many." He speaks of the immense number of dogs, and of the enormous extent to which the dog-tax is evaded, and observes that this discloses "the presence among us of a national nuisance, and a growing source of national dishonesty and a serious national peril." A very striking proof of the great number of unowned or carelessly looked-after dogs in the metropolis only may be

given here from an article in the *World* of November 21, on "Colonel Henderson at Scotland-yard." That officer is reported to have said, "Since the duty of catching stray dogs was imposed upon the police—that is to say, during the last ten years—we have caught more than 100,000 stray dogs (which were taken to the Home for Lost Dogs); last year nearly 19,000 canine arrests were made—without detecting," he adds, "a single case of rabies."

Having shown that we do not possess any proof of the spontaneous origin nowadays of rabies in the dog or in any other animal, and that rabies arises solely by inoculation by a rabid dog in the first instance, or by rabid animals of the same species with the dog, Sir Thomas points out that "large portions of the habitable world abounding in dogs are now, and have always been, entirely free from rabies and hydrophobia"; and he gives on this subject "authentic and valuable information" derived from some of his own friends and acquaintances. Thus, the Bishop of Lichfield, who lived more than twenty-five years in New Zealand, never heard of a mad dog in those islands; and his experience is supported by that of Bishop Abraham, who resided there for seventeen years. Bishop MacDougall informs him that during his twenty years' residence at Sarawak he never head of a single instance of rabies. Sir Henry Young and others have assured him that rabies is utterly unknown in Tasmania and in Australia; and similar testimony has been received by him with respect to Madeira, South Brazil, and the Arctic regions. Sir Thomas has also "been assured upon unquestionable authority" that "Demerara had not within the memory of man been afflicted by the presence of hydrophobia till the year 1872, when rabies was imported by the influx of a large number of dogs from Barbadoes, in avoidance of a tax which had there been imposed upon those animals"; and Colonel Horne, C.B., an engineer officer, who last year lived for some months at Constantinople, informed a friend of Sir Thomas's that "he made repeated and special inquiries there, and was assured that no instance of the disease (hydrophobia) was ever known in that city." It is fair, however, to add to this that Bollinger, in the essay before referred to, states that "in Constantinople hydrophobia rages in some years—*e.g.*, 1839—very widely; as a rule, however, according to one writer (Fauvel) it is rare, while according to another (Zoeros) it is not so unfrequent." He states, also, "that in February, 1860, hydrophobia broke out as an epizootic in Upernavik, the northernmost settlement of Greenland"; and that "in like manner, in 1863, hydrophobia prevailed in epizootic form in the northern portion of Greenland, completely destroying all the dogs in certain districts"; but it is to be observed that he does not mention that the people were infected; and Sir Thomas Watson says, "All those who have been personally conversant with the Arctic sledge-dogs agree in stating that they are subject to a fatal kind of insanity quite distinct from true rabies, and accordingly not productive of hydrophobia." Bollinger comes to the conclusion "that no land or climate is free from hydrophobia"; but it must be admitted, we think, that at any rate some countries enjoy for long periods perfect freedom from rabies and hydrophobia.

We have been led to give more space than we had intended to our notice of Sir Thomas Watson's admirable article, but we must add yet a very few words more. Sir William Gull, in a letter to our contemporary the *Lancet*, three weeks ago, speaks of hydrophobia as a disease "where treatment has always failed, and where the conditions of the disease are such as to lead to the reasonable conviction that failure will still attend our efforts at cure"; and now Sir Thomas Watson, with whom it may be said that

> "Old experience doth attain
> To something like prophetic strain,"

writes, "There are no authentic cases on record that I am aware of in which a hydrophobic person has recovered. As it has been it is still, Ἰατρὸς ἰᾶται θάνατος—the physician that cures is Death. It would be idle to discuss any curative measures after the peculiar symptoms of disease have once set in." We must, with the utmost deference, enter a protest against statements like these. Two or three cases have been recorded lately of recovery from what was firmly believed by the attendant medical men to be hydrophobia—and one of the cases was seen at its commencement by Dr. Austin Flint, of New York, who then considered the disease to be most probably hydrophobia—under the employment of curare. But even if it be disputed that they were not cases of true hydrophobia, the power of curare over spasm was clear and encouraging; and it is surely the part and the duty of medical science never to despair of finding a cure for *any* disease, so long, at least, as it has not been proved that, when its first recognised symptoms appear, irremediable organic change already exists. This has not yet been proved with regard to hydrophobia, and we therefore urge, most respectfully, that the tone of the sentences we have quoted is unscientific. Medical science, like all true science, is ever ready to acknowledge ignorance or confess defeat; but, on the other hand, very slow to recognise an impossibility of advance, or to even seem to discourage inquiry. It may be said that the utterances we object to were intended only to prevent the public from trusting in any boasted remedies instead of relying on prevention. That, indeed, is a good object, but, on the other hand, one result would be the fostering in a patient of that utter despair which is so potent an ally of disease. Happily, however, "hope springs eternal in the human breast," and neither the true physician nor the born scientific inquirer will ever be daunted by any prophecies of failure; so that the above-given utterances need not, perhaps, after all, be much regretted.

SOUTHERN HEALTH-RESORTS.

No. V.—Hyères.

Unlike the other health-resorts of the French and Italian Riviera, Hyères is situated at a distance from the sea, and separated from it by a plain about three miles broad. A common superstition in England represents it as placed on an island, but the idea is based on a confusion of the town with the group of islands of the same name (Iles d'Hyères), which lie off the coast, and consist of three principal islands and several islets, forming a chain nearly parallel to the shore, and from two to three miles distant from it. Hyères is the southernmost watering-place of the Riviera, lying in 43° 7′ North latitude, or very nearly in the same latitude as Elba. It is a town of 12,000 inhabitants, according to the most recent statistics, and is built around the base and on the south-eastern flank of a conical hill about 700 feet high, which is known as the Château Hill, owing to its upper portion being enclosed by the fortifications, and its top crowned by the remains of an old castle of the tenth or eleventh century, which, especially on the north and east side, present a very picturesque appearance. An excellent idea of the general relation of the town to its surroundings may be obtained by climbing to the top of the Château Hill, the view from which commands a wide extent of country. On the east and north-east rise up the Montagnes des Maures, which close in the plain of Hyères, and project in the form of a promontory into the sea, sheltering the district to the west of them to some extent from the easterly winds. The western and south-western boundary of the view consists of the fir-clad Montagnes des Oiseaux, the highest peak of which is about 1000 feet above the sea, and a lower ridge, La Colline de l'Ermitage, which runs in a southerly direction from them to within half a mile of the sea, where it slopes rapidly to the plain, and is crowned by a votive church

revered by mariners, some of whose votive tablets date back to A.D. 1612. Between these two ranges of hills the ground is nearly level, except within about a quarter of a mile of Hyères, where it rises at a very moderate gradient. The neighbourhood of the sea is swampy, and to the east-south-east there are well-defined marshes, but the bulk of the land is under careful cultivation, and the eye readily distinguishes large tracts of pasture and arable land in the distance, and acres of market gardens nearer the town. To the right and left of us, close to Hyères itself, there are considerable numbers of olive-trees, and the red-brown roofs of the older houses lie nearly below us massed together near the base of the Château Hill, but more on its eastern than its western face; while the visitors' district (hotels and villas) spreads out like wings on either side. The Islands of Hyères (already mentioned) must not be omitted in describing the view. The two easternmost of the three—L'Ile du Levant and L'Ile de Port-Cros—are separated by a wide gap from the third, or L'Ile de Paquerolles, which is the largest, and lies nearly due south of Hyères, very close to the Presqu' Ile de Giens, an island which is converted into a peninsula by two narrow parallel banks of sand about two miles long, so that the entrance of ships between it and the land is only possible from the south on the side of the islands. The strip of sea thus embraced between the peninsula, its isthmus, and the mainland, is called the road-stead, or Rade d'Hyères, and is a most valuable harbour. It is utilised by the French Government as a station for their training-ships, and as a practice-ground for gunnery. From the western side of the Château Hill there is also a good view over the wide valley of Hyères, which runs down from Toulon in an easterly direction; and is traversed by the carriage-road to Toulon, and the recently opened railway which now connects Hyères with the main line between Marseilles and Nice. The southern boundary of this valley near Hyères is formed by the spurs of the Montagnes des Oiseaux, and the northern and north-western by a range of high hills which run from the back of Toulon nearly parallel to and a few miles from the coast, and culminate about ten miles north of Hyères in the grim bare peak of the Coudon, above La Farlède. Still nearer Hyères, a spur of the Château Hill, running in a north-westerly direction for two miles to its highest point at the Mont Fenouillet (900 feet), narrows the termination of the valley at its entrance into the plain of Hyères. The valley of Hyères is thus protected to a considerable extent on the south, and almost completely on the north, but is exposed on the west, north-west, south-east, and east. We shall presently see that the chief blot on the climate of Hyères depends on the permeability of this valley by wind in these latter directions. To the *east* of the Château Hill, the spurs of the latter (Les Maurettes) form a very fair protection from northerly winds for about a mile and a half due east, as far as the valley of the river Gapeau, a small stream overshadowed by poplars and wych-elms, and more resembling a quiet English river than almost any we have seen along the Riviera, and which runs into the sea in the south-eastern corner of the plain of Hyères, near the Old Salterns (Vieux Salins).

The amount of protection from north-easterly winds enjoyed by Hyères is very considerable. By ascending the highest point of the Montagnes des Oiseaux to the west of the town (about 1000 feet high), at least four graduated ranges of hills and mountains can be counted behind the Château Hill, the most distant being capped with snow even as late as May. Due north of the town the protection is less complete, and to the east and east-south-east the mountains (Des Maures) are not nearly so high as, and are further off than, on the north-east.

The climate of Hyères is in many respects a very mild one, as might be expected from its latitude and its sheltered position. Roughly speaking, it is about 10° warmer than England. In the depth of winter the thermometer rarely falls below 44° or 45° Fahr., and very rarely indeed reaches 32°. The mean temperature in December, January, and February ranges between 50° to 55° in the shade, and 77° to 86° in the sun (Honoraty). The town and its immediate neighbourhood are about 2° to 3° Fahr. warmer than the district near the sea. Valcourt gives 59·9° as the mean shade temperature for the autumn, 46·4° for the winter, and 59° for the spring; and a present resident at Hyères tells us that the highest shade temperature he has seen *in his house* in summer is 81°. The curse of Hyères, if we may so express it, is the north-west wind, or mistral, which not unfrequently rages with great violence, sweeping in tremendous gusts (*experto credite*) down the valley of Hyères on to the town and plain. This wind, the magistral (*magister*), or master wind, as far as our own observations go, almost invariably blows when the sky is clear, and the sun warm. It rises about 10 a.m., and blows until sunset, or for an hour afterwards, and occasionally continues also to blow during the night. The simplest explanation of its mode of origin appears to be that it is due to the inrush of cold air from the north into the partial vacuum caused by the ascent of rarefied air from the heated coast; it seems, in fact, to be strictly analogous to the sea-breeze which springs up with the sun and subsides after the heat of the latter is withdrawn. The mistral blows with the greatest severity during the prevalence of northerly currents; and the reason why its direction is from the north-west appears to be, that the high mountains prevent the immediate descent of cold currents from north to south, and compel them to turn round their western flank, and so find access to the coast. The mistral is said to blow at Hyères during upwards of sixty-four days in winter, spring, and autumn. We ourselves noted it this year (1877) fifteen times between April 12 and May 21, and on six of these days it is marked as "rough," and on two others as "furious." However, the inhabitants of Hyères pronounced our experience as "exceptional," though from collateral evidence we are inclined to the belief that the so-called exception is in this case really the rule. We by no means desire, however, to utterly condemn the mistral as a downright bad and injurious wind, as some persons do. When it blows with moderate force it is not extremely unpleasant, especially if the sun is hot, and the chief inconvenience it causes arises from the dust it raises along the streets and roads. In parts free from dust a moderate mistral is *per se* not nearly so noxious as an east wind of even less severity. Easterly winds are not unknown, unfortunately, at Hyères, especially in winter and spring. According to Ajello ("Hyères, son Climat, etc.," 1874), the statistics of twenty years give sixty-five days of east, twenty of north-east, and twenty of south-east wind per annum. We can ourselves testify to the occurrence of fresh easterly winds at Hyères. The great advantage of the position of the town, especially in certain cases, is its distance from the sea (three miles), for the sea-breeze which blows along the Mediterranean coast from 10 a.m. to 3 or 4 p.m. on sunny days is scarcely at all felt so far inland, and in any case its force is much broken by the Iles d'Hyères, which form a kind of wall to the south of the town. These islands are really loftier than they appear at a distance, and the strip of sea enclosed between them and the land contributes very little in itself to the formation of the sea-breeze, which flows in from the open sea.

Dr. Griffith, who has resided at Hyères for the last eighteen years, informs us that the cases of phthisis to which the climate is peculiarly adapted are those of an acute florid type with high fever. Invalids of a nervous temperament, and for whom the neighbourhood of the sea at Mentone or Cannes is found to be too exciting, also get on better at Hyères, and

sleep better, whereas lymphatic persons find that the climate of the former places suits them best. Patients with a tendency to hæmoptysis are also said to do better at Hyères, and no doubt rheumatic cases might be sent there with advantage.

We must now say a little about the town itself, and the general characters of the district. Hyères is entered on the west side by a single rather straggling street, about a quarter of a mile long, which is called the Boulevard National, and skirts the base of the Château Hill, running at first from north-west to south-east, and afterwards nearly due east, when it merges in the town itself. Two of the best hotels, and several *maisons meublées*, are situated in the Boulevard National—an unfortunate selection of site, as this part of the town is the most swept by the mistral. Some of the houses on the north side of the street are considerably raised on a kind of terrace above the carriage-road, so that their view is but little affected by the houses opposite. The course of the Boulevard National through the town of Hyères, where it gradually assumes the character of a high street, and is termed the Route Nationale, is broken at two points by open spaces or squares—the first, the Place des Palmiers (so designated from the seven very fine palms which form its chief attraction), being the smaller; and the second, the Place de la Rade, or market square, with the oblong Place Royale opening out of it on the north, the larger. Several roads enter the main street from the south, and two of these enclose between them the very picturesque Boulevard des Palmiers, which runs parallel to the high street, with its centre nearly opposite the Place de la Rade, and is planted with two rows of date-palms, upwards of sixty in number, which after a few more years of growth will give the street a decidedly Eastern character.

The north-east corner of the Place de la Rade is connected by a short street with the new Boulevard d'Orient, which is north of, and nearly parallel with, the Route Nationale. The villas which have been, or are still being, erected on either side of it, are efficiently sheltered from the north by the ridge of the Maurettes, underneath which they lie, and they are also to a great extent out of the line of the mistral. They have a south or south-west aspect, and nice gardens, and enjoy an excellent view over the plain and roadstead. Below this Boulevard, the Route Nationale, which is bordered by villas on its north side, runs for about two miles eastward towards the valley of Gapeau already mentioned, but it is a very dusty road, and traverses a shallow, draughty cutting bordered by vines and olives, and hence is not a very good promenade for invalids. The old part of the town of Hyères clusters round the Place de la Rade, especially its western side, and most of the narrow streets are built on the ascent, and are only available for foot-passengers.

The town as a whole is not kept as clean as it might be. The streets want better paving and draining; in fact, in the old town there appear to be no drains, but the slops and refuse from the houses are allowed to accumulate and run down open gutters in the centre of the streets. This is especially true of the Rues St. Bernard, de la Croix, and Fonouillet, and some of the back lanes above the cemetery are horribly filthy. The best shops are in the Rue Massillon, leading to the Place Massillon, and along the Route Nationale and in the Place de la Rade. There is a general poverty-stricken look about the shops, and they are very inferior to those of Cannes or Nice. The Hôtel de Ville, or town hall, is situated in the little Square Massillon, which is adorned by a bust of the celebrated preacher who was born in one of the houses close by; and a curious old tower which belonged to a Templar church on the same spot is now the official residence of the Commissaire de Police.

(*To be continued.*)

THE WEEK.

TOPICS OF THE DAY.

At the recent November Sessions for the transaction of the business of the county of Middlesex, the Committee for Accounts and for General Purposes, in recommending payment of the County Coroners' accounts, called attention to an entry in the account of Dr. Diplock for a charge of two guineas paid to Dr. E. L. Tyler Smith for attendance as a medical witness, and for making a post-mortem examination in the case of an inquest held at Heston. The deceased gentleman was eighty-one years of age, and died in the presence of his wife and of a neighbour; and his son, who had strongly objected to any examination being made, addressed a letter to the Clerk of the Peace on the subject. So favourable an opportunity was not, of course, lost by Captain Morley—present on the bench of magistrates,—who proceeded to deliver some very strong views on the question, pronouncing the examination illegal, and entirely opposed to the wishes of the relatives, because the deceased had died at the advanced age of eighty-one. The Court eventually disallowed the charge of one guinea for the post-mortem examination, and Captain Morley proceeded to express a hope that in the ensuing session the Home Secretary would take in hand some legislation on the subject of coroners' duties. Dr. Smith has since addressed a letter on this subject to the Marquis of Salisbury, the chairman of the magistrates, which he has sent to several of the papers for publication. In this letter he impugns the veracity of several of the statements made as to his conduct, and asserts that he received instructions from the coroner's officer to perform the post-mortem examination in the same manner as he has always done before on similar occasions.

A disgraceful case of recklessly endangering the spread of infectious diseases, and defrauding a sanitary authority, was last week heard at the Hammersmith Police-court, where Thomas West, a furniture dealer, at Walham Green, was re-examined on a charge of being concerned with the Sanitary Inspector of Fulham in obtaining various sums of money from the District Board of Works by false representations. A warrant had been granted for the apprehension of the sanitary inspector, but he could not be found. It appeared that during the outbreak of small-pox in the parish the inspector received instructions to destroy the infected bedding, and supply the sufferers with other articles. For that purpose he employed the prisoner to supply bedding, and the practice was to pay him after the items in the accounts had been initialed by the inspector. It was, however, discovered that in many cases a charge had been made for articles which had never been supplied. The prisoner said he acted under the instructions of the inspector, and that he had intended to "let out" about the inspector burning "dummy" beds on the common, and selling the beds themselves. The prisoner was committed for trial, but the greater criminal is undoubtedly at large.

The following extract from the last report of Professor Bernays, Public Analyst for the parish of Camberwell, is of some interest in connexion with the recent controversy on the subject of the admixture of salt with beer sold to the public:—"In the past quarter I have examined eleven specimens of beers, ales, and porters. As to alcohol, the variation was only between 8 and 10·5 per cent. The same lack of hops is exhibited as of old; at least, a little goes a long way. But the most curious feature is in the increase of salt. It will perhaps be remembered how often I have mentioned the almost absence of salt in days gone by. Now, however, we have arrived at a quantity, in the case of No. 70, so large that I ventured to obtain a magisterial decision and a penalty. The results of other analyses are:—No. 57, not estimable; 58, 5·60; 59, 11·20; 68, 13·30; 67, 30·10; 63, 34·30; 61, 44·10; 60, 47·69; 69, 58·10; 72, 82·60." Here, then, we have, from a merely nominal

presence, as much as eighty-two and three-fifths grains in a gallon—a quantity sufficient to induce thirst and encourage drunkenness.

It may be interesting to some of our readers to learn that the dissection of the Berlin gorilla, Pongo, was performed last week by Professor Virchow and Professor Hartmann, in the presence of several eminent Berlin physicians, and it was ascertained that the sudden death of the animal was caused by acute inflammation of the bowels—the same disease which carries off young children so rapidly. The dissection explains the cause of his previous illness, and supplies valuable information with regard to the treatment of anthropoidal apes. The button of a glove, iron wire, and pins were found in the animal's stomach.

In speaking of the sanitary measures which are being taken to render Marlborough House a safe residence for the Royal family, the *Sanitary Record* states that a clean sweep has been made of every old drain and cesspit about the premises; other drains have been removed from beneath the basement, where every floor is being taken up. The entire site will be covered beneath the wood floors with Portland lime concrete, and the flagged portions will be laid on a solid bed of Portland concrete. The drains will be fully ventilated at six points by iron pipes carried above the roof, and every old closet-pipe of soldered lead will be removed, and new pipes of solid lead substituted. In fact, so far as sanitary science can improve an existing house on an old site, everything is now being done to make Marlborough House a healthy residence. Meanwhile, it is not reassuring to learn that Clarence House, which the Prince of Wales and his family will occupy until their own residence is completed, is built on a site originally occupied by a hospital for leprous women, which was pulled down about the year 1660 to make room for the erection of St. James's Palace—a date at which sanitary science, as we now understand it, certainly did not exist.

A town's meeting was held at Birmingham last week, under the presidency of the Mayor, for the purpose of authorising the Town Council to apply to Parliament for an Act "to empower the Mayor to acquire the disused burial-grounds within the borough, and to appropriate the same as open spaces accessible to the public, and for other purposes." The Mayor having moved the resolution, Councillor Matthews, in seconding it, said that when Mr. Cross was in Birmingham he strongly denounced the existence of such a plague-spot as the Park-street burial-ground, and said he would give any assistance in his power for the conversion of such places into more healthy areas. The motion was unanimously adopted.

A large audience, including the Vice-Chancellor, Dr. Sewell, assembled at the Museum, Oxford, on the 30th ult., to hear a lecture by Dr. Acland, the Regius Professor of Medicine in the University, on "Rabies and Hydrophobia." In the course of a lengthy address he said that it may be admitted that there was as yet no cure known for that disease when once established in man. Many extravagant remedies had been suggested; it was, however, almost certainly preventable by prompt measures taken at the time when the injury was inflicted; and the weight of evidence showed that active cauterisation and excision were the most efficacious preventives. With regard to other measures, he was of opinion that the State should impose a rigid dog-tax, and should compel every dog to wear a collar with the name of its owner and number of the licence affixed, and that all unregistered dogs should be mercilessly destroyed if found in the streets. Nothing could be more reassuring than the knowledge how entirely this disease may be brought under control; the marvel was that they were, and had been, so careless.

Redruth, in Cornwall, must be an exceptionally healthy place, if gauged by the important salary paid to its medical officer of health. At a recent meeting of the Local Board a long discussion took place as to the reappointment of the medical officer. Dr. Hudson decidedly objected to the ratepayers' money being spent on nothing; they had no report of any kind from the medical officer of health. If it was their opinion that such an official was useless, which they seemed to think by giving him five guineas a year only, they should do without one, and tell the Local Government Board so. They did not want the medical officer to do anything. They had no by-laws, and no instructions to give him. When Dr. Hichens was appointed at £25 a year, it was understood he was to work under the by-laws, but those by-laws were not now in force. The medical officer was not going to do the work as it ought to be done for five guineas a year, but all they required of him was to do nothing. Several members of the Board said Dr. Hichens did the work as satisfactorily and well for five guineas a year as he had previously done for £25. Ultimately, Dr. Hichens was reappointed medical officer with the liberal salary of five guineas per annum, and a vote of thanks was accorded to him for his past services and attention to the duties of his office. There would certainly seem to be some warranty for Dr. Hudson's assertion that the Board required this officer to do nothing, or Dr. Hichens sets an exceedingly modest value on his services.

The final meeting of the Hospital Saturday Fund Committee for the present year was held on Saturday last in the board-room of the London Hospital. Mr. John Hughes, chairman of the Council, presided, and congratulated the meeting on three important facts—namely, that the fund had collected £275 more than last year; that it had spent £300 less than last year; and that it had made its awards three months earlier than after last year's collection. A larger sum would have been divided amongst the hospitals, but that there was a sum of £150 to pay on last year's accounts, and a balance had this year been carried forward. The reports of the Council and the Distribution Committee, together with the list of the awards, having been approved, votes of thanks to the officials connected with the Fund closed the proceedings.

At last week's meeting of the Metropolitan Board of Works the question of Thames floods was again brought forward by Mr. Runtz, who had previously given notice of his intention to propose a motion on the subject; this was duly seconded, and an amendment by Mr. Richardson having been put to the meeting and carried, on its being put as a substantive motion Mr. Roche moved the "previous question," observing that the subject was already before the Committee of Works and General Purposes, and when they had come to an agreement on some principles, it might be brought before the Board, and then possibly Parliament would pass the Bill. The "previous question" was carried by a majority of eleven, and therefore negatived both motion and amendment. But the high tides will not hold off until the Board of Works has ceased to disagree, and it is seriously to be hoped that a Bill for thoroughly dealing with the question will be passed early next session.

Small-pox would appear to have broken out again rather severely at the East-end of London. At the Limehouse Board of Works, Dr. Rogers reported that the disease was seriously on the increase in the district under his charge, and instructions have been issued to take every precaution for the isolation of the disease, in order to prevent its spread in a contagious form. The question also came before the Stepney Board of Guardians, and they have been in communication with the Local Government Board, Dr. Stevens recommending house-to-house visitation, in order to quarantine the houses where the disease raged. This recommendation was not adopted, but it was determined to wait and see whether the disease increased in virulence. In Poplar, Bow, and Bromley, the three parishes forming the Poplar Union, a few years ago said to be the best vaccinated locality in the metropolis, small-pox has again

appeared, and the Board of Works, being aware of this, are pushing on the erection of their own asylum, the first in London for the treatment of non-pauper cases of infectious disease. In all the districts, however, it has been found that the persons affected were principally immigrants, who had probably evaded the law by moving from one district to another.

The Registrar-General reports a high death-rate last week from scarlet fever at Wolverhampton, Norwich, and Sheffield. In London 31 deaths from small-pox were registered, 1 in Liverpool, and 1 in Birmingham, but none in any of the seventeen other principal towns. In London 81 deaths occurred from measles, 52 from scarlet fever, 5 from diphtheria, and 27 from whooping-cough. The deaths referred to "fever," which had been 28 and 38 in the two previous weeks, were 36 last week, and included 1 from typhus, 30 from typhoid, and 5 from simple fever.

A GOOD EXAMPLE.

We extract the following from a back number of the *Home Chronicler*, the editor of which is to be congratulated on having for once presented the readers of the journal with a bit of sound sense:—"The International Association, for the Total Suppression of Vivisection has been using its influence with the Austrian Government, with a result that may be gathered from the subjoined reply received from the Minister for Ecclesiastical Affairs and Education at Vienna." The translation of the reply runs thus:—"Imperial Royal Ministry for Ecclesiastical Affairs and Education.—The letter of July 7 (14), received by me, in which the Association, referring to the English Act of Parliament for Restricting Vivisection, which was passed in consequence of cruelties proved by evidence to have been practised in laboratories upon living animals, proposes to me that it would be desirable in the interests of humanity that the Austrian Government should institute an inquiry into the experiments carried on in physiological laboratories and elsewhere in Austria; and the subject has received my most serious consideration. The firm conviction, however, that no abuses in connexion with experiments on living animals are taking place in the western half (or division) of the empire, over which alone my jurisdiction extends, and the apprehension lest restrictive Government measures might perhaps mischievously interfere with the noblest efforts of medical investigators to elucidate pathology, have restrained me from setting on foot the suggested inquiry. I have, nevertheless, felt myself bound most strongly to impress upon the institutions concerned that in the course of their scientific investigations they should allow every humane consideration as much weight as is compatible with the object of the investigation itself. I consider that I have hereby, without any injury to scientific interests, done my best to satisfy the claims of humanity.—(Signed by the Minister for Ecclesiastical Affairs and Education, Vienna, August 16, 1877.)" We regret that there was not to be found in our own Government a Minister who could return an equally straightforward and sensible reply.

THE NEED OF A CENTRAL WATER AUTHORITY.

Just at the present time, when the question of the expediency of placing the water-supply of the metropolis in the hands of one central authority is being mooted, the famous Southwark and Vauxhall Company have provided a most cogent reason in favour of such a step. At the end of last week the Company mentioned were summoned at the Southwark Police-court by Charlotte Snook, of Albert Cottage, St. James's-road, Old Kent-road, for refusing to supply her with water after tendering the rates due. The complainant said she had been a customer of this water company for twenty years, and had been upwards of four years in her present abode. She unfortunately allowed the water-rate to be in arrears in the sum of twenty-eight shillings, but because she was not able to pay that sum when last demanded, they had cut the water off. She begged the collector to call again before doing such a cruel act, but he took no heed of her appeal, and she had since been without water. The magistrate asked if she had paid the arrears due. Complainant replied that she had tendered the money, but the Company refused to put the water on again, unless she paid all expenses for cutting off and replacing the pipes, as well as a quarter in advance. She could not do that, and the consequence was that the water was stopped and the public health endangered. The magistrate strongly animadverted as to the conduct of the Company in cutting off the water when they had the power to summon her to his court for the arrears. The complainant reminded his Worship that small-pox and fever were on each side of her, and it was essential she should have a good supply of water; if they had waited only two hours before they cut it off, she would have been able to pay them. Mr. Partridge said their monopoly and their powers under the Act enabled them to do what they had done; but he thought they had been to blame in cutting off the water where small-pox and fever were raging. The complainant being a poor but respectable woman, who had paid the rates for so many years, he thought the Company might restore her supply of water on payment of the arrears due. The Supervisor of the Company, who was in attendance, promised to lay his Worship's recommendation before the directors, but reminded the magistrate that the Company had not exceeded their powers. Mr. Partridge said he was aware of that, and, in dismissing the summons, he directed the costs of it to be returned to the complainant. No one will suppose that such a reckless act would have been committed had the water-supply been vested in the hands of the Metropolitan Board of Works, who would have been compelled to study, first, the health of the district, and after, the payment of their claims for water supplied. This notorious Company is getting on: after attempting to coerce Richmond, they have fallen foul of an old woman.

PATHOLOGICAL SOCIETY OF DUBLIN.

At a meeting of the Society on Saturday, December 1, Mr. Edward Hamilton, President, in the chair, Dr. Finny showed a remarkable example of displacement of the kidney, the supra-renal body being in the normal position. There was a "sling" ureter. Three arteries supplied the kidney, and three corresponding veins emptied themselves into the middle sacral, internal iliac, and inferior cava, respectively. The kidney was lobulated. Dr. Nixon exhibited specimens which illustrated the etiology of intermittent aortic murmur and Quincke's murmur. The latter—a peculiar grating murmur—was heard at the junction of the second left costal cartilage with the sternum, except at the end of a very full inspiration. The margin of the upper lobe of the left lung overlapping the heart was airless and carnified; so that the absence of the pressure usually exercised by this part of the lung on the pulmonary artery produced Quincke's murmur. The murmur of aortic patency was intermittent, because the murmur was caused by occasional entangling of pieces of fibrin in the otherwise healthy aortic valves. Dr. Banks showed the liver of a boy, aged ten, who had suffered from enormous ascites. The superficial abdominal veins were much distended during life. Peculiar polypoid masses, apparently caseous or tubercular in character, sprang from the lower edge of the liver, and were scattered over its surface. The specimen was referred to a committee to report on its pathology. Dr. Lyons presented a striking example of hydronephrosis, from the body of an intemperate man, who had been tapped for ascites eleven times, but whose liver was not cirrhosed. Both kidneys were lobulated; the right one was fatty in a marked degree, and was connected by a band—apparently of fibrous tissue—with

the left kidney. The latter was in a state of advanced cystic degeneration, caused in no slight degree, it would seem, by pressure exercised by the left renal vein on the corresponding ureter, which was quite pervious. The ascitic fluid contained an appreciable quantity of urea, which had apparently passed by exosmosis from the vast cysts in the left kidney into the peritoneal cavity.

PROVIDENT DISPENSARIES FOR BIRMINGHAM.

The Sub-committee appointed by the Birmingham Charity Organisation Society to inquire into the subject of the abuse of gratuitous medical relief have presented their report, and also an additional report containing suggestions for the establishment of provident dispensaries for the district. According to the former, the Sub-committee express their belief that the amount of gratuitous relief at the present time afforded is even largely in excess of the legitimate demands of an industrial population, and that it is an urgent public necessity that it should be reduced. In the latter they explain that the two largest centres in which provident dispensaries have been established are London and Manchester, and upon the history of the institution in this last city (as being very analogous to Birmingham in the character and requirements of its population) they chiefly base their recommendations, always remembering that if any such scheme is to command success it must be established on a wide and popular basis, and obtain co-operation on the part of the governing bodies of existing medical charities. In connexion with the foregoing subject we have received a copy of the resolutions passed at a public meeting held in the Town Hall, Birmingham, the Mayor presiding, for establishing provident dispensaries in Birmingham and the district, with rules for their government and management.

DIFFICULTIES OF RURAL SANITATION.

According to a report of the Town Council, Haverfordwest is in a very filthy condition. Mr. Alderman W. Davies, speaking on the subject, said—"Our town is getting into a very filthy state. I can point out to the inspector—I have no wish to do so publicly—places which are a disgrace to a community. I speak openly, and I wish the reporters to report what I say. There are places in this town in a filthy condition: fever is raging from one end of the town to the other." Other speakers seemed to confirm these remarks. Mr. Green, another alderman, said—"There is great truth in the statement that the Corporation has not backed up the Superintendent as we ought to have done." This seems indeed to be the gist of the whole matter. Neither medical officers of health nor sanitary inspectors can avail if their recommendations are not effectually and efficiently carried out. Dr. Brown, also an alderman, is credited with the following remarks:—"You cannot stem the course of fever. We know nothing about it: it is not in the water. It is a high decree passed long ago that there shall be diseases, which visit the land with terrible power. It comes from a Wise Power, and we are unable to stem it." Perhaps there is some mistake. We should hope so, for Dr. Brown's sake. It is said the Welch are nearly as fatalistic as true Mohammedans. Is this Dr. Brown's view?

ROYAL INSTITUTION OF GREAT BRITAIN.

At the general monthly meeting on Monday last (George Busk, Esq., F.R.S., Treasurer and Vice-President, in the chair), the Earl Stanhope, Mrs. Robert S. Faulconer, Colonel Henry Macfarlane Norris, Mrs. Henry Pollock, J. Lyons Sampson, Esq., and Miss Elizabeth M. Steedman were elected members of the Royal Institution. The presents received since the last meeting were laid on the table, and the thanks of the members returned for the same. The following arrangements of the lectures before Easter, 1878, were announced:—*Christmas Lectures:* Professor Tyndall, D.C.L., F.R.S.—Six lectures adapted to a juvenile auditory, on Heat, Visible and Invisible; on December 27 (Thursday), 29, 1877; January 1, 3, 5, 8, 1878. Professor Alfred H. Garrod, M.A., F.R.S.—Twelve lectures on the Protoplasmic Theory of Life and its Bearing on Physiology; on Tuesdays, January 22 to April 9. James Dewar, Esq., M.A., F.R.S.—Twelve lectures on the Chemistry of the Organic World; on Thursdays, January 24 to April 11. R. Bosworth Smith, Esq., M.A.—Seven lectures on Carthage and the Carthaginians; on Saturdays, January 26 to March 9. Rev. W. Haughton.—Three lectures on the Natural History of the Ancients; on Saturdays, March 16, 23, 30. Ernst Pauer, Esq.—Two lectures on the Clavecinistes and their Works (England and Italy; France and Germany); with musical illustrations; on Saturdays, April 6, 13. Professor Tyndall will give a course of lectures after Easter. The Friday evening meetings will begin on January 25, at 8 p.m., when Professor Tyndall will give a discourse at 9 p.m. Succeeding discourses will probably be given by Matthew Arnold, Esq., Dr. Philip L. Sclater, Dr. R. Liebreich, Professor Goldwin Smith, Lord Rayleigh, Professors Huxley and Dewar, and Sir Joseph D. Hooker. To these meetings members and their friends only are admitted.

THE ADELAIDE HOSPITAL, DUBLIN.

The ceremony of laying the foundation-stone of extensive new buildings in connexion with the Adelaide Hospital, Peter-street, Dublin, was performed last Tuesday, the 4th inst., by the most noble the Marquis of Headfort, in presence of a distinguished gathering of the friends and supporters of the institution. The new buildings and improvements, which will cost about £13,000, of which between £3000 and £4000 has yet to be collected, will include a fever hospital, several new wards, and an operating theatre. The additional wards will constitute a new wing—the Madeline Wing—in Peter-street, having a frontage of some fifty feet, with handsome portico entrance. The basement floor will be used as servants' bedrooms and dining-hall, and patients' clothes-room. Over these, on the ground floor, will be a board-room, secretary's room, etc. On the first floor will be the children's surgical ward, on the second floor the men's surgical ward, and on the top floor the women's surgical ward, each ward being constructed for fifteen beds. Besides this wing, and on a line with the entrance-hall, there is to be a return wing, the basement of which will contain the new kitchen, etc. On the principal or ground floor there will be the operating theatre and two operation wards. Over these will be the children's medical ward and men's pay wards. All the wards will be unusually high, and special care will be taken as to ventilation. The floors will be of teak, and the walls plastered in Parian cement tinted in different colours. The staircase will be a fine open one, and the steps and landings throughout will be of Portland stone, and on each landing there will be a fire-plug, etc. The additional buildings also include a fever hospital, which is entirely separated from the general hospital. The works are being carried out after the designs of Mr. J. Hargrave Bridgford, who has devoted himself much of late to hospital and sanitary works.

Fatal Wound of the Heart by means of a Piece of Glass.—In *Eulenburg's Vierteljahrschrift*, the case of a lunatic is related, who, having procured from a broken window a pointed piece of glass measuring nineteen centimetres, thrust it into his left side, and died a few minutes after its extraction, which was only accomplished with some force. At the autopsy there was found a penetrating wound just below the fifth rib (the walls of the chest being loaded with fat), which pierced the pericardium and the left ventricle of the heart, the sharp point of the glass having passed between the trabeculæ without dividing them.—*Centralblatt*, October 27.

FROM ABROAD.

The New German Scientific Institutes.

The Berlin *Deutsche Med. Wochenschrift* for November 17 contains two short accounts of the opening of two new Institutes —establishments that have done so much for the advancement of scientific investigation in Germany, and which are now being imitated with some success in France, or, at all events, in Paris. It is in what was once France that one of these institutions has just been inaugurated, a large assemblage of professors and students having assembled at Strasburg to witness the opening of the new anatomical building. After an introductory address, delivered by Prof. v. Recklinghausen, he and Prof. Waldeyer conducted the audience over the new edifice, which seems to be quite on a colossal scale, and supplied with every possible appliance; and as the space at the command of the architect seems to have been ample, he has succeeded in supplying every part of the building with an ample share of air and light. The portion devoted to pathological anatomy is divided into two sections, one of which is devoted to clinical autopsies, with its theatre for ninety auditors attached. The second is to be used both for non-clinical autopsies, and for lectures on surgical operations. This communicates with the laboratory, furnished with all the appliances for microscopical vivisection and chemical investigations. The portion of the building devoted to normal anatomy contains the dissecting-rooms, large theatre, and a splendid room for the museums. Other rooms are devoted to the library, and for abodes for the assistants and servants, while there are more than twenty rooms devoted to special work. Beneath the building ample room is provided for a *morgue* and for the stowage of bodies for dissection. In his introductory address, Prof. v. Recklinghausen gave a vivid sketch of the development which pathological anatomy had heretofore undergone at Strasburg in the hands of Ehrmann, Lauet, and Lobstein. He dwelt at length upon the merits of his predecessor, Lobstein the younger, who, as first Professor of Pathological Anatomy at Strasburg, had assembled a large circle of students around him, and enriched the heretofore insignificant anatomical museum with more than 3000 preparations. In thankful recognition of his services, his marble bust had been placed in a conspicuous place in the new edifice.

The other account we referred to relates to the new Berlin Physiological Institute, but it consists only of an extract from the address delivered on that occasion by Prof. Du Bois-Reymond. He expressed his satisfaction at the completion of this palace, devoted and consecrated to the service of science, and heartily thanked all those who had directly or indirectly contributed to this great work. The two men, he said, whose statues adorned the entrance of the Institute—Albrecht von Haller, the founder of physiology as an independent branch of natural science; and Johannes Müller, its hitherto most successful cultivator—represent the spirit in which it will be here pursued and taught. With thankfulness should they seize this opportunity to acknowledge that it was Purkinje who first called into life the idea of the "physiological laboratory," he having, forty years since, founded the first Physiological Institute at Breslau. During the few years that have passed since then, the problems and methods of physiology, and with them the demands for larger and more complete places of work, have multiplied. The Berlin Institute, provided with all the best appliances of advanced workmanship (*Technik*), is resolved to do all that is possible for the united advancement of the various branches and aims of physiological inquiry. Little shall we allow ourselves during these efforts to be tempted into the faint-hearted direction, which of late, and especially in England, has gained a footing, and through the prohibition of vivisection strives to effect a complete paralysis of experimental physiology. The mere fact that for every life of a dog so saved, human life under circumstances might have to be sacrificed, should amply suffice to exhibit the falsehood and folly of these ill-regulated humanitarian strivings.

Warm Baths in Secondary Puerperal Hæmorrhage.

Dr. Bailly, Professeur-Agrégé of the Faculty of Medicine, contributes a paper to the *Bulletin de Thérapeutique* for September 30, on the efficacy of this method of treating secondary uterine hæmorrhage, devised by Prof. Tarnier. By secondary hæmorrhages he understands those which are produced from the second day to a month after delivery. These are generally due to a congestion of the uterus, usually spontaneous, but sometimes caused by the presence of a foreign body in the cavity, too early getting up, a violent effort, or vaginal injections injudiciously employed. Such hæmorrhages are rarely dangerous, but they recur frequently and often obstinately, and cause great alarm to the patient. The ordinary measures for arresting them are far from being always successful, and are usually tedious; and, at Prof. Tarnier's suggestion, the author of this paper commenced in 1874 the trial of warm baths. The success attending the use of these has been so great that he publishes two of the cases in which he employed them. In the first of these the hæmorrhage commenced only on the eighteenth day after delivery, in a woman of feeble habit of body. The uterus was enlarged and congested, and the hæmorrhage, without being alarming, resisted all the usual hæmostatics during ten days. Prof. Tarnier now advised warm baths. The first of these greatly modified the discharge, and the second suspended it completely. Recurring at the end of thirty-six hours, it was definitively arrested by the third. The uterus gradually diminished in size, and at the end of a week the patient was able to get up. In the second case the hæmorrhage came on only on the twenty-seventh day after delivery, the uterus being as much developed as at the third month. The liquid blood discharged was not very considerable, but it became continuous, and was accompanied by coagula. Ergot in different forms, and vinegar injections, having been tried in vain, a warm bath of half an hour at once suspended the discharge; and, on this recurring next day, a second bath completed the cure.

Although in possession of several cases in which their efficacy proved as complete as in these two, Dr. Bailly observes that their success is not always so prompt. He has always found them less efficacious at the commencement of the hæmorrhage than when this had persisted for some time; but, as they produce no inconveniences at the earlier periods, they may also be then employed concurrently with other measures. The only objection to the method that he is aware of is, that at first it shocks the prejudices and alarms the patient. They should not be resorted to prior to the tenth day after delivery, in consequence of the fatigue and danger which their application might then give rise to. Care must be taken, also, that the temperature of the water (about 34° C. or 93° Fahr.) should be rather raised than lowered, all chilling being avoided. From twenty to thirty minutes is a long enough duration to secure the general revulsion sought for; and as one bath rarely proves enough, they may be repeated daily. Prof. Tarnier was induced to try the procedure in puerperal metrorrhagia in consequence of having observed its efficacy in the hands of M. Salgue, of Dijon, who successfully employed it in non-puerperal metrorrhagia; he adopted it for this form of hæmorrhage after delivery, and has for many years recommended it.

In another number of the *Bulletin* (October 30) we find an article by Dr. Constantin Paul, Professeur-Agrégé, upon the great utility of hypodermic injections of ergotine in various forms of metrorrhagia. The formula which he has employed has been—ergotine two grammes, water and glycerine of each fifteen grammes. The solution assumes the brown colour of the extract of ergot, and keeps well, not losing any of its activity in even three months after its preparation. In the fourteen cases in which he has employed this, Dr. Paul has found it succeed in almost a marvellous manner; the hæmorrhage, which was always severe and often dangerous, having in all been arrested in sixteen minutes at latest, and in several much earlier. The patients were either the subjects of more or less advanced cancer of the uterus, or in the puerperal condition. The advantageous action of ergot, taken internally, on uterine hæmorrhage, has been long known; but on comparing this with the effect of hypodermic injection, the latter proves of much greater value. The time required for the operation of ergot varies from a quarter of an hour to thirty-six hours; while ergotine arrests the hæmorrhage in from five to ten minutes,—and in hæmorrhages time is everything. Not only is the action of powder of ergot less rapid than the injection, but it is also less constantly efficacious, three or four doses being sometimes required. Ergot in powder also always gives rise to colicky pains, of which the patients complain much; but this is not so with the ergotine. The injection is not very painful, and does not produce any local inflammation, sometimes only leaving a slight hyperæsthesia at the point of

insertion. So employed, intolerance of ergotine has never been noted. As Prof. Gubler has already observed, it is most remarkable that while a dose of even four grammes taken by the mouth is very doubtful in its action, a dose sixty times less, given by injection, exerts so marked an effect. Certainly there is a far greater discrepancy in the doses required, according to the mode of administration, than is observed with regard to most medicinal substances. In the cases related by Dr. Paul in his paper, an injection of sixty-six milligrammes of ergotine arrested the hæmorrhages in from five to ten minutes.

Dr. Hans Hebra on Continuous Baths.

To the *Wiener Med. Wochenschrift* (September 8 to 29), Privat Docent Dr. Hans Hebra contributes a paper reporting the results of the employment of continuous baths first proposed by his father, Prof. Hebra, fifteen years since. An old prejudice against prolonged continuance in a bath, and its employment just after meal times or during menstruation, had to be overcome. In order, too, that a man should remain for days, weeks, or months in a warm bath, the ordinary bath will not suffice, and a special apparatus has to be devised. Almost all baths are too short to admit of the patient's lying down, and they are too deep, so that the vapour of the water, which gets commingled with the air, interferes with respiration. The new apparatus (which was exhibited in London in 1862) allows of the patient's lying comfortably in the horizontal position, and so high as to be but little inconvenienced by the vapour. For its description we must refer to the paper itself, and content ourselves with stating the results of its employment. In such a "water bed" as this people find themselves quite comfortable, and, when once accustomed to it, can sleep as well in it as in an ordinary bed. The appetite, fæcal and urinary evacuations, remain normal, the respiration is not hurried, and the debility usually attributed to prolonged baths is not observable. During the first four or five days, the whole surface, with the exception of a slight rising of the epidermis of the fingers and toes, undergoes no perceptible change. After that time there occurs in almost all, especially those who have much swelling of the feet, sharp pains in the plantar surface, which last for some days. For the alleviation of this suffering it suffices for the patient either to have placed under the soles of the feet a firm horse-hair pillow, against which he can press, or, if this is not enough, to have cushions placed under his feet, so as to keep them for some hours above the water. In individuals with a delicate skin, there are frequently produced, after they have been in the water a week or two, large broad patches of artificial papulary eczema, which are accompanied by great itching. Frictions with *oleum rusci*, while still remaining in the water, are always sufficient to cause the disappearance of this eruption. With the exception of this local result of the irritating effect of the water, no bad consequences have been observed. Among the many women for whom the bath has been employed, none were removed from it during the menstrual period, the water being found, indeed, to assuage their suffering. In no one of them did any disturbance of the functions of the sexual organs arise.

Since 1862 more than 500 persons have been treated by these continuous tepid baths, so that a very strong opinion may be expressed as to their harmlessness. Of the early cases in which they were employed, sufficient notes were not taken to state the proportion of recoveries; but during his period of service as clinical assistant, Dr. Hebra had 200 of these patients under his care, and is able to speak strongly in favour of the procedure. At the Vienna General Hospital a special place is devoted to this treatment, in which are set up seven of the apparatus, and the results of its employment are stated in the reports of that institution. Burns in the third degree—a very fatal injury—constituted 127 of the 203 cases treated, and of these 56 (56 per cent.) recovered. Among the other cases there were numerous examples of pemphigus and gangrenous bubo.

Temple Bar Doomed at last.—The City Lands Committee, at a meeting held at Guildhall on Tuesday, December 4, gave instructions to the City Architect forthwith to cause Temple Bar to be pulled down, and removed to vacant land in Farringdon-road. The external stones are to be numbered, with a view to the Bar being reconstructed on some site to be decided on by a future vote of the Court of Common Council.

REVIEWS.

The Functions of the Brain. By David Ferrier, M.D., F.R.S. With numerous illustrations. London: Smith, Elder, and Co. 1876. Pp. 323.

Few new subjects have so quickly come to take such a prominent place in men's minds as the subject of cerebral pathology; and it is obvious that before any important advances could be made in this direction, a study of the normal function of individual parts of the brain was absolutely imperative. Dr. Ferrier dedicates his work to Dr. Hughlings-Jackson, "who, from a clinical and pathological standpoint, anticipated many of the more important results of recent experimental investigation into the functions of the cerebral hemispheres." This is a just and graceful tribute to the accuracy of Dr. Jackson's clinical observations, and the doctrine he deduces therefrom: in thus rendering homage to previous workers in the same field, Dr. Ferrier does much to enlist the sympathies of his readers—a gain which cannot but be advantageous to him.

The book commences with an account of the structure and function of the cord and medulla; but as this is, for the most part, but a summary of the views now generally held and taught, we need not more particularly refer to it. The essential feature of this work is the establishment, on a sound basis, as the result of a large number of experiments, of the doctrine of localised motor centres in the grey matter of the cerebral cortex.

Some very shrewd guesses at truth, it seems, had been made by Hughlings-Jackson and others; but since Hitzig's discovery of the electric excitability of the brain, experiments have been extensively carried on, in the hope of being able to clear up disputed points, as well as in the view of extending our knowledge of this interesting subject. "We are still only on the threshold of the inquiry," says our author in his introductory chapter; and this is true. Nevertheless, there are now certain well-established facts for which we are largely indebted to Dr. Ferrier among others; and we look forward to the time when we shall be able to congratulate him on further advances in this field of work.

It has long been known that the complete removal of the cerebral hemispheres of some of the lower animals could be effected without very much interfering with certain functions and complex movements. On more detailed investigation of such movements, however, the conclusion was arrived at, that they were nothing more than responsive actions, called into play, through the primary or acquired specialisation of the nerve-centres, by certain forms of peripheral stimulation, independently of any intelligent adaptation of means to ends on the part of the animal itself. From the facts of human physiology and pathology, by which alone the question can be answered, it was concluded that consciousness was inseparable from the activity of the cerebral hemispheres, and that, therefore, however much the responsive actions of the lower ganglia might resemble conscious actions, they did not come within the sphere of truly psychical phenomena.

Until quite recently, the cerebral hemispheres, like some other parts of the nervous system, had not been found to give a reaction to any form of stimulation, whether mechanical, chemical, thermal, or electrical. As regards the first three forms of nerve-stimuli, experimenters are still, with one or two exceptions, agreed: no reaction is produced by cutting, tearing, or burning, or otherwise mechanically injuring the surface. Animals in full consciousness are apparently utterly insensible to all these powerful stimuli. Human beings who have had the brain lacerated or cut likewise testify to the absence of pain. Such facts as these would seem fatal to the belief that any special functions resided in a part which not only might be removed without any obvious paralyses, but which, when irritated or torn, further seemed to be devoid of sensibility. Nevertheless, clinical observation had long pointed to the probability that at least some functions were definitely located; and the cases of aphasia occurring with softening of the frontal convolutions on the left side (as first definitely described by Broca) supported the view. There was a vigorous opposition to the new views, and many eminent physiologists endeavoured, both by experiments and reasoning, to explain what they believed to be the fallacies of the argument. It was not until Fritsch and Hitzig, in 1870, discovered that the direct application of the galvanic current to the surface of the hemispheres caused movements, and the still more

important fact that these movements varied according to the part irritated, that the older views of Flourens and others began to be doubted. Dr. Ferrier's experiments, however, which have now been repeated over and over again by a large number of competent observers, seem at present to set at rest this important question, and to show almost beyond doubt that the grey substance is the seat of motor centres; further, that by faradising certain points on the cerebral surface, definite, and often complex, movements are systematically obtained. The question of course arises,—and this is still a vexed question,—Are these movements produced directly or indirectly: *i.e.*, is the brain cortex sensible to faradic stimulation, or does this stimulation simply pass through to the white substance or to the basic ganglia, and through them bring about the manifestations to which we have just briefly alluded? This much, however, is absolutely certain: Dr. Ferrier, by faradising given parts of the surface of the brain, can not only produce certain definite movements—he can also *predict* what movements *will be* produced. Against the opinion which has been expressed by some observers, that faradic currents pass through the cerebral substance to the basal ganglia, and *through them* produce the various movements which result, is Dr. Ferrier's statement that "the effect of irritation of the basal ganglia is capable of exact estimation. Irritation of the corpus striatum is followed by general contraction of the muscles of the opposite side of the body, and *it is impossible* by applying the electrodes directly to the surface of this ganglion to produce localised contraction in *any one muscle* or *group of muscles*." (The italics are our own.) A further "conclusive overthrow of the theory of conduction" is the fact that stimulation of the island of Reil, which immediately overlies the corpus striatum, causes no movements; while the more distant parietal regions at the *same time react, actively and definitely, to the same stimulus.*

We must pass over the experiments themselves, inasmuch as our space will not permit us to transcribe them, and nothing short of this would enable us to rightly place them before our readers. It is satisfactory to note that similar sets of experiments were tried on different classes of animals, including monkeys, dogs, jackals, cats, rabbits, guinea-pigs, rats, pigeons, frogs, and fishes; and thus not only are homologies fairly established, but also a natural check on the results is obtained. The experiments on monkeys are especially valuable, and many of the differences in results arrived at by Ferrier and by Hitzig may, in our opinion, be explained by the fact that the latter gentleman used dogs exclusively, at least in his earlier experiments.

Passing on now to a short consideration of the motor centres, we will first just point out the importance of our author's experiments "as a basis of topographical homology between the brain of the monkey and the lower vertebrates. The motor regions of the brain of the monkey are situated farther back than the corresponding regions in the lower animals, occupying more properly the parietal than the frontal lobes. The fissure of Rolando of the monkey is shown, by the homology of the centres surrounding it, to correspond to the crucial sulcus of the carnivorous brain. This is an important landmark by which we may determine the respective development of the frontal region proper in these various animals. In the brains of the carnivora the centres in advance of the crucial sulcus become reduced to very small dimensions as compared with the frontal convolutions of the brain of the monkey; and these are insignificant, in turn, when compared with the homologous parts of the human brain."

"The question, however, with which we are more particularly engaged is the determination of the physiological significance of these regions. The mere fact of the excitation of movements is no proof that the regions stimulated have a motor significance, for the stimulation of a sensory centre may give rise to reflex or associated movements. . . . The definitely purposive character clearly perceivable in many of the movements, and their correspondence with the ordinary volitional activities and peculiarities of the animals, apart from other considerations, point rather to the conclusion that they are the result of the artificial excitation of the functional activity of centres immediately concerned in effecting volitional movements, and as such truly motor. . . ."

Suffice it here to say that the motor centres are found to lie in the convolutions which cluster around the fissure of Rolando. In the upper convolutions are found the centres which move the hinder limb; in the middle convolutions the centres for the anterior extremity; while in the lower, including Broca's convolution, are situated the centres which govern articulation and the movements of the head, face, and eyes.

To show the bearing of these results on disease, we will quote the following experiment:—"The right hemisphere of a monkey had been exposed, and subjected to experimentation with electrical irritation. The part included the ascending parietal, ascending frontal, and posterior extremities of the frontal convolutions. The animal was allowed to recover, for the purpose of watching the effects of exposure of the brain. Next day the animal was found to be perfectly well. Towards the close of the day following, there were signs of inflammatory irritation and suppuration; it began to suffer from choreic spasms of the left angle of the mouth and left arm, which recurred repeatedly, and rapidly assumed an epileptiform character, affecting the whole of the left side of the body. Next day, left hemiplegia had become established, the angle of the mouth drawn to the right, the left cheek-pouch flaccid and distended with food, which had accumulated outside the dental arch; there being almost total paralysis of the left arm, and partial paralysis of the left leg. On the day following, the paralysis of motion was complete over the whole left side, and continued so till death, nine days subsequently. On post-mortem examination it was found that the exposed convolutions were completely softened, but beyond this the rest of the hemisphere and the basal ganglia were free from organic injury." In this we have a clear case of morbid irritation producing precisely the same effects as the electric current, and then destruction by inflammatory softening, resulting in complete paralysis of voluntary motion on the opposite side of the body, without affecting sensation.

Dr. Ferrier goes on to explain some apparent superficial discrepancies which result when repeating these experiments on animals of a lower scale. They add much to the general interest of the subject, besides tending, in our opinion, to a full confirmation of the theoretical function of the basal ganglia. We have already said that the entire removal of the hemispheres operates differently in different classes and orders of animals. In the fish, the frog, and the pigeon the removal of the hemispheres exercises little or no appreciable effect on the faculties of station and locomotion. In the rabbit, while decidedly impairing the mobility of the fore-limbs, it does not quite destroy the power of station or of co-ordinated progression in answer to external stimuli. In the dog, however, the removal of the hemispheres exercises a much more marked influence on these powers, rendering station and locomotion absolutely impossible. The independent or automatic organisation of the lower centres is thus seen to vary, according as we ascend or descend the scale. In proportion to the degree of independence, complexity, and variety of the forms of motor activity of which the animal is ultimately capable, the more volitional and less automatic are its movements, and the longer is the period of infancy during which the animal is slowly acquiring volitional control over its limbs. Many of the lower animals start from birth with all their powers of movement already fully organised; in most the period of helpless infancy is extremely short as compared with that of the simian or human young, in whom every exact movement is the result of a long and laborious process of education. Clinical observation has long shown that in hemiplegia, from disease of the motor centres in the opposite hemisphere, the individual movements are not all equally affected, and also that recovery, when it takes place, always does so in a certain order. Just as the movements of the hand are more varied and more delicate than those of the foot, so are they the more obviously affected, and the last to recover after an attack of hemiplegia. To express it otherwise, we may say that automaticity is at its highest in fish, and at its lowest (or absent) in man. The more the control of the limbs depends in the first instance, and continues to be dependent, on voluntary acquisition, the more does destruction of the cortical centres cause paralysis, and the more permanent is that paralysis. In proportion, however, as movements at first requiring volitional education tend to become organised or rendered automatic, the less are they affected by injury to the cortical centres. Hence, in the dog, in which the acquisition of the control of the limbs is speedy, the destruction of the cortical centres produces a much less marked effect, the movements having become in a great measure independent of these, *through organisation* in the *subordinate centres*. Observers, however, are not all agreed on the interpretation which is to be placed on the recovery of function after its temporary suspension. A process of compensatory substitution has been evoked,

and found much favour. The theory, however—for it was nothing more—has been quite upset by experimental investigation. If the compensation were affected by the cortical centres in the other hemisphere, it ought to follow that extirpation of these also, in an animal which had recovered from a former operation, should re-induce the paralysis, which at first resulted from unilateral destruction of the motor centres; but experience has shown that this is *not* the case. "Functional substitution" has also been advocated, but as this is in direct contradiction to the facts of specific localisation of function, now universally accepted, we need not go into the subject further.

We must not forget, in connexion with this subject, the reflex movements which are produced when a sensory cortical centre is stimulated. May not movements continue, therefore, after the abolition of this motor centre, by possible excitation through the sensory centre of convergence of the motor centre of convergence, the corpus striatum—provided always this latter ganglion have been sufficiently trained for the purpose?

One of the most interesting subjects to further work out is, whether a trained dog, after having had its motor centres destroyed, would permanently lose all its tricks? They are the result, no doubt, of education. But are the dog's tricks volitional movements in the same sense as is writing or carving in man? In human beings "*every exact movement* is the result of a long and laborious process of education." Can the same expression apply to any artificial tricks that a dog may learn, as the result of thrashing, rather than of inherent, or even acquired, *volition*, in the physiological sense of the word? Some experiments have, we believe, been made; but the results are not sufficient to warrant a conclusion either way. Indeed, it will be impossible to solve this question all at once, for highly trained dogs must be had for the purpose, and for this a lengthened period of time must necessarily be allowed. If further research should prove that while all *natural* movements of a dog, being therefore *automatic*, can be recovered after a temporary suspension from pathological causes, but that artificial movements—so-called *tricks*—being the result of volition (in this case, of course, man's volition), cannot be regained except by a slow process similar to that which obtains in man, it will open up a rather new and a very wide field for speculation. We may have to admit that the dog's brain contains all the necessary cortical centres for volitional (purposive) movements of a complex kind, but that they are in abeyance, much as, perhaps, the centres of speech in the right hemisphere in man.

Concerning the sensory centres, though more difficult of demonstration in animals than the motor, yet the experiments given warrant a fair presumption of their existence. Of the senses, sight and hearing are those which are obviously the most easily tried; and if the evidence in these cases is sufficient, we might venture, even on simple analogy, to accept the whole doctrine without further question. To our mind, the evidence in favour of special centres, both for sight and hearing, is sufficient and decisive; and further, there is quite enough in favour of special centres for the other senses to enable us to accept Ferrier's demonstrations without calling on physiological analogy to support them.

Dr. Ferrier destroyed the angular gyrus of the left hemisphere of a monkey, and then securely bandaged up the left eye. As soon as the animal recovered from the effects of the chloroform, "it began to grope about a little *in loco*, perfectly alert, but would not move from its position. It did not flinch when held close to the gaslight. Placed in a cage beside its companions, it took no notice of them, but sat still. Hearing and other senses remained unaffected, and stimuli of these senses caused active reaction. After it had remained in this condition for an hour without alteration, the bandage was removed from the left eye. When placed on the floor, it immediately looked round and ran nimbly to the cage and joined its companions. When again held up to the light as before, it flinched and turned away its head. The change in the animal's manner after the removal of the bandage was of the most striking character. Next day, however, on the left eye being again bandaged, the animal gave evidence of sight by running up to its cage, the door of which was shut, and lapping water from a dish, which it reached by inserting its hand between the bars." Other experiments have confirmed this one; and it has been further proved that loss of sight occurs in both eyes if the angular gyrus is destroyed on both sides. The results of the first experiment, which we have given in full, clearly show that the loss of sight was the *only* faculty which had been damaged. "Another fact of great importance brought out by these experiments is, that sight with both eyes is still possible after complete destruction of the visual centre on one side. A process of compensation takes place if the visual centre in one hemisphere remains intact;" and that the compensation depends on the integrity of the other centre is shown by the fact that total blindness of a permanent character ensues when both centres are destroyed.

As regards hearing, Dr. Ferrier finds that irritation of the superior temporo-sphenoidal convolution "is followed by certain definite results—viz., sudden retraction or pricking up of the opposite ear, wide opening of the eyes, dilatation of the pupils, and turning the head and eyes to the opposite side." These phenomena exactly correspond with the effects of a sudden start, caused by any unexpected *noise*. The destruction of this part on the two sides of the brain simultaneously leaves an animal with all its faculties intact, except that of hearing; this being proved by placing two animals—the one healthy, the other an *opéré*—in a room together. The healthy animal responded at once to sounds by looking round, and appearing startled; while the other remained motionless. These tests were applied more than once, invariably leading to the same conclusion—"that whether the animal heard or not, it certainly gave no signs of hearing that which in another animal excited lively curiosity." In both these cases it will be remarked that, besides the sensory function, motor functions were also produced. In regard to this, we quite agree with Dr. Ferrier in concluding "that the movements are the outward manifestations of the arousal of subjective auditory sensation, and that we have in the temporo-sphenoidal convolution, not a motor centre, but a centre of auditory sensation, stimulation of which causes in a reflex manner the movements in question." The hippocampal region contains the tactile centre; the subiculum cornu ammonis and its neighbourhood contain centres of smell and taste; and the centres of organic sensation are found in the occipital lobes.

Our space will not allow more than the briefest notice of the basal ganglia, though the subject is one of first importance. The basal ganglia—the *corpora striata* and the *optic thalami*—are the centres of convergence of the sensory and motor tracts of the projection system. Pathological as well as experimental facts go to show that in these ganglia are stored up, so to speak, the energy and labour which our voluntary movements cost us to acquire. In the lower animals, the corpora striata, after being properly organised, suffice for the performance of movements, which at first can only be performed through the agency of the cortical centres: the higher in the scale we ascend, the more difficult is the organisation; in man it is doubtful whether even the most habitual or most automatic actions can be performed without the co-operation of the centres of conscious activity. It seems to us, however, that there are some facts which speak in favour of absolute automaticity. We know that by constant and habitual repetition, modes of action which were acquired by long and painful education and conscious effort ultimately become so easy as to be performed *without attention*, if not absolutely without consciousness. Have not soldiers been known to sleep during a forced march? And may not this absolute automaticity possibly explain the manifestations also of somnambulism?

Even "though the basal ganglia may not of themselves suffice for the execution of the habitual movements in man, there is every reason for believing that they do so to a large extent, from the fact that the performance of habitual actions exercises but little interference with the conscious activity of the hemispheres in other directions. . . . We may express it thus: that in actions requiring conscious discrimination and voluntary effort the larger circle of the hemispheres is involved, but that in the actions which have become habitual and automatic the larger circle is greatly relieved by the organic nexus between impression and action, which has been established in the sensory and motor basal ganglia."

We must here leave Dr. Ferrier's "Functions of the Brain," not because the remaining chapters are not as interesting or instructive as those we have already noted, but because we cannot here do them the justice they deserve. We congratulate the author on the work he has accomplished. His name will in future time be inseparably associated with a subject of vital interest both from a pathological and prognostic point of view. We shall gladly welcome his promised work on disease of the brain, observed, recorded, and discussed on the lines laid down in the work we have attempted to analyse.

Army Medical Organisation: A Comparative Examination of the Regimental and Departmental Systems. By Surgeon-Major G. J. H. Evatt, M.D., Army Medical Department. Allahabad, 1877.

It would be vain to expect to find in any large body of men perfect unanimity of feeling, and Dr. Evatt's pamphlet is an excellent illustration of this fact: he has entered exhaustively into a comparison of the real merits of the old regimental and present unification system of the Army Medical Department, and, without the least reservation, he finds that the latter is undoubtedly the best. His arguments are clear, and he certainly writes with a full knowledge of the subject, but the ominous fact still remains that the Service, and the medical profession generally, do not appear to have adopted similar views. He concludes his pamphlet by appending a list of the few grievances which the Army Medical Service yet requires to see remedied; amongst these are the present absence of honorary distinctions, such as the want of the word "Royal" as a prefix to the title of the Department, the absence of military control over the Hospital Corps (this, however, has been remedied since Dr. Evatt's pamphlet was published), alterations in dress, rank, etc. Even if Dr. Evatt's work should fail to convince the bulk of his brother officers, and the younger members of the profession who now hesitate before accepting service in the Department, it is at least worth reading for the clear explanation it gives of the working of the old and new systems.

The Physicians' and Surgeons' Visiting List for 1878. London: John Smith and Co., Long-acre.

We are reminded by the receipt of specimen copies of Messrs. Smith and Co.'s diaries and pocket-books for next year, that the year 1877 is rapidly drawing to a close. Of these useful publications, the one we would now direct the attention of our readers to is "The Physicians' and Surgeons' Visiting List," which is in its thirty-second year of publication, and which is especially adapted to the requirements of the general practitioner, although it may be used with almost equal advantage by the consulting physician or surgeon. In the present edition Dr. Bartley's "Pharmacopœial Companion to the Visiting List" takes the place of the incomplete Posological Table of former editions—an improvement which will doubtless be generally appreciated, especially as the price of the Visiting List is unaltered, notwithstanding that the change must have been attended with considerable extra cost.

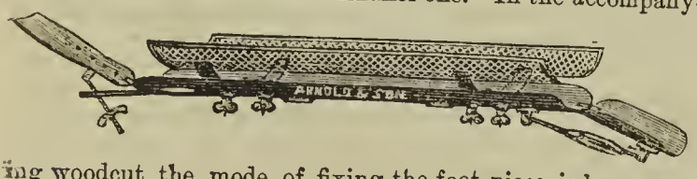
GENERAL CORRESPONDENCE.

HANCOCKE WATHEN'S NEW LEG-SPLINT.

Letter from Mr. J. H. Wathen.

[To the Editor of the Medical Times and Gazette.]

Sir,—I wish to draw the attention of the profession to a new splint which Messrs. Arnold and Son have made from my suggestions. The splint consists of a back splint of metal perforated with large holes for coolness, ventilation, and (if required) drainage. Attached to this back splint on each side is a lateral splint of perforated zinc slightly hollowed; these lateral splints are connected with the back splint by brackets, which travel through slots and are fixed by thumb-screws. By these means the splint can be enlarged to fit a large limb, or reduced to the needs of a smaller one. In the accompanying woodcut the mode of fixing the foot-piece is by a screw which projects below, but in later instruments Messrs. Arnold have devised an improved plan, which has added to the neatness and compactness of the splint. The lateral splints being provided with hinges, permits them to be folded over each other above the foot-piece and back splint, thus packing into a space of twenty inches by four. The weight of the splint is three pounds five ounces. The advantages claimed for this splint are adaptability to limbs of varying size in girth, facilities for dressing, coolness, portability, and cheapness—its price being twenty-five shillings.



I am, &c.,

J. Hancocke Wathen.

REPORTS OF SOCIETIES.

CLINICAL SOCIETY OF LONDON.

Friday, November 23.

George W. Callender, F.R.C.S., F.R.S., President, in the Chair.

A Case of Acute Suppurative Synovitis of the Knee—Evacuation of the Pus with Antiseptic Precautions—Recovery.

Mr. Godlee read for Dr. Marriott, of Sevenoaks, the report of this case. The patient, aged three years and a half, was of a family predisposed to tubercular disease. He fell on the knee in July last, and next day complained of pain; on the following day the joint was painful and swollen, and the boy feverish. For sixteen days these symptoms increased in severity, the limb being placed on a splint all the time; about an ounce of serum was then allowed to escape by a very small puncture from the joint. Temporary relief followed. Again, however, the symptoms increased in severity, a rigor ensued, and the joint became greatly swollen. Five days subsequently to the first tapping, a second withdrawal of an ounce and a half of liquid, which was this time pus, was made with full antiseptic precautions, a drainage-tube was inserted, and the limb again placed on a splint. Great relief at once followed. On the fourth day the drainage-tube was removed, and ten days subsequently the wound was quite healed. The limb still remained on the splint, bound in carbolic gauze. Passive movement of the joint for an hour a day was begun about a fortnight afterwards, and soon the boy walked, and his splint was entirely removed. Dr. Marriott thought the good result due to his strict attention to antiseptic precautions.

Mr. Morrant Baker doubted whether the successful issue could be solely attributed to the antiseptic precautions. Quite recently, he had under his care a child two or three years of age, whose case closely resembled that just read. It was a case of acute suppurative synovitis of the knee, and he had treated it by opening the joint in two places—namely, one incision above and to the inner side; the other below and to the outer side of the joint. Poultices were then applied, but no antiseptic precautions were taken, and the joint has now completely recovered. He believed that a month hence it would show as free movement and as little deformity as Dr. Marriott's patient.

Mr. Maunder said that acute suppurative synovitis of the knee-joint was such a formidable matter that everyone would congratulate Dr. Marriott upon the happy result in his case. Doubtless most surgeons present could recall similar cases successfully treated, especially in the young subject, on the same principle as acute abscesses elsewhere—namely, by free incision.

The President suggested that Mr. Baker should, on the completion of the case, also bring his patient to the Society.

Popliteal Aneurism, for which the Femoral Artery was twice Ligatured.

Mr. Christopher Heath read notes of this case. The patient, a man aged thirty-six, an engine-driver, applied at University College Hospital with pain in the right knee, and was found to have a small popliteal aneurism. He was admitted on July 2, when pressure by Carte's tourniquet, by Esmarch's band and rope, and by flexion of the knee, was carefully kept up without relief. The femoral artery was tied above the sartorius on July 26. A catgut ligature was used, and the operation was performed antiseptically. Pulsation returned in the aneurism in nineteen hours, and lasted fourteen days, and then ceased for eleven days, when it reappeared. Four days later (twenty-ninth day), pulsation was found in the whole length of the femoral artery. Pressure was again applied to the vessel; but the aneurism continued to increase, and, on September 19, the femoral artery was tied with a hempen ligature below the sartorius. Pulsation returned in the sac the following day, but gradually grew weaker and ceased in seven days. The second operation was not antiseptic, and the ligature gave rise to a good deal of suppuration; but the patient made a good recovery, and left the hospital on October 20.

A Case of Popliteal Aneurism treated by Ligature of the Superficial Femoral Artery with Carbolised Catgut, followed by the formation of an Aneurism at the Seat of Ligature.

Mr. Thomas Smith related the case of a man, aged forty-two,

who had been under his care at St. Bartholomew's Hospital with popliteal aneurism, which had existed two months before admission. The case was at first treated unsuccessfully by digital compression. Subsequently, the superficial femoral artery was tied with carbolised catgut, Mr. Lister's antiseptic method being employed. The ligature controlled the circulation for forty-eight hours, at the end of which time pulsation was again felt in the aneurism, and the operation failed as regarded the cure of that disease. The wound healed rapidly, without suppuration or constitutional disturbance. The patient left the hospital, contrary to advice, sixteen days after the operation, with the aneurism feebly pulsating. He returned in a month, with the circulation in his femoral thoroughly restored and the aneurism pulsating forcibly. He refused to undergo any treatment, but was supplied with an elastic stocking to the whole limb. Six months later, he again showed himself with the popliteal aneurism larger in size, and with a second aneurism, about the size of a large walnut, just beneath the scar of the operation-wound. It pulsated very forcibly; had a well-marked thrill and a loud, rasping bruit. After a few days' rest in bed, an unsuccessful attempt was made to cure the aneurisms by the application of the Esmarch bandage. Finally, the superficial femoral was ligatured just below the upper aneurism. Carbolised silk was used for the ligature, both ends being cut off, and antiseptic precautions adopted. Pulsation in the lower aneurism at once ceased, and never returned; recovery was rapid; there was no local disturbance or any constitutional irritation. After the operation, the pulsation in the upper aneurism gradually diminished in force, and at the end of five days the swelling was much smaller, and pulsation was scarcely perceptible in it; in a few days, however, it had regained its former size, and pulsated as on admission. As it caused the patient but little inconvenience, he declined further treatment, and left the hospital. Mr. Smith, after bearing testimony to the advantages of carbolised catgut as a material for ligature to wounded vessels, doubted whether as at present prepared it was trustworthy when applied to large vessels in their continuity. Until the occurrence of this case now related, he had had no occasion to find fault with this form of ligature from his own experience, and he had been disposed to attribute the untoward results which had occurred in others' hands to some avoidable defect in the catgut employed. The very ligature used here was, however, kindly sent to him by Professor Lister; it might, therefore, be supposed that it was as good as could be made. Mr. Smith remarked that, while it was open to anyone to think that the fault lay in the operator, and not in the material employed, yet that we now possessed abundant evidence to prove that carbolised catgut, when employed for the ligature of large arteries in their continuity, was not thoroughly trustworthy; it was uncertain in its effects on the arterial coats, this being chiefly due to its varying degrees of solubility in the tissues of the living body. In confirmation of this statement, he referred to Mr. G. Y. Heath's paper published this year in the *Lancet*, to Mr. Bryant's cases recently read before the Clinical Society, and to a paper by Mr. James Lane in the *British Medical Journal* for November 10. Mr. Smith drew attention to the following facts—viz., that in three of Mr. Bryant's cases the ligature was found to have divided the vessel completely, and to have been itself absorbed. In Mr. Lane's two cases, which were examined, the one thirty-two days after ligature, and the other twenty-eight days the external coat of the vessel was found uninjured in both cases, while the ligatures had disappeared. In one case published by Mr. Heath, at the end of three days the ligature was found softened and partially absorbed. In another case, the catgut was found on the subclavian *in situ* at the end of fifteen days, while the vessel was perforated. In the same patient, another ligature applied to the carotid at the same time had wholly disappeared, the artery being uninjured. Mr. Smith expressed a hope that ere long some improvement might be discovered in the method of preparing the catgut, which, without destroying altogether its solubility, would enable it to constrict an artery for such a time as might be sufficient for a firm clot to form within the vessel. In estimating the possibility of the occurrence of aneurism at the seat of ligature, Mr. Smith drew attention to the peculiarity of the patient in this case, who, by his rashness, did all in his power to contribute to the untoward result.

Mr. Maunder said that although he had recently spoken upon this subject at that Society, yet he deemed it to be one of such vast importance, and felt so strongly upon the matter, that he would venture to address the meeting again. He would say at once that he would not use catgut again to ligature an artery in continuity. He had been gradually led to the conviction of the dangers associated with it, not by his own personal experience—which had been as good as when silk was used—but from a knowledge of the disasters which had happened to other surgeons. Mr. Bryant's and Mr. James Lane's cases had been alluded to, and he found it difficult to understand how Mr. Bryant arrived at the opinion that catgut was the best material to use, when it had behaved in an unexpected way on the arteries, when secondary hæmorrhage had occurred in two of his cases, and when this "ligature dissolves within an uncertain period." Mr. Lane's cases had not been attended by any peculiarities inconsistent with safety, but in one or two instances rather the reverse. He (Mr. Maunder) had tied twenty-eight arteries in continuity—nineteen with silk, and nine with antiseptic precautions, and of these five with catgut. He had not had an instance of secondary hæmorrhage in his practice; but he contended that if serious and sometimes fatal consequences had attended a method of treatment in the hands of surgeons like Spence, Ebenezer Watson, Callender, and as was now illustrated by the cases of Heath and Tom Smith, equally competent to tie arteries as himself, the material ought to be abandoned by him as peculiarly unsafe. It is, however, only fair to Mr. Lister that, if catgut be used at all, it should be used with strict antiseptic precautions; otherwise those surgeons who employ it only repeat, with the addition of a modicum of carbolic acid, the experiments of Sir Astley Cooper and others who abandoned it in favour of silk. In his first antiseptic case he (Mr. Maunder) used a carbolised silk ligature cut short antiseptically. The wound healed rapidly without suppuration, and his patient, a gentleman actively employed, has the ligature on his common carotid artery at the present moment, the operation having been performed in September, 1868. He was glad to find that Mr. Smith had used antiseptic silk, and had obtained primary union. This was the ligature which he (Mr. Maunder) would use in future.

Mr. Barwell said that he must differ from Mr. Maunder, although he concurred in much that had been said as to the unreliability of catgut. Secondary hæmorrhage was not unknown to occur when the silk ligature was employed, and it was not a common result in cases where catgut was used. So, again, the formation of the aneurism at the seat of ligature in Mr. Smith's case did not merely depend on the material used; it might have followed any form of ligature. Again, in Mr. Heath's case, he could not see what connexion there was between the recurrence of pulsation for a second time, after it had ceased for fourteen days, and the form of ligature used. Possibly the catgut was too rapidly absorbed, and perhaps the inner coat insufficiently divided. He thought that if the gut had been kept long in oil, and if the ligature were tied too tightly, its absorption would be hastened. It ought to last from three to six days. For himself, he usually tried to avoid doing more than simply divide the inner coat, so far as that was possible; not tying the second knot more firmly than the first. Thus occlusion of the artery was obtained without the risk of rapid absorption of the gut or ulceration of the vessel-wall.

Mr. Godlee asked Mr. Heath what form of ligature he intended to use in the future. From his using silk in the second ligature, he implied that the accident was due to the catgut. Was he going to discard catgut in favour of silk.

Mr. Heath, in reply to Mr. Barwell, supposed that in his case the ordinary changes took place in the artery after its occlusion by the ligature, and the return of pulsation in the aneurism a few hours later was ordinarily seen. Then he believed that some coagulation took place in the aneurism, and that when the current in the artery was restored by the loosening of the ligature, the flow was sufficient to wash away the obstructing clot. The second ligature produced complete obliteration of the artery. To Mr. Godlee he would say that he had not made up his mind as to what form of ligature he should use in future, and he regretted that Mr. Lister had not been present to give them information as to his own practice, which should be a guide to those who were now groping after truth. Certainly it was only fair to use antiseptic precautions when using the catgut ligature.

Mr. T. Smith thought that all the differences of opinion in vogue as to the mode of tying the ligature, as to the time for its solution, etc., depended upon the very great variation shown by the ligature with regard to its absorptive qualities, it remaining in various cases undissolved from twenty-four hours to thirty days. No one knew how long it should be soaked in the oil to render it perfect, and the ligature given to him by Mr. Lister himself was not available for compressing the artery for more than forty-eight hours. He would like to

know why Mr. Lister finally discarded the use of carbolised silk. Was it because in one case a secondary abscess had formed? He differed from Mr. Barwell in his opinion that the material had nothing to do with the formation of the aneurism in his case; for, if silk had been used, the vessel would have been thoroughly divided, and pulsation would not have recurred in it within forty-eight hours of its application. It had been shown by experiments on animals that an aneurism could be produced by traction on an artery leading to division of its inner coats. For himself, he would again use an antiseptic catgut ligature to-morrow if Mr. Lister would give it him.

Iodide of Potassium Eruption.

Dr. Tilbury Fox read a paper upon this subject. After a brief review of what is at present known concerning the toxic action of iodide of potassium in inducing eruption of the skin, the author related the particulars of two cases in which a few doses of the iodide produced an acneiform rash, which gradually developed into what at first sight appeared to be a bullous eruption, the bullæ varying in size from a pea to a shilling and more, but which it was contended was a modified phase of acne, the iodide, as in the case of the bromides, stimulating the sebaceous glands and their surrounding parts to an excessive degree, and, as a consequence, altered serum (*i.e.*, liquid) was rapidly poured out, causing rapid elevation of the cuticle, and giving rise to the appearance of ordinary bullæ with opalescent contents. In some instances, these bullæ-like bodies had burst and given place to fungoid masses. The author drew attention to the fact that patients in whom this disease was produced must be regarded as possessing a peculiar idiosyncrasy as regards the iodide, and that the rash resembled closely that induced by the administration of bromide of potassium in some cases. The paper was illustrated by water-colour drawings of the eruption.

The President agreed that the form of eruption described must be rare. He had never seen it. He thought that, as a rule, these eruptions from drugs were met with less often when the latter were given for affections not complicated with skin eruptions. In some cases the iodide might be continued without causing an increase in the rash produced by it.

Dr. Broadbent said that the second case related by Dr. Fox was the second of that form of eruption from iodide of potassium which had come under his notice, and he was thus able to recognise its nature, the iodide being subsequently given, by way of experiment, to reproduce the eruption. The patient was extremely ill with hæmoptysis complicating renal disease, and she also had ulceration of the tongue. The first case seen by Dr. Broadbent was that of a young girl with an albuminoid liver and enlarged spleen, who subsequently died in a fit. In her case small doses of the iodide (three grains) were followed by a bullous eruption over the body; and here, again, after the skin had returned to its natural state, the eruption was recalled by again resorting to the drug. In both there was, no doubt, a marked idiosyncrasy as to iodide of potassium. He had never seen any such effects produced by large doses in syphilitic patients. The contents of the bullæ so rapidly formed seemed to be serous, and not products of altered gland secretion.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, November 27.

Charles West, M.D., President, in the Chair.

On the Removal by Operation of a Hairy Mole occupying Half the Forehead.

Mr. Morrant Baker said that the case which formed the subject of this paper was that of a child, who, when ten years old, was admitted into St. Bartholomew's Hospital, under his care, on account of a congenital hairy mole which occupied half the forehead. Its greatest diameter from side to side was three inches and a half, and its vertical diameter two inches and three-quarters. The integument composing it was deeply pigmented, being of a dark, blackish-brown tint, with a very uneven surface, and in some parts almost warty. A quantity of brown, coarse hairs grew from nearly every part of the surface, some of them being an inch or two in length. The mole was vascular, and always bled profusely when in any way hurt; but it was not distinctly nævoid, and had only grown in proportion to the rest of the body. The treatment was begun by cutting away, under chloroform, the surface of the mole, taking care to keep the incisions from extending to the subcutaneous tissue. The bleeding was controlled by a pad and bandage, and the surface was allowed to heal under the scab which subsequently formed, and which was but little disturbed during the progress of the case. The whole of the surface was removed by two operations of this kind, and the result obtained was on the whole satisfactory, especially with regard to the total absence of any unevenness or contraction of the scar. But a good many of the hairs grew up again, and there was partial reproduction of the pigment. The treatment was continued, after an interval, by the application of nitric acid, the scab being but little disturbed, as on the occasions on which the knife was used. It was necessary to apply the acid on several occasions before the whole of the disease was eradicated, a considerable interval being sometimes allowed to elapse between the times of application of the caustic, in order to test the effect. At the date of the patient's readmission into the hospital for the third time, in October last, the disease was found to have almost completely disappeared, the only traces of its presence being here and there a spot of pigmented skin, with a few fine hairs growing from it. The scar-tissue was smooth, whitish, glazed, and supple; not in the slightest degree contracted, and not dragging at all on neighbouring parts; it was quite level with the adjacent healthy integument. The author remarked that the result of the case related justified the conclusion that large hairy moles and similar deformities of the skin, hitherto supposed to be beyond the reach of surgical operation, may be safely removed by simple measures, if these are carried out with sufficient care. The patient had been shown to the Society at the previous meeting, and the paper was illustrated with a drawing and photographs.

Mr. Dalby exhibited a rudimentary ear, removed from a child two years old, and which was the seat of a fistulous opening. The child had one good ear, but the other was rudimentary and farther back than usual. There was an opening in front, but it was small. The cartilaginous portion of the ear was extant.

Sir James Paget had no doubt but that this was an example of the branchial fistula to which he referred.

Mr. Doran said that two classes of openings were common: ectopiæ of various organs from imperfect closure in the median line, which might be described as always abnormal; and such as normally occurred in some of the lower animals, but were abnormal in man. To the latter group these branchial fistulæ belonged. These abnormal conditions generally originated before the cartilages were perfectly segmented into bones. The arrests of development in the head and neck were not so important as those occurring lower down; and so the subject survived, though malformed.

Mr. Callender would refer to two points—first, that there were some cysts, as certain examples of ranula, which probably occurred in this way, as his own investigations indicated. Again, as regards the cartilages found in the tracts of the fistulæ, he would venture to refer to the curious masses of cartilage which proceed from the skull to protect the nerves in the growing fœtus. These masses of cartilage were not connected with the vertebral column, but with the skull, and he thought the cartilages referred to might have this origin.

Mr. Francis Mason referred to a case which had been seen by Sir James Paget, and which had been under his own care. This, however, was a fistula of the neck, and not of the ear. It was deep, and probably reached close down to the pharynx, though not opening into it.

Cases of Branchial Fistulæ on the External Ears.

Sir James Paget contributed a paper as above. After briefly describing the general characters of the cervical branchial fistulæ, which have long been known as due to the incomplete closure of one or other of the lower branchial fissures, the author gave an account of similar fistulæ observed on the ears of seven members of one family. The persons in whom they were found were a gentleman and his sister, and five of his eight children; and the same gentleman, his father, his sister, and four of his children, had each one or two branchial fistulæ at the sides of the neck. The aural fistulæ were in every instance seated on the upper and anterior part of the helix, very slender canals with narrow orifices extending from above downwards, and in the adult half an inch or rather more in length. None of them secreted or gave any

distress. After references to the six or seven similar cases that had been published, and to some other malformations of the external ear, which were, he said, probably due, as these were, to imperfect closure of the first post-oral branchial fissure, the author pointed out that there are now sufficient evidences of malformations due to incomplete closure of every one of the branchial fissures, and then referred to the association between these cases and those of supernumerary ears. Such ears, he believed, were found only over the lines of former branchial fissures, and might be considered as cutaneous opercular growths, homologous, though abnormally, with the natural auricles. He pointed out also that many of the persons born with aural branchial fistulæ had become deaf, and had been, therein, instances, however slight, of the general law indicated by Dr. Allen Thomson, that malformations of the external ear were often associated with other defects in parts found in or near the first or mandibular arch.

Professor Allen Thomson exhibited some drawings, not of fistulæ of the neck, but of malformations of the ear, of the kind referred to. In two persons there was occlusion of the meatus auditorius, and imperfect development of the lower jaw. There was also cleft palate, and displaced canines or lateral incisors. In both there was great deafness, but they were not deaf mutes. The third heard pretty well, and could fairly converse with others. The passages were completely closed, and sounds could best be heard from the top of the head. In one of the females this was also the case. In these cases the ear generally presented remains of the branchial fissure, but the bony passage was completely closed, owing to absence of the tympanic bone. In some of the cases attempts had been made to open the passages, but, for the reason stated, this was vain. He could not very well understand why there should be more than one depression in the ears, except that the fissure had been, by partial adhesion, divided into more than one part.

Mr. Rivington referred to the case of a medical man who had a small aperture in the helix, which was rather deep, and whence an oily liquid exuded. This occurred on both sides. It was hereditary by the maternal side, and there were several examples in the family.

Mr. Pugin Thornton said he had seen two cases of cervical fistula. The fissures were too small for the galvanic cautery, but they had closed by electrolysis.

Sir James Paget, in reply, said that his impression that these cases were not so rare had been strongly confirmed. In this way they might be able to clear up many doubtful points; for instance, the influence of damaged textures on future development. The opening was due to the fact that a part of the fissure remained unutilised. We were not quite certain how the fissure closed; part of it might remain open. The exact mode of origin of these fistulæ was not quite certain; still, there was no other interpretation of their origin possible except this. The origin of the cartilages, too, was not quite clear. Failure of union in the middle line of the neck was very rare, though other ectopiæ were common.

The Warming of the Hôtel Dieu.—The apparatus for the purpose of warming the expensive new Hôtel Dieu has been described as very elaborate, but, according to the *Progrès Médical* (November 10), it has the serious defect of not working. While some of the wards are baked, others are chilled; and no means exist of regulating in each ward the amount of caloric to be admitted. When this has to be done, the aid of a mechanic has to be sought in the lower regions where the regulating apparatus is placed. Consequently, in place of sending for him, the nurses prefer opening the windows—this being, in fact, the only means of ventilation hitherto in force, notwithstanding the costly "system" that has been erected. Excessive heats succeeding draughts of air have been followed by numerous attacks of bronchitis among the consumptive patients, who, without leaving their wards, were passing several times a day from a polar to a tropical temperature. The Administration declares that all these evils are only temporary, not being inherent to the system of ventilation and warming adopted; but it is naturally asked why the necessary trials were not made before the patients were hurried into the new edifice. In the meantime, several patients have been seized with vertigo, nausea, and vomiting, while the persons waiting upon them complained of intense cephalalgia, and the physicians at their visits observed the smells emanating from the stoves. A committee has been appointed to investigate the matter.

MEDICAL NEWS.

University of London.—The following are lists of candidates who have passed the recent examinations:—

Second M.B. Examination for Honours.

MEDICINE.

First Class.—Smith, Herbert Urmson, (Scholarship and Gold Medal), St. Thomas's Hospital; Horrocks, Peter, (Gold Medal), Guy's Hospital, (obtained the number of marks qualifying for the Scholarship); Symonds, Charters James, Guy's Hospital.

Second Class.—Tirard, Nestor Isidor Charles, King's College.

OBSTETRIC MEDICINE.

First Class.—Tirard, Nestor I. Charles, (Scholarship and Gold Medal), King's College; Symonds, Charters James, (Gold Medal), Guy's Hospital; Smith, Herbert Urmson, St. Thomas's Hospital; Gristock, William, University College.

Second Class.—Barrow, Albert Boyce, King's College; Sedgefield, Arthur Robert Wyatt, King's College; Stevenson, Leader Henry, Guy's Hospital; Horrocks, Peter, Guy's Hospital; Giles, George Michael James, St. Mary's Hospital; Goodchild, Francis, St. George's Hospital.

FORENSIC MEDICINE.

First Class.—Tirard, Nestor I. Charles, (Scholarship and Gold Medal), King's College; Symonds, Charters James, (Gold Medal), Guy's Hospital.

Second Class.—Sedgefield, Arthur Robert Wyatt, King's College.

Third Class.—Smith, Herbert Urmson, St. Thomas's Hospital, and Stevenson, Leader Henry, Guy's Hospital (*equal*); Joll, Boyd Burnett, University College.

M.D. Examination.

Archer, Herbert Ray, St. George's Hospital; Hetley, Henry, Guy's Hospital; Hoar, Charles Edward, King's College; Hunt, J. W., B.S., (Gold Medal), University College; Jameson, Leander Starr, B.S., University College; Kidd, Walter Aubrey, B.S., Guy's Hospital; Ord, William Miller, St. Thomas's Hospital (obtained the number of marks qualifying for the Medal); Rigby, James Arthur, Guy's Hospital.

LOGIC AND MORAL PHILOSOPHY ONLY.

Ashby, Henry, Guy's Hospital; Bogg, Thomas Wemyss, University College and Manchester Royal Infirmary; Burton, Samuel Herbert, B.S., University College; Firth, Charles, St. Bartholomew's Hospital; Morley, Thomas Simmons, Guy's Hospital.

B.S. Examination.

First Division.—Symonds, Charters James, Guy's Hospital; Vercoe, Joseph Cooke, M.D., St. Bartholomew's Hospital.

Second Division.—Bury, Judson Sykes, University College.

M.S. Examination.

Pepper, Augustus Joseph, University College.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, November 29:—

Blackburn, Herbert Belasyse, Selham, Sussex.
Couzens, Charles, London Hospital.
Gamble, Ernest Langwith Gompertz, Grantham.
Landon, Arthur Jermyn, 25, Margaret-street, W.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Ellison, Frederick William, St. Bartholomew's Hospital.
Hoets, Alton Kingsley, London Hospital.
Phillipps, William Alfred, Guy's Hospital.
Warren, Edwin Charles, London Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

McHardy, Malcolm Macdonald, F.R.C.S.—Assistant-Surgeon to the Royal South London Ophthalmic Hospital. Also as Ophthalmic Registrar to St. George's Hospital.

Snell, Simeon, L.R.C.P., M.R.C.S.—Lecturer on Anatomy at the Sheffield School of Medicine, *vice* W. Skinner, resigned.

NAVAL, MILITARY, &c., APPOINTMENTS.

Admiralty.—Staff-Surgeon Daniel O'Connor, M.D., has been promoted to the rank of Fleet Surgeon in H.M.'s Fleet, with seniority of November 20; Staff-Surgeon James Nicholas Joseph O'Malley has been promoted to the rank of Fleet Surgeon in H.M.'s Fleet, with seniority of November 28; Staff-Surgeon William James Eames has been promoted to the rank of Fleet Surgeon in H.M.'s Fleet, with seniority of Nov. 2.

BIRTHS.

Collison-Morley.—On November 30, at 321, Clapham-road, S.W., the wife of J. L. Collison-Morley, M.D., of 1, Edith-road, West Kensington, of a son.

Creagh.—On November 7, at Peshawur, Punjaub, India, the wife of Surgeon-Major William Creagh, L.R.C.S.I., of a son.

Moore.—On November 24, at Mount-street, Taunton, the wife of J. Murray Moore, M.D., M.R.C.S., of a son.

Pearson.—On December 1, at 23, Upper Phillimore-place, Kensington, the wife of David R. Pearson, M.D., of a son.

Shaw.—On November 30, at Banstead, Surrey, the wife of T. Claye Shaw, M.D., of a daughter.

Verchere.—On November 29, at 33, Leamington-road-villas, Westbourne-park, W., the wife of Surgeon-Major Albert M. Verchere, M.B., Indian, M.D., of a son.

MARRIAGES.

Atkinson—Shearman.—On December 5, at St. George's, Hanover-square, Charles Atkinson, Esq., J.P., of Sheffield, to Tryphena Jane, widow of Charles James Shearman, B.A., M.D. Lond., only son of E. J. Shearman, M.R.C.P. Lond., F.R.S., of Rotherham.

Hensman—Ward.—On November 29, at Gailey Church, Staffordshire, Henry Frank Hensman, M.R.C.S. Eng., Surgeon 2nd Life Guards, to Annie Barnett, eldest daughter of Henry Ward, Esq., of Rodbaston.

Lee—Powell.—On December 1, at Wickham, Hants, Arthur, son of John Lee, M.D., of Ashburne, Derbyshire, to Ellen Eliza, daughter of the late Henry Ffolliott Powell, Esq., of West Malling, Kent.

DEATHS.

Hewan, Marion Leslie, daughter of Archibald Hewan, M.D., at Chester-square, S.W., on November 30, aged 10.

Hill, Constance Margaret, third daughter of J. R. Hill, L.R.C.P., at The Oaks, Tufnell-place, Holloway-road, on December 4, aged 3 years and 4 months.

Rice, Emily, wife of Bernard Rice, M.B. Lond., at Stratford-on-Avon, on November 27, aged 48.

Stewart, Charles John, L.R.C.P. Edin., at Morpeth Cottage, Ealing, on November 27, aged 45.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

East Suffolk and Ipswich Hospital.—Honorary Physician. Candidates must produce evidence of being graduates in medicine of one of the Universities of the United Kingdom, or Members of the Royal College of Physicians of London, and of being registered according to the provisions of the Medical Act. Applications, with testimonials, to the Secretary, on or before December 12.

Inverness District Asylum.—Assistant Medical Officer. Candidates must be duly qualified and registered. Testimonials to Dr. Aitken, the Medical Superintendent, on or before December 12.

The Guest Hospital, Dudley.—Resident Medical Officer. Candidates must be unmarried, and Fellows or Members of the Royal College of Surgeons of England, Edinburgh, or Dublin, and possess a registered qualification in medicine. Applications, with testimonials and certificate of registration, to the Secretary, on or before January 1.

Western General Dispensary, Marylebone-road, N.W.—Honorary Physician. Candidates must be Fellows or Members of the Royal College of Physicians of London. Testimonials and qualifications to the Secretary, on or before December 10.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Canterbury Incorporation.—The Canterbury District is vacant; area 3830; population 16,137; salary £70 per annum. Also the Workhouse; salary £30 per annum.

Clitheroe Union.—Mr. H. Patchett has resigned the Chipping District; area 18,290; population 3301; salary £25 per annum.

Easingwold Union.—Mr. T. D. O. Pain has resigned the Alne District; area 13,438; population 2303; salary £26 per annum.

Henley Union.—The Caversham District is vacant; area 7876; population 3210; salary £75 per annum.

APPOINTMENTS.

Castle Ward Union.—James Marr, M.R.C.S. Eng., L.R.C.P. Edin., to the Ponteland District and the Workhouse. James A. B. Thompson, M.C. and B.M. Glasg., to the Stamfordham District.

Central London Sick Asylum District.—Tennyson D. Patmore, L.R.C.P., M.R.C.S., as Assistant Medical Officer and Dispenser at the Cleveland-street Asylum.

Drayton Union.—William S. Meek, M.R.C.S. Eng., L.S.A., to the Workhouse.

Poole Union.—Wm. Turner, M.R.C.S. Eng., L.S.A., to the Workhouse.

Radnor.—Edward H. W. Swete, M.D., as Analyst for the County.

Thetford Union.—Charles V. Willett, M.R.C.S., L.S.A., to the Brandon District.

Wellington (Salop) Union.—Wm. T. Hawthorn, M.R.C.S Eng., L.S.A., to the First Northern District.

Case of Idiopathic Tetanus with Rupture of the Heart.—In the *Bulletin de Thérapeutique*, September 30, Dr. Duclaux, of Nancy, relates an interesting case of a shoemaker, aged thirty-seven, who, having become chilled after being heated, in a few hours was seized with symptoms of tetanus, without having suffered any traumatic injury. The symptoms proved very formidable, the temperature reaching 42° C. (107·6° F.), the pulse numbering 140, and the tetanic spasms being generalised. Chloral was administered, and ether-spray applied to the spinal column. The patient, however, seemed on a fair way of recovery, when, a week after the onset of the disease, he suddenly dropped down dead, rupture of the heart being found at the autopsy, that organ being in a state of fatty degeneration. Seven months before, the man had been the subject of delirium tremens.

Dilatation of the Urethra by the Urine.—In the *Bulletin de Thérapeutique* of September 30, Dr. Berenger-Féraud recurs to this mode of treating stricture, which he had already advocated on former occasions. Originally devised by Brunnighausen in 1794, it fell into disuse after some successes had been obtained. Dr. Berenger-Féraud has persevered in giving it a full trial, and regards it in suitable cases as a valuable procedure. It consists in compression being exerted just behind the glans by the patient each time just before he passes urine, so that none issues until the canal has undergone dilatation by its presence in it. The practice is to be perseveringly repeated, and then, as numerous cases show, may prove very efficacious. From the trials that have been made it results—1. That dilatation so produced, performed after a gonorrhœa of some duration, may act as a prophylactic of stricture. 2. In stricture that has not advanced very far, if it do not restore the calibre of the urethra to its normal dimensions, it does so sufficiently to render micturition easy. 3. After urethrotomy it is a useful means, if not for preventing, at least for retarding, the return of the stricture. 4. It may prove of some service in varices of the prostate, neck of the bladder, and membranous part of the urethra. 5. Another class of cases benefited arises when the course of the urethra more or less deviates from its normal direction in consequence of enlarged prostate in aged persons. The small quantity first ejected from the bladder, if retained awhile in the urethra by compression, greatly facilitates the evacuation of the remainder.

Employment of Pilocarpin in Childhood.—Prof. Demme, of Bern, states that he has employed the muriate of pilocarpin by the subcutaneous method, using a 2 per cent. solution in 33 children from the ages of nine months to twelve years. Of these, 18 suffered from desquamative nephritis and dropsy consequent on scarlatina, 3 from diphtheria without scarlatina, but with consecutive parenchymatous nephritis and a high degree of dropsy. Of the other 12 cases, 2 had dropsical effusion from heart disease, and 3 rheumatism affecting several joints. As a general rule, only one injection per diem was employed, and in children between the ninth month and the second year the dose of pilocarpin employed was gramme 0·005; between the second and sixth years from 0·0075 to 0·01; and from the seventh to the twelfth years 0·01 to 0·025. The general conclusions drawn from these cases are, that pilocarpin exhibits its sialogogic and diaphoretic properties in a very marked manner in childhood, and that it is very well borne at the tenderest age in the above doses, its sialogogic effect being more prominent in the younger, and its diaphoretic effect in the older children; that any unfavourable after-effects, even in the youngest children, were quite exceptionable, and were preventable by administering minute doses of brandy prior to the injection; and that no influence on the action of the heart was perceptible. The cases best adapted for its employment are desquamative parenchymatous nephritis with dropsy, following scarlatina, diphtheria, etc. A beneficial diuresis in most of the cases ensues, the quantity of albumen which the urine contains never being increased, but rather diminished.—*Petersburg Med. Woch.*, November 17.

Cretaceous Degeneration of Arteries.—In a paper read to the Société de Médecine Publique (published in *Annales d'Hygiène* for September), Prof. Gubler observes that this change in the condition of the arteries attacks the various classes of society in a very different manner, a great contrast existing between the rich and the poor, the inhabitants of towns and the rural population. At the top of the social scale the arteries may retain their suppleness until the approach of confirmed old age, while in the lower classes the indurations manifest a remarkable precocity, so that arterial atheroma is met with in the hospitals in men of forty, thirty, or even twenty years of age. Doubtless the abuse of alcohol is one of its powerful causes; but we must avoid attributing to it a too exaggerated operation. For while in the upper classes alcoholism is not so very rare, and yet it does not give rise necessarily to this degeneration, so in certain patients in the hospitals it is impossible to attribute the atheromata observed in them to abuse of alcohol. But the different diet made use of by the poor and the rich, the inhabitants of the country and of towns, may explain the facts observed. Thus, while one class obtains its nutriment from the flesh of animals and from vegetables abounding in nitrogen, in the poorer classes, bread, potatoes, cabbages, and herbaceous vegetables form the base of their alimentation. Flesh and albuminoid substances contain very small portions of mineral principles, while a purely vegetable diet contains a considerable proportion of the earthy phosphates and carbonates. The facility of cretaceous incrustation prevails in an inverse proportion to

the vitality of tissues, so that the middle coat of arteries, but little irrigated with blood and of low vitality, is especially liable to undergo this atheromatous degeneration. If, then, this has its chief origin in earthy matters furnished by the herbaceous regimen, concurrently with potable waters loaded with earthy salts, the disease should be more precocious and more severe in calcareous regions like the Orléannois—a fact confirmed by M. Leblanc; while it should be rarer, or even absent, in siliceous, granitic, and volcanic regions, like Puy, where M. Vibert has shown it is a rarity. In monasteries, where the monks are confined to vegetable diet, the arteries are found greatly indurated at the early age of thirty-two.

COMPOSITION AND QUALITY OF THE METROPOLITAN WATERS IN NOVEMBER.—The following are the returns (by Dr Meymott Tidy) of the Society of Medical Officers of Health:—

Names of Water Companies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, etc.	Nitrogen: As Nitrates, etc.	Ammonia.		Hardness. (Clarke's Scale).	
				Saline.	Organic.	Before Boiling.	After Boiling.
Thames Water Companies.	Grs.	Grs.	Grs.	Grs.	Grs.	Degs.	Degs.
Grand Junction .	20·10	0·046	0·156	0·000	0·007	14·8	3·0
West Middlesex .	19·40	0·042	0·160	0·001	0·008	15·7	4·2
Southwark and Vauxhall . .	20·50	0·053	0·100	0·000	0·008	13·7	3·3
Chelsea . .	17·90	0·042	0·110	0·001	0·008	13·2	2·8
Lambeth . .	20·60	0·053	0·133	0·000	0·009	14·3	2·8
Other Companies.							
Kent . . .	27·30	0·003	0·366	0·000	0·002	19·4	5·1
New River . .	20·50	0·050	0·100	0·000	0·006	14·0	2·4
East London .	19.80	0·032	0·110	0·001	0·007	15·4	2·8

Note.—The amount of oxygen required to oxidise the organic matter, nitrites, etc., is determined by a standard solution of permanganate of potash acting for three hours; and in the case of the metropolitan waters the quantity of organic matter is about eight times the amount of oxygen required by it.

The water was found to be clear and nearly colourless in all cases.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Dr. Henry Marais.—Received with thanks.

Cosmopolitan.—1. The question referred to will be found in Mr. Malet's report (1870) on the artisan classes in Paris. He says, "It is stated that a Paris workman has no grandchildren." This saying he explains in part by the reflux of the working population to the provinces whence they came; but he adds, "There is, however, no doubt that the life led—hard work, dissipation, and drunkenness—goes a long way to account for the fact. Not only is the man destroyed, but his children are weakly and unable to battle with the stern necessities of life. They die out early for want of stamina, and leave in their turn offspring who never come to maturity." 2. As to the myriads of Chinese, it is owing to their system of early marriages that the country becomes so densely populated, notwithstanding the great gaps caused by constant visitations of Asiatic cholera and other epidemics, some of which are described in Chinese chronicles as being so violent as to "carry off whole families, leaving no living member to bury the dead or take charge of the family property." Boiled rice or millet with salted fish, or pork with garlic, suffice to maintain Chinese in health and strength. They have no decided taste for those luxuries which, in this country, we deem necessaries.

A Parish Pluralist.—At the last meeting of the Vestry of the parish of Bethnal-green, a vestryman announced the fact that the beadle of the parish was also sanitary inspector, messenger to the Vestry, coroner's officer, custodian of the mortuary, etc. He thought the matter should be inquired into, and gave notice of his intention at the next vestry to make a motion on the subject.

City Benevolence.—The City of London livery companies, it is calculated, distribute no less than £100,000 a year in charities.

A Royal Gift.—Her Majesty the Queen has presented to the town of Heywood twenty acres of land for the purposes of a publie park. The money has been set apart by her Majesty out of a sum of upwards of £10,000 received by her as Duchess of Lancaster by the death of Mr. C. M. Newhouse, of Heywood, who left no heirs.

Explosive Lamps.—Yes; when the number of serious accidents arising from the explosion of kerosene lamps was attracting general attention in America, the New York Board of Health took steps to prosecute rigorously every violation of the ordinance forbidding the sale of dangerous illuminating fluids.

Thomas le M.—The lectures by Professors Flower and Parker are usually delivered during February and March.

Kensingtonian.—The Royal Society's Copley Medal was founded about the year 1736, by a bequest from Sir Godfrey Copley, Bart. Though of comparatively small intrinsic value (£5), it is generally esteemed the highest distinction which the Society can confer. The two Royal Medals are given by the Sovereign on the award of the Society for the encouragement of science in the British dominions. These medals aro of gold, and of the value of fifty guineas each. They arc open to persons of all countries, and were founded in 1825. These medals are termed binary medals, because each consists of a silver and a gold medal struck in the same die—an arrangement which enables the recipient to convert the more precious medal into money, while he preserves the silver one in commemoration of his success. The Davy Medal was founded by the proceeds of the service of silver plate bequeathed for the purpose by Sir Humphry Davy.

Germs.—Francesco Redi, in 1668, then forty-two years old, native of Arezzo, M.D. of Pisa University, physician to the Grand Duke of Tuscany, published at Florence a first result of his natural history studies in his book on the "Generation of Insects," and therein gave "the first distinct enunciation of the hypothesis that *all living matter has sprung from pre-existing living matter*," supporting it by experiments and arguments. "The living germs," says Redi, "are carried *in the air*, and thus deposited in the places where, by-and-by, they grow and become noticeable."

Viator.—Several distinguished surgeons formerly resided and made large practices in Lincoln's-inn-fields—as Messrs. Percival Pott, Cline, Long, Vincent, Stanley, Green, &c. The person mentioned is *not* a Fellow of the College of Surgeons.

A Successful Candidate.—We have already explained that the list cannot be published until next week. Write at once to our publishers on the subject.

University College.—The late Mr. George Cooper, of Woburn-place, was a nephew of Mr. Samuel Cooper, author of the "Surgical Dictionary," not his son.

Mystic.—The relation of the apple to health is traceable to Arabia. In England and Germany it has been deemed potent against warts. Sometimes it is regarded as a bane: in Hessia, it is said an apple must not be eaten on New Year's Day, as it will produce abscess; in Suabia it is believed that an apple plucked from a graft on the white thorn, will, if eaten by a pregnant woman, increase her pains, but generally it is curative; in Pomerania it is eaten on Easter morning against fevers; in Westphalia (mixed with saffron) against jaundice; while in Silesia an apple is scraped from the top to cure diarrhœa, and from the bottom to cure costiveness.

Philanthropist.—Lord Newry has proposed to build a cottage hospital in the village of Rostrevor, which his lordship has already assisted to make one of the most attractive resorts in Ireland.

Physiologist, Manchester.—William Gale, the pedestrian, was born on April 21, 1832, and consequently is in his forty-sixth year.

A Competitor.—Essays for the Jacksonian Prize of this year must be sent to the Secretary of the College on or before Monday, the 31st inst. The subject for this prize for 1878 is, "Glaucoma, its Causes, Symptoms, Pathology, and Treatment."

Dr. Malcolm, Portsmouth.—The General Medical Council publishes a list of those persons removed from the Register, but only, we believe, for public institutions. The name of the notorious person mentioned was so removed; but the Council of the College of Surgeons does not possess the power, at present, of removing it from the list of members, notwithstanding the severe strictures of the judges before whom he gave evidence at the Old Bailey.

Mr. Mitchell and "Mad Dog."—The Abbé Salvador Gilii, in his "History of America," states that he has seen the strongest animals succumb instantly when wounded with arrows tipped with *woorari*, but the poison does not produce any effect on their flesh. The late Mr. Waterton, of Watton Hall, the well-known naturalist, published the results of his experiments with this subtle poison.

Calcutta.—Your letter and inclosures received. The *Medical Times and Gazette* will be duly posted to you in January, and, as requested, in monthly parts.

Settler.—The population of Fiji in 1870 numbered nearly 150,000, 2000 of whom were whites and half-castes. The climate nine months of the year cannot be surpassed, the thermometer ranging from 75° to 80° at mid-day, falling at night to 55° and 60°. From December to March it is hotter, and may be termed disagreeable; a great deal of rain falls, and the thermometer runs up to 95° and 100° in the shade. At this season also high winds or hurricanes may be expected, which, although although not nearly so violent as those in the West Indies or Mauritius, are yet sufficiently strong to blow down native houses.

INCINERATING HUMAN REMAINS.

It appears there is a better system of cremation in Madras than in any other part of India. In Bengal, dead bodies are placed on an open funeral pyre, which speedily gives forth an unpleasant odour, while vultures and dogs hover round. But in Madras the body is put into a sort of mud pie, and baked until nothing remains but the calcined bones, which are duly cast into the Cauvery.

A Thriving Industry.

In the year ended March 31 last, 15,181,730 stamps were issued on "patent medicines." The amount paid was £118,221 12s. 7d.

COMMUNICATIONS have been received from—

Mr. T. D. Savill, London; The Registrar of the University of London; Mr. W. Blount, London; Dr. Crichton Browne, London; The Secretary of the Harveian Society; Mr. Cutliffe, London; Mrs. Woodhull, London; Mr. Wm. Baxter, London; Dr. J. W. Moore, Dublin; The Secretary of the London Institution; The Secretary of the Clinical Society, London; Mr. Christopher Heath, London; Mr. Arthur Lucas, London; The Secretary of King's College Hospital, London; Dr. C. M. Tidy, London; The Registrar of Apothecaries' Hall, London; Dr. J. Mitchell Bruce, London; Mr. W. E. Poole, London; Dr. Squire, London; Dr. Robert Liveing, London; Dr. Sturge, London; Mr. B. R. Wheatley, London; Dr. Barlow, London; Mr. John Chatto, London; Mr. T. M. Stone, London; Dr. Byrom Bramwell, Newcastle-on-Tyne.

BOOKS AND PAMPHLETS RECEIVED—

Samuel Gee, M.D., Auscultation and Percussion—Bholanoth Bose, M.D. Lond., Principles of Rational Therapeutics—A New System of Medicine entitled Recognisant Medicine, or the State of the Sick—Hugh Owen Thomas, The Past and Present Treatment of Intestinal Obstructions—Transactions of the New York Pathological Society, vol. ii.—The Official Handbook for the National Training School for Cookery—Health and Healthy Homes—R. C. Jebb, M.A., Greek Literature—Dr. Henri Picard, Traité des Maladies de l'Urèthre—Rickman J. Godlee, M.S., F.R.C.S., An Atlas of Human Anatomy, part 2—Cassell's History of India, part 24—Dr. Jules Godard, Du Bégaiement et de son Traitement Physiologique.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Cincinnati Clinic—Home Chronicler—La Province Médicale—Hardwicke's Science Gossip—Revista de Medicina y Cirugia Practicus—Obstetrical Journal of Great Britain and Ireland—Veterinarian—Thackrah's Daily Share List—Morningside Mirror—Archives Générales de Médecine—Union Médicale et Scientifique du Nord-Est—Practitioner—American Practitioner—New York Druggists' Advertiser—Monthly Homœopathic Review—El Correo Teatral—Guy's Hospital Gazette—Transactions of the Odontological Society of Great Britain.

APPOINTMENTS FOR THE WEEK.

December 8. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 1½ p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

10. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Medical Society of London, 8½ p.m. Dr. Lauder Brunton, "On the Absorption of Fat, and its Uses; with some Remarks on Fatty Degeneration."

11. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Royal Medical and Chirurgical Society, 8½ p.m. Dr. Joseph Coats (of Glasgow), "On the Pathology of Tetanus and Hydrophobia."

12. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex; 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 1½ p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.; St. Peter's Hospital for Stone, 2 p.m.

Epidemiological Society, 8½ p.m. Dr. Collie, "On Variolæ Anomalæ (Sydenham), with Suggestions and Reflections."

13. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

14. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.; Guy's, 1½ p.m.

Clinical Society, 8½ p.m. Dr. Broadbent, "A Case of Convulsions treated by Venesection." Mr. Maunder, "Two Cases of True Subcutaneous Treatment of Exostosis" (the patients will be exhibited). Mr. Barwell, "Cases showing the Results of Excision of the Ankle,—of Operation for Rickety Bent Shins,—of Operation for Bowed Legs" (the patients will be exhibited).

VITAL STATISTICS OF LONDON.

Week ending Saturday, December 1, 1877.

BIRTHS.

Births of Boys, 1343; Girls, 1293; Total, 2636.
Average of 10 corresponding years 1867-76, 2210·8.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	785	794	1579
Average of the ten years 1867-76	812·2	824·6	1636·8
Average corrected to increased population ...	...	...	1751
Deaths of people aged 80 and upwards ...	...	...	41

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	2	15	2	1	6	...	2	1	6
North... ...	751729	16	17	24	2	6	1	14	1	4
Central ...	334369	1	5	7	...	1	...	1	1	...
East	639111	6	25	12	1	4	...	6	1	3
South... ...	967692	6	19	7	1	10	...	7	1	3
Total	3254260	31	81	52	5	27	1	30	5	16

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·195 in.
Mean temperature	41·9°
Highest point of thermometer	52·5°
Lowest point of thermometer	31·9°
Mean dew-point temperature	33·1°
General direction of wind	S.W.
Whole amount of rain in the week...	1·07 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, December 1, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Dec. 1.	Deaths Registered during the week ending Dec. 1.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2636	1579	52·5	31·9	41·9	5·50	1·07	2·72
Brighton	102264	43·4	53	45	53·0	33·0	43·1	6·17	2·00	5·08
Portsmouth ...	127144	28·3	88	35	54·0	34·0	44·5	6·95	...	...
Norwich	84023	11·2	45	29	50·0	32·0	41·2	5·11	1·09	2·77
Plymouth	72911	52·3	38	32	54·0	34·0	44·3	6·84	2·62	6·62
Bristol	202950	45·6	143	70	50·9	31·4	42·4	5·78	1·65	4·19
Wolverhampton ...	73389	21·6	49	46	47·6	30·5	37·7	3·17	0·75	1·90
Birmingham ...	377436	44·9	307	194	...	...	...	...	...	...
Leicester	117461	36·7	82	37	48·8	32·2	40·1	4·50	0·67	1·70
Nottingham ...	95025	47·6	73	33	48·3	28·0	38·7	3·72	0·59	1·50
Liverpool	527083	101·2	381	246	49·2	37·2	42·0	5·56	1·33	3·38
Manchester ...	359213	83·7	222	167	...	...	...	...	...	...
Salford	162978	31·5	146	72	48·9	26·7	39·3	4·06	1·49	3·78
Oldham	89796	19·2	79	54	...	...	...	...	...	...
Bradford	179315	24·8	128	87	48·0	32·5	39·3	4·06	0·89	2·26
Leeds	298189	13·8	230	157	49·0	32·0	39·6	4·23	0·60	1·52
Sheffield	282130	14·4	217	131	49·0	33·0	40·1	4·50	0·83	2·11
Hull	140002	38·5	127	57	49·0	29·0	38·9	3·83	0·59	1·50
Sunderland ...	110382	33·4	86	50	47·0	35·0	40·2	4·55	0·40	1·02
Newcastle-on-Tyne	142231	26·5	97	69	...	...	...	...	...	...
Edinburgh	218729	52·2	155	102	46·3	31·5	37·8	3·23	0·38	0·97
Glasgow	555933	92·1	392	271	...	...	...	...	...	...
Dublin	314666	31·3	162	185	53·0	33·6	41·1	5·06	0·10	0·25
Total of 23 Towns in United Kingdm	8166734	38·4	5934	3748	54·0	26·7	40·7	4·83	1·00	2·54

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·20 in. The highest reading was 29·85 in. on Sunday evening, and the lowest 28·67 in. on Thursday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. Salford, however, forms an exception to this rule, as the estimate is based upon the rate of increase of inhabited houses within the borough during the six years ending July 1, 1877. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

A LECTURE ON

THE PATHOLOGY OF HYDROPHOBIA.

ILLUSTRATED BY A CASE AT ST. MARY'S HOSPITAL.

By W. B. CHEADLE, M.D., F.R.C.P.,
Senior Assistant-Physician and Lecturer on Pathology.

(*Concluded from page* 615.)

THE results of the post-mortem examination may be thus generalised and summed up :—

1. The blood extremely fluid and dark-coloured everywhere.
2. Intense congestion or accumulation of blood in all the internal organs, the brain and cord and their membranes, the thoracic and abdominal viscera, and the mucous membranes of the respiratory and alimentary tracts.
3. Both sides of the heart almost empty.
4. Scattered hæmorrhages, sometimes large enough to be visible to the naked eye, as under the mucous membrane of the stomach ; others microscopic, as in the pons Varolii, medulla, and brachial nerves.
5. Escape of blood corpuscles through the vascular wall into the surrounding tissue, with fibrinous exudation round the vessels in the pons and medulla oblongata.
6. Increased cloudiness and opacity of the ganglionic cells of the pons and medulla. In the nerves connected with the injured part, cloudiness and a slightly granular condition of the fibres.
7. The vascular engorgement and resulting changes, such as hæmorrhage, escape of blood corpuscles, and fibrinous exudation, were at their maximum in the region of the pons Varolii and upper medulla, becoming gradually less and less in successive portions lower down the cord, and reaching their minimum in the lumbar region.

Comparing these morbid appearanees with those previously observed in hydrophobia, it appears that the dark fluid condition of the blood, the intense congestion of the brain and cord, of the viscera generally, and of the mucous membrane of the fauces, pharynx, bronchi, and stomach, are found very constantly, although it has been stated that in some instances no abnormal condition of the body was discovered. In the most reliable cases of hydrophobia, and those in which the state of the organs has been most carefully examined, excessive hyperæmia has been recorded. In men, as in dogs, the stomach usually contains treacly fluid—no doubt altered blood, —and extravasations beneath the gastric mucous membrane generally exist.

The morbid changes found on minute examination of the nervous structures with the microscope in the present case do not correspond on every leading point with those recorded by previous observers, although they confirm them in certain important particulars. The pathological anatomy of the nervous centres in hydrophobia has been investigated during the last few years by Dr. Allbutt in 1871, and by Dr. Hammond, of New York, in 1874 ; in the latter year also, Dr. Benedikt, of Vienna, examined microscopically numerous specimens of the brain and cord in dogs and other animals which suffered from rabies during the epidemic which raged in the Austrian capital at the time. The condition of the nerves running between the cord and the injured part have not, as far as I know, been previously examined.

Dr. Allbutt found intense vascular congestion, hæmorrhages, fibrinous exudation, and here and there spaces judged to arise from the disappearance of nerve-strands by granular disintegration. With this there was general softening and pulpiness of nerve-substance.

Hammond found the same intense vascular congestion, hæmorrhages, especially about the region of the medulla, with fatty degeneration of the grey matter of the cortex of the brain, medulla, and cord.

Benedikt observed in animals congestion of the vessels of the pia mater, inflammation corpuscles, and refracting colourless exudation matter consisting of punctiform nuclear substance. In the grey and white matter, too, were observed spaces or holes similar to those noted by Allbutt, filled with refracting granular matter. And he regards these appearances as the results of an acute exudative inflammation with hyaloid degeneration. Meynert, quoted by Benedikt as the only observer who had previously published trustworthy reports of microscopic examinations of the nerve-centres, found closely similar appearances. He regards the spaces or holes, however, as produced by the process of preparation. Now, it will be seen that while the vascular engorgement and the hæmorrhages observed both by Allbutt and Hammond, and the fibrinous exudation noted by the former and by Benedikt, were present distinctly enough in the preceding case, the gaps and spaces described by Allbutt, Benedikt, and Meynert were nowhere visible. A vacant space was indeed to be seen here and there, but rarely; and such defects are to be found in all sections. They are often much more numerous than in the present series, and are due, I believe, to the accidental displacement or removal of nerve-strands, or cells, in the act of cutting, the displaced element being sometimes visible when only partially dislodged from its position. Of the fatty degeneration, described by Hammond as existing in the grey matter of the cortex, medulla, and cord, or the granular condition mentioned by Dr. Allbutt, I could find but mere traces, and most in the fibres of the small nerves of the hand, which were not examined in the other cases. I believe these appearances have not the significance which has been imputed to them ; that they are not primary effects of disease, as supposed by Hammond, but merely the result of partial decomposition, which sets in with great rapidity in cases of this kind where death takes place from malignant blood-poisoning, and blood remains fluid. The soft pulpy condition of the medulla, and its distortion of shape, mentioned by Dr. Allbutt, were probably due to the same cause. The brain and cord in the present instance were firm in consistence, and most perfect sections were made from them without difficulty.

Pathology.—The theory that hydrophobia is a mere nervous state induced by an excited and morbid imagination, or a tetanus modified by the same mental influence, has been, I think, sufficiently refuted by the considerations stated at the commencement of this lecture. The nervous phenomena, the involuntary passage of urine and fæces, the hemiplegia or paraplegia which often occurs, and especially the striking material changes found in the nerve-centres, the fluid blood, the almost empty heart, point rather to a malignant blood-poisoning. We find a similar state of the blood and viscera, for instance, in malignant small-pox, and it is said to be conspicuous in poisoning by nicotine, by opium, or by carbonic acid. It has been assumed by most pathologists that the morbid changes found in hydrophobia are simply the results of the mode of death, viz., by apnœa. Similar appearances are, no doubt, found in death by apnœa, and in cases of poisoning where the immediate cause of death is occasionally the apnœa of a sudden convulsion. But in certain cases of poisoning, as, for instance, by nicotine, when the patient dies without convulsion, and apparently from pure asthenia, the blood is stated to be black and fluid, and all the organs as intensely congested as if death had been due to mechanical asphyxia, except that the right ventricle of the heart is not distended with blood. And it is thus in hydrophobia. Trousseau ventured to assume that in this disease death was always due to apnœa, sudden or gradual. But this appears to be an error. The usual mode of death is by asthenia, or by asthenia followed by insensibility, as in the case here given. In some cases, again, the patient sinks by pure asthenia. In a few, death takes place by gradual asphyxia from more or less continuous spasm of the respiratory muscles ; sometimes suddenly from a paroxysm too violent or prolonged. In all, whatever the mode of death, the post-mortem appearances are much the same. In a case recorded by Sir Thomas Watson the patient was certainly not in any degree asphyxiated, for he was able to sit up and wash his hands ; yet he was discovered at that very moment to be absolutely pulseless, and shortly after fell back exhausted and expired. The blood, however, was found to be everywhere quite fluid, and the condition generally very similar to that found in the case here given, where death took place by a mixed process of asthenia and coma ; and in others where death has taken place suddenly by apnœa. In animals, again, the chief symptoms are paralytic, not convulsive, and yet the morbid appearances are closely similar to those found in man. These cannot, then, be regarded as nothing more than the ordinary results of death from asphyxia. With regard to the actual significance of the marked changes discovered in the brain and cord I am not quite so clear. Dr. Allbutt, Dr. Hammond, and Dr. Lockhart Clarke in reviewing the observations of the latter, appear to regard the morbid appearances as signs of an inflammation which is the efficient cause of the nerve

disorder. But it is possible that the nerve disorder may be due more directly to the action of morbid blood upon the nerve-tissues, and the material changes seen may be secondary results of the blood-change, combined with the congestion caused by the convulsive seizures or by sudden or slow asphyxia. To what extent the latter may operate can only be decided from careful microscopic examination of the nerve-centres in cases where death has occurred from these causes—investigations, as far as I know, yet to be made.

In any case, however, the whole evidence afforded by the symptoms and morbid anatomy of hydrophobia seem to me to support conclusively the view that the disease is due to a virulent blood poison which acts injuriously and with special fierceness upon the nervous centres, causing in greater or less, degree the material changes found there after death. It isl moreover, a fact of extreme significance that these materiae morbid changes reach their maximum in those regions of th nerve-centres whence arise the nerves distributed to the organs whose functions are most affected by the disorder—viz , the pons, medulla, and upper cord, whence spring the nerves which preside over respiration and deglutition.

If the disease be set up, as I believe it is, by an animal poison, the interesting question arises whether it is specific, developed only in a rabid animal, or foul, decomposing matter of a less definite kind which may be derived from the mouth of a healthy carnivor. Are rabies and hydrophobia communicated by a rabid animal because that animal yields the special poison, or simply because such rabid animal, being more savage and irritable, is specially prone to bite ? Cases are recorded where the disease appears to have been communicated by animals who did not go mad themselves; and some curious facts with regard to the production of hydrophobia by the bite of the American skunk, bearing upon this point, have been recently published in the *New York Medical Record* by Assistant-Surgeon Jameway, of the United States Army, stationed at Fort Hays in Arkansas, and by Colonel Dodge, an officer of distinction in the same service, in "Hunting Grounds of the Great West." The former records eleven cases of skunk-bite which came under his observation, ten of which resulted in hydrophobia and were fatal. Colonel Dodge affirms that in the years 1872-73 he knew of sixteen cases of skunk-bite, in every one of which death by hydrophobia followed ; and further, that he has met with only one case of skunk-bite in the Arkansas country which was not fatal in this way.

The animals do not appear to be in the rabid state, and dogs bitten by them do not go mad. But the most curious part of the story, which is vouched for by Colonel Dodge on the strength of his extensive experience during many years in this part of Western America, is the statement that this fatal result of skunk-bite is limited to the district of the Arkansas River, and absolutely unknown elsewhere. Yet the animal is widely spread, and found commonly throughout almost the whole of North America. Yet I can certainly confirm the statement so far that I never heard of skunk-bite being regarded as in any degree dangerous in other parts of the continent. This limitation to certain districts would favour the theory of a specific poison. Colonel Dodge further affirms that he has never met with a case of hydrophobia in the Arkansas district in any animal except man, and, strangely enough, that dogs are free from it, and do not communicate it to man. There are, however, cases recorded of rabies in wolves, and of deaths from hydrophobia following bites inflicted by them. This account of the prevalence of hydrophobia from this cause in a limited district is given so circumstantially, and on such excellent authority, that it cannot be put aside as without foundation. The question which naturally first suggests itself is, whether the cases recorded were genuine hydrophobia or only some form of tetanus, and this point is worthy of further investigation.

HARVEIAN LECTURES.

DELIVERED BEFORE THE MEMBERS OF THE HARVEIAN SOCIETY.

By GRAILY HEWITT, M.D., F.R.C.P.,
Professor of Midwifery and Diseases of Women, University College.

Abstract of Lecture I.

Five years ago the author published in a succinct form the conclusions which his observations had induced him to come to on the subject of the "Pathology of the Diseases of the Uterus," these conclusions being formulated as follows:—

1. Patients suffering from symptoms of uterine inflammation (or, more properly, from symptoms referable to the uterus) are almost universally found to be affected with flexion or alterations in the shape of the uterus, of easily recognised character, but varying in degree.

2. The change in the form and shape of the uterus is frequently brought about in consequence of the tissues of the uterus being previously in a state of unusual softness, or what may be often correctly designated as "chronic inflammation."

3. The flexion, once produced, is not only liable to perpetuate itself, so to speak, but continues to act incessantly as the cause of the "chronic inflammation" present.

Further experience has confirmed the accuracy of these views; and having since had the additional advantage of the criticisms of other authorities, he was now enabled to develope the subject more completely.

It was explained that the use of the word "mechanical" was not intended to imply the necessity for the employment of instruments in the cure of uterine diseases. The designation, "mechanical system of uterine pathology," has reference to the important influences—mechanical influences—exercised in the production of uterine diseases, and the effects of mechanical alterations in the shape and form of the uterus.

The various forms of severe prolapsus of the uterus have long been admitted as diseases. The slighter internal displacements had been also known to occur, but not considered as important. Of late years, bendings or flexions of the uterus had attracted much attention; but the proper signification of these latter alterations is not yet known, nor their relations to other diseases and alterations properly defined. In regard to the frequency of their alterations in shape, the author's observations at University College Hospital, over a period of a little more than four years, was cited. Of 714 patients suffering from uterine symptoms, 620 were examined: of these, 182 were affected with fibroid tumour, cancer, or pelvic cellulitis, 61 cases offered various conditions, but in 377 the uterus was materially altered in regard to shape or position; in 184 cases anteflexion was present, in 112 retroflexion, in 81 there was prolapsus. Thus in 60·8 per cent. of the cases actually examined, distortion or displacement existed in a marked degree.

As an introduction to the subject, the "mechanics of the uterus" were then considered. The position of the uterus offers a certain degree of protection from external injury. Its motion is comparatively restricted, the fundus having more motion than its centre, lateral motion little, upwards and downwards more, forwards and backwards more superiorly, little in the middle, and more inferiorly. Tilting also to a slight extent is admissible.

Slight bending only is possible in a healthy uterus under normal circumstances, owing to the natural rigidity the organ possesses, and this is, in fact, its chief safeguard against the occurrence of flexion. The bladder offers some resistance in front. Behind there is no protecting organ. The thickness of the uterine walls renders it almost a solid organ. The blood-vessels are numerous, and their healthy distension aids also in giving the organ firmness. In a state of health the uterus probably moves a little, and indeed bends a little, but quickly recovers itself when the disturbing force is withdrawn. Possible alterations in position and shape are—(1) slight version, anterior or posterior; (2) slight descent of the whole uterus; (3) considerable version, generally associated with flexion; (4) considerable descent of the uterus, as a whole, in the pelvis. All combinations of these may be met with. Particular attention was directed to the necessity for a definition of anteflexion and anteversion. The fact that slight curvature forwards is natural has apparently prevented many from attaching due importance to anterior displacements, and consequently severe anteflexions and anteversions are not seldom overlooked. When the uterus is healthy, and in its natural position and shape, by an ordinary digital examination it should not be possible to reach and define the outline of the body of the uterus. Descent forwards of the uterine body, such as to render its outline evident, constitutes a displacement. Anteversion or anteflexion may exist separately, but generally the two are associated. The sound, unless judiciously employed, may readily mislead the observer, the uterus becoming often straightened, or its position altered by its introduction.

The various forces of a dislocating character were next described. Severe falls, slipping on the pavement, severe muscular exertions, continuous overwork in nursing and lifting heavy articles, excessive walks, certain gymnastic exercises, straining of the abdominal muscles, long-continued sitting, and other causes, are frequently found to have produced uterine distortions and displacements. The resistance which

the uterus offers to these varying disturbing forces has next to be estimated. Whatever tends to soften and relax the ligaments and attachments of the uterus, so far diminishes its resisting power. Pregnancy often leaves behind it such softening and relaxation. But more important is the softening of the tissues of the uterus itself as a predisposition to flexion or distortion. This point was particularly made the subject of an essay recently read by the author at the meeting of the British Medical Association at Manchester. Several cases were then narrated, in which marked degrees of uterine flexions were present, associated with very undue softness of the uterine tissues. The cases in question were those of patients in whom the disturbing influence of pregnancy had not been present. This softness was met with in cases where the attendant circumstances left no room for doubt that the cause of the undue softness was really malnutrition of the uterus. The subjects of these cases had long been out of health, feeble, and weak, and for various reasons had taken very little food. In unmarried women, undue softness of the uterus, so produced, predisposes to flexion. In married women, or in those who have been pregnant, other conditions liable to produce undue softness of the uterus are present.

In cases of slow involution after delivery, the uterus remains soft and unduly pliable, and flexions are very liable to be originated as a consequence of this. The frequency with which uterine troubles are known to have had their starting-point after a certain pregnancy is thus explained. After abortions the same liability to distortion of the uterus occurs, and in the same way.

Next the author entered on an examination of the clinical aspect of cases of uterine disease, and an investigation of the symptoms, abnormal sensations, and discomforts experienced by the patient, with the view of determining the importance and influence of the mechanical diseases of the uterus. The necessity for close attention and analysis of these symptoms was urged. In two lists are arranged—*A*. The symptoms of all kinds which may be observed in connexion with diseases or affections of the uterus (these symptoms being indicated, as nearly as possible, in their order of frequency); and *B*. A list of the various non-organic physical changes which the uterus may undergo.

A.—Pain: Spontaneous; Produced by Motion (Dyskinesia); Undue Sensitiveness of the Uterus to Touch—Leucorrhœa—Dysmenorrhœa — Menorrhagia — Amenorrhœa—If Married, Sterility—Abortions—Various Reflex Phenomena: 1. Sickness or Nausea; 2. Hysteria; 3. Convulsions; 4. Cephalalgia—Disturbance of Functions of Bladder; of the Rectum; of Sexual Functions.

B.—Change in Position—Change in Size of Walls; of Cavity; of Cervix—Change in Shape—Change in Patency of Canals—Change in Texture: Undue Hardness or Undue Softness; Increased Vascularity—Disorders of Innervation—Increased Secretion.

The importance of any one of the possible uterine changes should be approximately, at all events, indicated by the frequency with which it occasions uterine symptoms. If any particular change or combination of changes has a decided pre-eminence in this respect, it will be natural to consider that change or changes important. Further, if the particular symptoms the patient complains of are those in question, this will be additional reason for this belief. Such belief will be strengthened when it is shown that there is a rational and intelligible explanation of the association of these particular changes with those especial symptoms.

Académie des Sciences.—At the meeting of this learned body on December 3, Sir William Thomson was elected a Foreign Associate, in place of the late Prof. v. Baer. He obtained the votes of twenty-seven of the fifty-two Academicians who were present, Prof. Van Beneden receiving twenty-five.

The Monument to Pouchet at Rouen.—A marble bust has just been publicly inaugurated to F. A. Pouchet, the celebrated defender of spontaneous generation, not, however, on account of his scientific opinions, but in gratitude for the great benefactions he had conferred on the city of Rouen. M. Pennetier, Director of the Rouen Museum, read, amidst loud applause, the following passage from a letter which he had received from M. Pasteur, on sending his subscription for the monument raised to his adversary:—"This conscientious *savant* deserves the gratitude of all for what he has done of good and useful, and even in his errors he has a right to every respect."—*Union Méd.*, December 6.

ORIGINAL COMMUNICATIONS.

NOTES OF A CASE OF

EXTRA-UTERINE FŒTATION—OPERATION—RECOVERY.(a)

By J. HANCOCKE WATHEN, L.R.C.P. Edin.

On Monday, January 22 last, a request was made by the wife of a clergyman that either my father or myself would visit a poor woman residing in their parish, some four miles distant, who was said to have been in labour nearly three weeks. My father visited the case, and found the patient a young, healthy woman of twenty-five years, pregnant with her second child.

The history given was, that the previous Wednesday fortnight (nineteen days ago), having arrived at about her full time, she was taken with labour-pains. These pains continued until the following Sunday, when the services of a medical man were sought for. This gentleman, however, could not attend, but sent another to take charge of the case. The latter, after making an examination, prognosticated that the labour would be terminated in a very short time. This period was, however, extended into hours, in spite of "some drops" being given to hasten matters, without any sign of the child being born. The medical attendant then left, but saw the case that night, and again on the following (Monday) morning, when the patient was, according to her statement and that of her mother, in much the same state as during the previous days, there being strong expulsive pains (or efforts). There had been no discharge or show until after the medical man had made an examination, which hurt her very much; there was a considerable show after this.

Matters went on until the following Friday, when she was seen for the first time since the Monday by her medical attendant, and so continued until the 22nd, when my father first saw the case. On making an examination per vaginam the fœtal head was found presenting, the sutures being plainly made out, but between the head and the finger a membrane was found intervening; the head was completely invested by it. The finger could be passed but a short distance anteriorly before being stopped by the reflection of the enveloping membrane; posteriorly the finger, and even the hand, could be passed much higher, but was finally arrested by a *cul-de-sac*. The os uteri could not be detected. The membrane moved freely over the fœtal head, the bones of which were elastic and compressible. There was not the slightest expulsive effort, but the patient complained of some pain over the abdomen. It being late in the evening, a full opiate was given, and the patient left until the following morning, when my father and I saw the case together.

The patient had passed a good night, free from pain; her expression was good, although somewhat anxious; the tongue clean and moist; pulse quiet. On exposing the abdomen she was seen not to be so large as a woman would ordinarily have been at her full time (later on she was found to measure thirty-six inches). The abdomen was not symmetrical, it being larger and more prominent towards the left side, where there was an increased area of dulness compared with that on the right side. The patient stated that the child always lay, when she was on her back, towards the left side, but by turning towards the right side she could feel the child roll over toward that side: this she demonstrated to our satisfaction. No fœtal heart or placental bruit could be detected, and the patient confirmed this evidence of the fœtus being dead by her statement that she had not felt the child for about a week before being taken with labour-pains. She dates her conception early in April, and says that she quickened some time in August while in the harvest-field. Per vaginam, things were as already described; through the speculum the rugose character of the investing membrane could be plainly seen. A catheter was with difficulty passed into the bladder, which contained a small quantity of urine. After reviewing the case, the diagnosis arrived at was—"extra-uterine fœtation," the fœtus being to the left side of the uterus, and the head pressing down, with the vaginal wall in front of it.

When the nature of the case had been thoroughly explained to the patient, who was an intelligent woman, she became quieted in her mind, which had been sorely tried by protracted hope. There being no urgency in the symptoms, it

(a) Read before the spring meeting of the South Wales and Monmouth Branch of the British Medical Association.

was arranged to have the patient removed to her mother's, who lived nearer us, and one-grain doses of opium were ordered to be given occasionally if in pain. As the efforts of nature to expel the fœtus had ceased, and the patient was now in good spirits and strong, it was deemed advisable to wait until symptoms demanding interference should show themselves, when, in all probability, some suppuration would have taken place, and thereby (as generally held) render operative procedure less hazardous to the woman. She continued very well for about a fortnight, during which time she took opium twice or thrice daily. She then became much distressed by flatus and accumulation of fæcal matter, with retching. These troubles were got rid of by turpentine enemata and hypodermic injections of morphia, but to return once or twice again. Suffice it to say that at the end of a month she became so worn, that it became plain some interference could not much longer be delayed. About this time she had a dark brownish discharge with shreds of mucous membrane, and a bridge consisting of a portion of the vaginal wall could be made out running across the investing membrane over fœtal head. The head had become less prominent—that is, the sutures and bones of the head could not be detected,—but the presenting tumour was more tense and elastic to touch, indicating the probability of suppuration having taken place in the sac. I should mention that during this month of temporising we had frequent opportunities of demonstrating the situation of the fœtus to be on the left side; and the patient stated that the unusual position of the child, together with the ease with which she could lift it across from one side of the abdomen to the other, had attracted her attention, and that she had conferred with her female friends on the matter.

The pelvic region of the fœtus could now be felt at times through the abdominal wall, and the girth of the patient at the umbilicus, when not distended by flatus, was as little as thirty-two or thirty-three inches. After the risks had been laid thoroughly before the patient, she consented to the removal of the fœtus; and, as her surroundings were not good, she was removed into Fishguard on February 27, and on the following day, exactly eight weeks from the onset of labour-pains, I operated, my father giving chloroform.

It was determined, as the presenting tumour occupied the vagina, to attempt the removal of the fœtus per vaginam, and, failing this, to do so by abdominal section. I had little doubt but that the first mode would be successful if the fœtus would hold together. Of this, however, I had my misgivings.

A curved probe-pointed bistoury, which was guarded up to within an inch of its point, was passed into the vagina, and the vaginal wall incised; through the incision the index-finger of the left hand was passed, and the wound enlarged backwards and forwards. The head was found still enveloped by a membrane, and posteriorly and somewhat to the right side the uterus could be felt. The sac was opened, and dark grumous pus was discharged; the hand was then passed in, and the head found to be free; forceps were applied to the head through the incision, and the fœtus extracted entire.

After the head had been extracted, a blunt hook was inserted into the armpit, thereby obviating the risk of the head separating before the trunk was removed, as of course we had no assistance by any expulsive effort, the extraction being entirely performed by traction. No effort was made to extract the placenta, which came away, however, the following day. The fœtus was that of a full-grown male undergoing liquefaction.

It will not be necessary for me, gentlemen, to encroach upon your time by giving a detailed report of the progress of the case, beyond a *résumé* of the treatment. The temperature, which was 100·6° immediately after the operation at 2 p.m., fell that night, and next morning was normal, showing that a cause of irritation had been removed. The principal feature in the after-treatment was that the sac was washed out daily for about three weeks with carbolised or iodine water—principally the former; after several of these washings-out, I noticed a fall of nearly 1° of temperature. The discharge continued free and healthy; and at the end of the fourth week from the operation the patient became unwell.

The position of the wound in the vaginal wall shows that the head came down on the left side. The wound, although originally made well in the mesial line, is now on the left wall of the vagina. The patient has returned home, and the wound is contracting rapidly, it being occasionally touched with nitrate of silver.(b) In connexion with the after-treatment of this case, I wish to notice an instrument which I found of immense service—viz., Messrs. Arnold and Son's vaginal douche; by it I was enabled to syringe out the sac daily without disturbing the patient beyond bringing her to the side of the bed, and without soiling the bed in any way, the effluent water being carried away to a basin on the floor. It is of service not only in those cases confined to bed, but in those where patients are up and about, as it renders the use of vaginal or uterine injections simple and cleanly.

In determining the line of treatment to be followed in this case, we were a good deal influenced by the discussion which took place recently at the Obstetrical Society upon Mr. Jessop's (of Leeds) case. During the discussion, the President, Dr. Priestley, laid it down that interference was much safer to the woman at a later period, after suppuration had taken place, than immediately on the onset of anything like labour-pains. Dr. Edis expressed an opinion that in certain cases extraction through the vaginal wall would be resorted to with a lessened risk to the mother, as the peritoneal cavity would thereby not be opened up.

I do not know whether I am right in saying that this is the first case in which an extra-uterine fœtus has been removed by operation per vaginam, but am inclined to think so. Great stress was also laid, in the discussion already referred to, on the importance of leaving the placenta; but I think in our case we need not have been deterred from removing it at once, as the result proved that the placenta had been separated long before,—consequently there was no risk from hæmorrhage, although, in cases operated on early (whether per vaginam or by abdominal section), the rule would appear good not to remove the placenta, as we have no uterine contractions in these cases to help to prevent hæmorrhage.

Fishguard.

(b) Since the above was written the wound has united thoroughly, and the cicatrix has the os uteri above and to the right of it. I believe at the present date the woman is again pregnant.

THE STRUCTURE AND FUNCTIONS OF THE NERVOUS SYSTEM.

By JAMES ROSS, M.D., M.R.C.P.,
Honorary Physician to the Southern Hospital for Diseases of Children, Manchester.

FUNDAMENTAL PROPERTIES OF NERVOUS TISSUE.

(*Continued from page* 619.)

Conduction.—The property which nerve-fibres possess, of transmitting the state of activity from the one point to the next, is called their conductivity. A particular nerve-fibre usually transmits its activity in one direction only—hence the distinction made between afferent and efferent fibres; but several circumstances might be mentioned, which tend to prove that a nerve-fibre can conduct in both directions. It has been proved by experiment, that if a purely afferent nerve (gustatory) be divided, and its central end be made to unite with the distal end of a divided motor nerve (hypoglossal), irritation of the former after the parts have been healed produces contraction in the muscles supplied by the latter.

Continuity of the nerve-fibre, especially of the axis-cylinder, is necessary for conduction. Lesions of the fibre from section or caustic, or even from a certain amount of pressure, interrupts conduction. The passage of the active condition from one fibre to another never occurs, more especially in the higher evolved fibres which possess a medullary sheath.

The transmission of the active condition from one end of a nerve-fibre to another occupies time. The average rate of conduction in human motor nerves is found by experiment to be 111 feet per second; and in the sensory nerves to be 140 feet per second.

The velocity with which nerve-energy travels may be increased or diminished. The rule is that cold, the condition of an electrotonus, and all conditions which lower the irritability, diminish the velocity; while heat, the condition of catelectrotonus, and all conditions which raise the irritability, increase the velocity of conduction.

Pflüger observed that the effect of stimulating a motor nerve is so much the greater the further removed the point of stimulation is from the muscle. He explained this effect by supposing that the active condition of a nerve accumulates strength in transmission, like the momentum of a falling mass, as an avalanche. It is now considered more probable that this phenomenon depends upon the increased irritability of the more distant parts of the nerve caused by section.

These, then, are some of the more important empirical laws of the functions of nerve-fibres, and of the actions of those agents which evoke their activities. Let us now endeavour to

reduce those laws to some degree of order. On comparing them with one another, the most obvious relationship which exists between them is—that the mechanical, chemical, and thermal agents which act as stimuli when suddenly applied to a nerve, increase the irritability when gradually applied and in a moderate degree of intensity, and destroy it when suddenly applied beyond a certain degree of intensity; and it has just been seen that all conditions which increase the irritability of the nerve also increase the velocity of conduction. Such are the facts which require explanation.

All the functions of nerve-fibres are closely connected with the fundamental property of irritability. We have already seen that irritability depends upon the molecules of the protoplasm being in a condition of unstable equilibrium, and that the energy is rendered actual when the molecules fall to a relatively stable position. There can be little doubt that nerve-irritability depends upon the protoplasm of the axis-cylinder being composed of molecules in unstable positions, and that these are so connected, that the movement or alteration of one leads to the movement or alteration of those in the immediate neighbourhood. The true nature of this movement is not known, but the theory most consistent with facts assumes that it is a chemical change either of the nature called isomeric, or an oxidation such as occurs when a train of gunpowder is ignited at one end. The extreme slowness with which the energy travels from one end of a nerve to another, in comparison with the speed of electrical currents, shows that the two kinds must differ essentially from one another. The agents which act as stimuli set up this chemical change at one end of a nerve, and this is gradually propagated to the other end. When these agents are gradually applied, they act by placing the molecules in more unstable positions without causing them to fall, so that a slighter degree of stimulus will subsequently induce the necessary chemical change; while the same agents, when suddenly applied in high intensity, will produce such a large amount of chemical change as to destroy the irritability. The following illustration may enable us to some extent to realise what occurs in a nerve-fibre during the transmission of its energy. We have seen that when matter possesses potential energy, a certain force called the liberating force is necessary in order to render the energy actual; or, in other words, matter under those conditions offers a certain amount of resistance to change, and the higher the resistance the stronger must be the liberating force. Suppose two books, each a foot in height, to be standing on end on the table, and that the one is half an inch, and the other two inches, in thickness; the slightest tap on the free end of the first will cause it to fall, while it will require a considerable blow to cause the second to fall. The resistance which the latter offers to change is greater than that of the former. And if we arrange two rows of these books placed on end at convenient distances, in such a way that when the first book of a row is made to fall it will strike the second and cause it to fall towards the third, and so on till the row has fallen with the books overlapping each other, it will at once be noticed that the row made up of the thin books will fall much sooner than that made up of the thick books. Each book of the latter row offers a greater resistance to change, and not only is a greater force necessary to initiate the movement in the first book of the row, but the transmission of the movement from one end to the other will be delayed. When the nerve-irritability is depressed, this shows that the molecules occupy relatively stable positions, consequently offering a greater resistance to change, and requiring a stronger liberating force to be applied to them. But not only must the initial liberating force be stronger, but it must be stronger at each point of the conduction—hence the velocity of the conduction will be rendered slower; while the reverse obtains when the irritability is increased.

(To be continued.)

CASE OF DIFFICULT LABOUR.

APPLICATION OF FORCEPS;
PUERPERAL MANIA AND FEVER, TREATED WITH SUBCUTANEOUS INJECTION OF CHLORAL HYDRATE.

By R. EDWARDS, L.R.C.P., M.R.C.S.

On October 7, at 5 a.m., I was summoned to see a lady, aged twenty-eight, in labour with her second child. Her first labour had been tedious, and the child stillborn. On this occasion she had been in labour since early the previous evening, and the pains were severe. On examination, I found that the uterus was very high up; os fully dilated, but the membranes not ruptured; vagina very hot. The plexuses of veins in lower part of vagina and on vulva were remarkedly turgid. I very soon ruptured the membranes, and, after waiting an hour or more, and seeing no progress made—the head feeling immovable and in the antero-posterior diameter at the brim,—I determined to apply the forceps, but failed, partly because the head was so high up, and the parts were very tender and sensitive to the touch. Chloroform was then sent for, which Dr. Hughes kindly administered. At 8.30 a.m. I had succeeded in applying the forceps. Then gentle traction was made, at first only with the pains. This did not seem to succeed, but continuous and gentle traction at last overcame the resistance, and the head began to descend, but very slowly. Altogether, the time from the application of forceps to the birth of the child occupied about two hours. We had some difficulty with the shoulders. Hæmorrhage occurred into the uterus, and large clots came away when the placenta was removed. The uterus, after being well manipulated through the abdominal walls, contracted firmly, but felt larger than it should be. 4 p.m.: The patient has had a slight shivering. Respiration irregular and sighing; pulse 110, bounding, full; temperature 102·2°. Uterus large, somewhat tender; only a slight discharge. Ordered a mixture—℞. Quin. sulph. gr. xij., ext. ergotæ liq. ʒij., aq. ad ʒviij.; ʒj. 4tis horis.

October 8.—Did not sleep much during night; had several shiverings. Uterus very large, reaching midway to umbilicus; not very tender. Bowels very freely opened. Urine passed frequently. Temperature 101·6°; pulse 100, moderately full and firm. Tongue moist, slightly furred.

9th.—Temperature 103°; pulse 110. Discharge slight. Secretion of milk began. Breasts painful.

10th.—Slept at intervals; but on the whole passed a very uncomfortable night. Temperature nearly 103°; pulse 110, softer, but still full. Uterus smaller. Though she expresses herself very well, yet her appearance belies her words, for she looks anxious, with knitted brows and wrinkled forehead; sighing and irregular respiration.

11th.—Morning: Condition similar, but pulse more frequent, 120. At 9 p.m. I was hastily summoned, and found the patient quite delirious, or more properly maniacal, requiring the united efforts of three or four strong men to keep her in bed. She was biting at the bedclothes or at anyone's hand, shouting and groaning; and at intervals there were violent twitchings of the whole body, lasting two or three seconds or even more. She did not know anyone, and refused everything. The pulse too frequent to be counted, remarkably small, and the skin biting hot. I had tried the injection of chloral hydrate in a case of cerebro-spinal meningitis, in which there were convulsions and delirium, with good result, though the patient ultimately died: I determined to try it again in this case, though only as a forlorn hope. Not having the necessaries with me, I hurried back, and sent the pupil (Mr. Williams) with a solution of chloral hydrate, twenty grains in forty minims, and instructed him to inject it into the legs. He first injected ten grains into the right leg; and he says that he observed the twitchings diminishing and stopping in this side of the body first. This was corroborated by the friends of the patient. What explanation to give I do not know. However, she became calm, though still wandering, and took her medicine and nourishment.

12th.—8.30 a.m.: She had a similar attack to that of last night, though not quite so violent. I again injected chloral, which was followed in about an hour and a half by the same result as before. Pulse 132, very small; temperature 103°; great tenderness over the uterus; ordered quin. sulph. gr. iij. every three hours; pil. opii gr. ¾ every two hours, and to take milk, beef-tea, and good port wine. 4 p.m.: Patient very calm; had a quiet sleep; wandering at times, but knows her friends and answers questions rationally; pulse 120, fuller; discharge very offensive, but slight in quantity; there is a hard red swelling, very painful, over the saphenous vein (phlebitis).

13th.—5 am.: Temperature 102·6°; pulse 118, fuller and firmer. 11 a.m.: Temperature 104°; appearance of patient better; pulse same. 7 p.m.: Patient looks much better; has lost her anxious look; is not wandering; the uterus still feels large, and appears quite fixed by inflammatory products, especially in left iliac region; temperature 101·2°; pulse 110, fuller, much firmer; sleeps well.

For the next two or three days there was nothing of importance to note.

16th.—Pulse 80, good strength; temperature 99°; tongue clean and moist, rather raw; there are several spots in the throat like diphtheritic exudation; pain in swallowing. For this a mixture of chlorate of potash and iron was ordered;

puncture points of injection inflamed, and likely to slough; middle joint of right middle finger swollen and tender; there is difficulty in passing urine; abdomen above pubis dull on percussion; the swelling over saphenous vein very red and tender, probably with suppuration.

From this date to November 1, when convalescence was firmly established, it would be tedious to give daily details. The throat was all right in a few days; the puncture-points sloughed, leaving deep but healthy wounds, which rapidly healed; the hardness over the saphenous vein, already mentioned, formed a small abscess, which was opened; the dulness in lower part of abdomen gradually disappeared, and the uterus returned to the normal dimensions.

Remarks.—Having tried the remedy in this form in two cases only, it would be premature on my part to advance any theory as to its *modus operandi*. The two cases were similar in several respects—viz., high temperature, delirium, and more or less violent convulsions. The effect of the remedy in both was the same—viz., a rapid return to consciousness, without, at first, any sleep. Its action in these cases was certainly not like that of chloroform. I am quite convinced that it is a remedy of great value in cases of this nature, in which the patients would otherwise inevitably die. But it must not be used in ordinary cases, on account of its producing extensive sloughs, and patients would be apt to look upon the remedy as worse than the disease.

Bala.

ELEPHANTIASIS GRÆCORUM IN GUERNSEY.

By ROBERT LIVEING, M.D., F.R.C.P.,
Lecturer on Dermatology at the Middlesex Hospital Medical School.

The following short account of a well-marked instance of true leprosy, occurring in a native of Guernsey who had never left the island prior to its development, is not without interest:—

John L., aged twenty, was admitted into Middlesex Hospital, July 12, 1877, and placed under my care by Mr. George Lawson. His father, a native of Birmingham, was a soldier who had served in India, and died aged about fifty-five. His mother was a native of Ireland, and "died of old age." He has several brothers and sisters older than himself, and all healthy. With regard to food, he tells us that he has always had plenty of meat and vegetables, and has not been in any way restricted to a fish diet. The disease began to show itself five years ago, with feverish attacks, swelling of the face, discoloration of the skin, and other symptoms of leprosy. It made rather rapid progress, and a year after its commencement he was advised to try the effect of a sea trip, with a view to the improvement of his health. He therefore made short voyages as a sailor to different parts of the English coast, and once to New York. This mode of life does not, however, appear to have had any effect in checking the progress of the malady. At the present time the disease is fully developed, and he has the very characteristic leonine appearance produced by tuberculated leprosy, together with loss of eyebrows, a harsh and husky voice, enlarged ear and nose, darkened skin, and, though only twenty, the appearance of a middle-aged man. He complains of a feeling of numbness about the little and ring fingers, and also on the inner side and back of both hands, and there is some loss of sensation in the skin of those parts. Brown patches of skin are seen about the elbows and knees; there is a well-marked hard swelling of the left ulnar nerve, just above the elbow-joint, and a corresponding enlargement, less developed, on the right side. In short, he presents altogether a typical example of Elephantiasis Græcorum of the tuberculated variety.

The interesting question is—Is this a case of true leprosy originating spontaneously in Guernsey without assignable cause? I think not. I believe it to be really an hereditary case of the disease, though I admit there is some doubt on this point. We had much difficulty in finding out the cause of his father's death, as our patient himself could give us little information on the subject. We learned, however, from other sources—(1) that his father, when in India, cohabited with a coloured woman; and (2) that he died in Guernsey, and that in his last illness he had sores on his fingers and toes, an enlargement of the nose, and a discoloration of the skin of the face. In short, it seems highly probable that his father contracted leprosy in India, and ultimately died of that disease. It is worth while to remark that if we had depended on the statements of our patient with regard to his father's death we should have entirely lost sight of the true origin of the disease. I cannot help thinking that some other cases of this disease which have been supposed to have originated spontaneously in this country may possibly have been due to untraceable hereditary taint. I will only add that the case has been treated for some months past with Gurjun oil (in drachm doses), and that there is some improvement in the general symptoms, and a marked improvement in the condition of the ulnar nerves. This must be taken for what it is worth.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

CASES OF

HEART DISEASE BEARING ON RELATION OF EMBOLISM TO PYREXIA.

In reckoning up the possible dangers subsequent to heart disease, we are too much in the habit of thinking only of the mechanical results of incompetent valves. But, apart from embolism of the middle cerebral, and the hemiplegia attendant thereupon, which most medical men take cognisance of, the results of embolism in other viscera well deserve consideration.

Given a case of heart disease, if pyrexia be present, and no obvious intercurrent inflammation be discovered, embolism in some of the viscera ought to be thought of. The possibility of splenic embolism should especially be considered, because the spleen may enlarge considerably without the edge being palpable below the ribs. There is no doubt that extensive embolism and pyrexia of hectic type may occur without the endocarditis being necessarily *ulcerative*.

Does the pyrexia depend upon the *mere discharge* of emboli from vegetations into the blood-current, or upon the inflammatory processes set up by these emboli in the tissues where they lodge? Difference in the irritant character of emboli was strongly insisted on by Dr. Goodhart in discussing recently the pathology of cerebral aneurisms caused by embolism. Whatever may be said of the other viscera, there appears reason to believe that splenic embolism, and splenic enlargement consequent thereon, are peculiarly liable to be associated with fever of the hectic type. The following cases should be read in connexion with those reported in this journal of November 17:—

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

Case 1.—*Endocarditis (with history of probable Rheumatism)—Chorea—Pyrexia—Splenic and Renal Embolism—Splenitis and Nephritis—Vascular Changes in Spinal Cord.*

(Under the care of Dr. GEE.)

Helen B., aged eight years and four months, was admitted under the care of Dr. Gee on June 9, 1876. A very imperfect history could be obtained. Both parents were said to have died of consumption; of the three children the two others were healthy. There was no previous history of rheumatism or St. Vitus's dance with regard to this girl, and up to one month ago she is asserted to have been in fair health; but this seems doubtful. About a month ago she complained of pain down the right hip and in the right leg; this made her limp. When she lay in bed her hip was drawn up. She was so for ten days. She was not kept to bed. She did not at that time complain of her other joints or of pain in the chest. There is no information forthcoming as to any fright, but a fortnight ago she began to twitch. She could not hold a teacup, broke a jug, "tossed her head" and "plunged." One week ago her speech was so thick that she could not get her words out. Within the last week she has cried if spoken to. There has been no trouble with swallowing. Has complained of her head for a week. No vomiting, but has felt sick. Possibly this is due to small doses of sulphate of zinc, which she has been taking for one week. She was seen in the out-patient room a few days ago, having mitral disease and slight chorea. To-day, when brought, although the chorea was less, and there were no additional heart-signs, nor indeed any evidence of fresh visceral disease, yet the temperature was 103·4°, and she was on this account admitted into the hospital. She walked pretty steadily upstairs to the ward.

June 12.—The following notes were taken:—Choreic signs: Slight pursing-up of lips; protrudes tongue with a jerk, can't keep it out. Speaks partly in a whisper, partly aloud; hesitates in the middle of a word—*e.g.*, "seven-teen." There is considerable play of corners of mouth, and occasional arching of eyebrows. The pupils are large and sluggish, the left bigger

than the right. She drinks without spluttering; takes a very long time rolling a morsel of bread about in her mouth, but ultimately swallows it. Twitching of fingers and wrists—sometimes alternating in the two hands, sometimes simultaneous. A little shrugging of shoulders and arching of back occasionally, and now and then a little inversion of both ankles, and extension of right big toe. No anæsthesia. Not so lachrymose as on admission. Skin excessively pungent. Tongue slightly furred at the back; lips not dry; pulse 116. The heart's dulness was limited by the third left space, mid-sternum, and left nipple line. Forcible impulse; no thrill. Systolic apex-murmur conducted to base and to axilla. Accentuated pulmonary second sound. No irregularity of heart's action. Pulmonary regions natural. No enlargement of liver and spleen detected. At noon the temperature in rectum was 103·8°; cause of pyrexia not obvious. She was placed in a bath at 90°, which was lowered to 70°. She was kept in for ten minutes, but a few minutes afterwards her temperature was 103·2°. She slept shortly afterwards. During the next two days a cold bath was tried twice a day, but the body temperature increased again shortly after removal from the bath.

19th.—Tongue dry and rather brown; bowels constipated. Cause of pyrexia not yet discovered.

22nd.—The chorea has almost ceased; child very pale, cachectic; tongue creamy; bowels constipated. What is the cause of the pyrexia? There is no evidence of increase of endocarditis—at all events, no change in the heart-signs. There is no abdominal tenderness. The nurse states that during the last three days the child has gone some hours without passing water, and then passed it in great quantities; urine found to contain one-fifth albumen, with middle-sized hyaline casts and swollen epithelia. After standing twenty-four hours, numerous uric acid crystals deposited. There is no œdema.

23rd.—Chorea confined to very slight movements of fingers; has vomited a few times; constipated; pulse 120, full and soft; no pulmonary signs; no œdema; face pale; urine, specific gravity 1020, one-fifth albumen.

24th.—Still vomits; bowels require enemata; pupils large; nothing abnormal to ophthalmoscopic examination. There are purpuric spots on the trunk, and a few on the face; skin very dry; urine, specific gravity 1027, one-fifth albumen; 330 cubic centimetres in twenty-four hours.

26th.—Has retched again to-day. Urine, specific gravity 1020, slightly smoky, one-third albumen; gives faint but distinct reaction for blood with guaiacum and ozonic ether; under microscope, besides blood-discs, there are abundant nucleated cells and some large hyaline casts; 600 cubic centimetres passed in twenty-four hours.

28th.—Has vomited repeatedly; once vomited matter said to be "very dark"; relieved by mustard-plaster to epigastrium; no dropsy. Child complains of pains in ends of left little finger and big toe; no chorea. Pulse 80, not at all "hard." Pulmonary regions natural. Urine, specific gravity 1020, pale, smoky; albumen one half; granular casts and granular epithelia; 580 cubic centimetres in twenty-four hours.

July 10.—For the first time there is slight œdema of face and ankles.

11th.—There is a little dulness at the bases; nothing abnormal to be heard. Urine, nearly one-quarter albumen; many nucleated cells; a few large hyaline and some granular casts; many red corpuscles. During the night, just after taking some brandy, the nurse reports that the child became suddenly pale, foamed at the mouth, and died.

Temperature.

	Morning.	Evening.		Morning.	Evening.
June 9, 1876	103·4°	98·6°	June 26	100·6°	102°
10	97·8	104	27	99·4	102
11	97·6	100·8	28	99·4	98·2
12	99·8	99	29	97·8	101·4
13	97·4	102·4	30	100	101·8
14	99·4	99·4	July 1	98·6	100·6
15	98·8	101·6	2	101	102·6
16	98·4	101·6	3	99·6	102·4
17	100·6	102·2	4	100·4	101·8
18	100	103	5	100	102
19	98	101·8	6	101	102·4
20	99·6	103	7	99·4	103
21	99·6	102	8	99	100·6
22	100	102·4	9	100·4	102
23	98·4	100·8	10	98·2	101·6
24	99·4	102	11	99·6	102·2
25	99·4	102·6			

Post-mortem, twelve hours after Death.—Weather hot. Rigor mortis almost gone. Brain: A little blood-stained serum in subarachnoid space. Membranes natural. Spinal Cord: Nothing abnormal on naked-eye inspection. Heart: Weight five ounces and a quarter. Left ventricle hypertrophied. Mitral orifice thickened with old vegetations. One of these hangs from the curtain nearest the aortic orifice, and is remarkably thick and firm. This vegetation can fold back so as to close the aortic orifice. Is it possible that such an occurrence may have caused the sudden death? There is an exceedingly small recent clot in left ventricle, and also one in right ventricle. No clots in pulmonary artery or branches. No disease of valves other than the mitral. Lungs œdematous but to slight extent. One calcified nodule, of the size of a small pea, at the tip of lower lobe of left lung. No infarcts. Bronchial glands natural. Liver enlarged—nutmeg. Spleen considerably enlarged, although *edge does not come below margin*. Weight eleven ounces. Contains about six ounces in bulk of fluid blood. Splenic substance soft. Contains some large infarcts; several of these are soft and recent. Slight adhesion over one of these infarcts of omentum to spleen. Kidneys together weigh eleven ounces and a quarter. Capsule strips easily. Cortex swollen and buff-coloured. There are two large infarcts in each kidney in the cortex—having a very slight depression over them, the infarcts becoming a little pale. Intestines and mesenteric glands present no morbid appearances.

A microscopic examination of portions of the brain and spinal cord, and also of the kidneys, was made by Mr. R. W. Parker, who has furnished the following report:—Brain: Corpora striata and optic thalami were examined; no marked change; vessels full. Cord: On examining thin sections under a low power, the most marked peculiarity is the excessive fulness of the vessels. Neither the white nor the grey substance seems to have undergone any marked changes. If anything, the amount of neuroglia is in excess. Here and there are seen collections of small round cells more deeply stained than the tissue immediately near them. These cell collections are mostly in the neighbourhood of vessels, but some of them are unaccompanied by vessels; in such cases it would seem probable that they belong to the peripheral portion of a cell-proliferation, and that the vessels from which they issue, owing to the thinness of the sections, have not been included. On examining with a higher power, some of the vessels seem to be plugged, and the collections of cells above alluded to prove to be leucocytes which have wandered from the plugged vessels. In one or two sections this condition is very marked. In the centre of the vessel is a dark clot, and radiating from it are leucocytes in large number. There seem to be no secondary changes in the neighbourhood of these plugged vessels. The nerve cells are slightly granular in places, but the change is not very marked nor very constant. These changes are most marked in the cervical portions of the cord. Similar changes (vascular) are observed in the kidney. The kidney tubules are variously changed: some appear but little altered, while others are filled with granular *débris;* the epithelium in these latter being more or less altered, and in some it has disappeared; some tubules contain granular casts.

Note.—From the history it seems probable that the month before admission the child had had an attack of acute rheumatism. The slightness of the joint affection, which did not compel the child to lay up, is quite in keeping with the course of many rheumatic attacks in children. It has been noted that amongst the joints which are affected in rheumatism in children, the hip is by no means unfrequently attacked; so that on one or two occasions the symptoms and signs of early hip-joint disease have been simulated. It was so in this case, if the history given by the friends can be trusted. From the induration of the vegetations (although the heart was not greatly enlarged), it is probable that the child had had endocarditis of older standing than the rheumatism dating one month back would account for. The chorea coming on when the child was recovering from the rheumatism is quite in accordance with the usual appearance of rheumatic chorea, viz., during the convalescence. Although pyrexia does sometimes occur in severe cases of chorea, this child's chorea was so mild in amount that it was strongly believed, when she was seen in the out-patient room, that the pyrexia must depend on some other cause than the chorea. Fresh endocarditis or visceral infarction were suspected; but the spleen could not be felt, and the kidney was not thought of for several days. The discovery of vascular changes in the spinal cord, possibly due to embolism, is of importance in its bearing on the debated pathology of chorea.

LONDON HOSPITAL.

Case 2.—Puerperal Endocarditis (Aortic and Mitral Disease) —Embolism—Cerebral Cortex (?), Brachial Artery, Spleen— Pyrexia.

(Under the care of Dr. SANSOM.)

[Recorded by Mr. B. W. WALKER, House-Physician.]

Elizabeth H., aged twenty-five, was admitted under Dr. Sansom on August 6, 1877.

The patient's family history was good, with the exception of one brother, who was stated to have died of consumption and heart disease. The patient had had excellent health up to the time of her marriage; always able to do her work with ease; no shortness of breath and no unreasonable fatigue. Married four years. Pretty well till her second confinement, in April, 1877. Does not know that there was anything special about it, but has not been right since. Has had "pain in the stomach and small of the back," and her breath has become short and her chest bad. Attending to household duties, and suckling until one week ago, when she took to her bed.

Condition when Admitted.—Pale, anæmic, feeble; dyspnœa easily induced by exertion. Heart's apex beats three inches to left of left edge of sternum; impulse heaving but irregular. Pulse feeble at wrist, compared to strength of heart's impulse. Cardiac dulness to one finger's breadth to right of sternum—upwards slightly into second space, to the left as far as left nipple line. A loud systolic murmur heard over aortic cartilage, and conducted upwards, with a badly defined second sound; down the left of the sternum a blowing diastolic murmur, and at the apex double low-pitched murmur, presystolic and systolic.

August 17.—Urine contains lithates and some albumen; specific gravity 1022.

18th.—Dusky, with a yellowish tint. Great tremor—marked in the lips when she speaks, and in the tongue when she protrudes it. Complains of pain in the left eye, which she does not open so well as the right. The left pupil is smaller than the right.

20th.—There is now undoubted ptosis on left side. Difference of pupils continues. When bright light is brought in front of eyes they contract equally. The tongue protruded points to the left. There is some deafness on the left side.

23rd.—Marked pleural friction on left side.

28th.—Had several convulsive seizures, limited to the left side of the face and body.

31st.—Complains of much pain in the left arm.

September 4.—There is an exceedingly tender swelling in the flexure of the left elbow. The pulse in the left radial is scarcely perceptible. No difference in temperature of the two limbs to be detected.

10th.—Great tenderness in splenic region. Spleen is enlarged. Temperature 102°.

22nd.—Spleen and liver both enlarged. Abdomen distended, and very tender on slightest palpation; bowels relaxed; has passed a small quantity of blood. Patient intensely anæmic; only semi-conscious. Left radial pulse still scarcely to be felt; right radial pulse feeble. Temperature, morning 98°, evening 100·4°.

24th.—Urine acid, specific gravity 1015, nearly one-fourth albumen.

October 1.—Extreme prostration. Pulse too feeble to be counted. Skin feels cold. No change to be found in fundus either of eye, except anæmia.

October 2.—Diarrhœa continues. Blood in motions—dark and clotted.

3rd.—Died. No post-mortem allowed.

During the first month there was pyrexia, the temperature generally being above 100°. The observations that were taken range from 99·8° to 103·6°. From September 10 onwards, when the temperature was taken regularly night and morning, the pyrexia was of the hectic type—morning 100°, evening 102°; morning 97·6°, evening 101·6°, etc.,—but not continuously so. The highest temperature recorded was 103·4°. The last few days the temperature was normal or sub-normal.

Remarks on the Diagnosis, by Dr. Sansom.—There was, no doubt, aortic obstruction and regurgitation, as well as mitral regurgitation. From the physical signs many might have inferred that there was, in addition, mitral stenosis, for a murmur, roaring in character, preceded the first-sound murmur at the apex. In the presence of aortic regurgitation, however, I always hesitate, even when the presystolic murmur seems typical, to make the precise diagnosis of mitral obstruction. There can be no doubt that cases have been recorded in which, though a presystolic murmur has been heard at the apex, yet the disease has been regurgitant aortic, and mitral stenosis has been absent. Indeed, I can realise that the conditions as to the production of the murmur may be nearly identical in the two cases. In the one, a tense and dilated and suddenly distended aorta, causing, immediately after the systole, a sudden reflux through the imperfectly closed aperture into the ventricle; in the other, for "dilated aorta," read dilated, distended, and hypertrophied auricle. In each case the stream of blood—reflex in one case, direct in the other—is urged into the empty ventricle. In this case the cardiograph gave us valuable evidence. We had a sharp and sudden percussion-wave, a sudden fall in the line of descent, a marked rise at the point which indicates the first entry of blood into the ventricle, and, following this, several elevations and depressions, sometimes showing us a vibratory line exactly resembling the tracings in cases of mitral stenosis, accompanied by thrill. It was concluded, therefore, that mitral stenosis existed here with the other lesions. August 23: There was much pain referred to the splenic region and the contiguous chest. At this time there was a doubt whether splenic embolism had occurred, or whether the symptoms were due to pleuritis. There was no rigor nor elevation of temperature; therefore, as there was pleural friction, it was thought that pleuritis alone caused the symptoms. It was quite probable that this was initiated by a pulmonary plug. Dyspnœa was often very urgent afterwards, but there was no cough nor expectoration; in the course of a few days the pleural friction became undiscoverable. September 4: The swelling involved the tissues surrounding the artery at its bifurcation; there was no redness, but great tenderness. At first there was great enfeeblement of radial pulse; but afterwards it was noted that, though the radial pulse continued perceptible, though feeble, pulsations in the ulnar artery were entirely absent. This condition continued. Melæna, probably the result of embolism. No other cause apparent. Note sudden rise of temperature, August 28, 29, 30, coincident with epileptiform attacks, and just preceding the radio-ulnar embolism. Suffering was much controlled by nitrite of amyl. The endocarditis seems to have been puerperal. The French writers seem to recognise this form as peculiarly liable (*a*) to abundant formation of vegetations on the valves (*endocardite végétante*), with sometimes ulceration; (*b*) the accidents of embolism (*Cf.* Lancereaux, "Anatomie Pathologique," page 532).

REMOVAL OF STRONG ODOURS FROM THE HANDS.—The *Schweizerische Wochenschrift für Pharmacie* has a communication from F. Schneider, in which he states that ground mustard is an excellent agent for cleansing the hands after handling odorous substances, such as cod-liver oil, musk, valerianic acid and its salts. Scale-pans and vessels may also be readily freed from odour by the same substance.—*New York Med. Record*, October 27.

DEATH OF MONS. BARTH.—Dr. Barth, one of the most distinguished consulting practitioners in Paris, died on the 3rd inst. at the age of seventy-two, in consequence of a pernicious intermittent which he had contracted during a visit to Rome. The funeral ceremony was attended by a large concourse of the profession. At the request of the deceased, no addresses were delivered at his grave at Bagneux, and the military salute to which he was entitled as a Commander of the Legion of Honour was dispensed with. The Académie de Médecine, of which he was an ex-President, adjourned its sittings out of respect for his memory. The "Traité d'Auscultation," which he wrote in combination with M. Henri Roger, who survives him, and which has achieved a well-deserved reputation, was his only work.

PRESENTATION.—The retirement of Mr. Paul Jackson, of Wimpole-street, has been made the occasion for presenting him with a testimonial consisting of a purse and a "loving-cup" bearing the following inscription:—"This loving-cup, together with a purse containing two hundred and fifty sovereigns, was presented on the 8th day of December, 1877, to Paul Jackson, Esq., M.R.C.S., L.S.A., F.R. Med.-Chi. Soc., etc., etc., on his relinquishing his professional practice, to remind him that he carries with him in his retirement the respect and esteem of his numerous patients and friends, by whom his many estimable social qualities, together with the skill, ability, kindly sympathy, and devotion to his art, which have so eminently distinguished him throughout an active professional career of upwards of forty-two years, have long been recognised and will long be remembered.

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Medical Times and Gazette.

SATURDAY, DECEMBER 15, 1877.

HYDROPHOBIA AND TETANUS AT THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The discussion which followed the reading of a paper before the Royal Medical and Chirurgical Society, "On the Relations between Tetanus and Hydrophobia," by Dr. J. Coats, of Glasgow, showed well at once the strength and weakness of the Society as a body. The paper, which was almost purely pathological, and most excellent of its kind, was founded on the careful post-mortem examination and subsequent microscopical investigations of the parts of two dogs the subjects of rabies, and of two patients who had died of hydrophobia. We fear we shall do scanty justice to the author of the paper, for this was neither fully nor perfectly read, and in many points his views were thus most obscurely given; but, upon the whole, perhaps the following may be looked upon as a fair summary.

With essential differences, there may be said to be great analogy between the post-mortem appearances in tetanus and hydrophobia. In both the main changes seem to be situated in and around the vessels in the spinal cord and medulla oblongata, and these consist mainly in the accumulation of exudative or granular matter in the case of tetanus, but of more or less well marked leucocytes in hydrophobia, round about the vessels in the parts named. Dr. Coats had, however, extended his researches farther, and had found similar changes in the cerebral convolutions, in the salivary glands, in the kidneys, and in other organs. From these facts he concluded that, as was certainly the case in hydrophobia, so probably in tetanus, the mischief began by a poison contained in the vessels, thence affecting their walls and contents, and thus producing the evidences seen around them of the important changes as described above.

In the discussion which followed, as it seemed to us, the strength of the Society was exhibited by its many-sidedness, as its weakness was shown by its want of power to keep close to the subject really before the meeting. To the author of a paper which has necessitated long and careful preparation, nothing is more vexatious than inadequate discussion; but side-wind discussions are hardly less unsatisfactory. It is one of the strong points of this Society that when a practical question is before it the question can be illustrated by an unequalled variety of experience; but too often there is a tendency to "follow my leader," to back or attack previous speakers, and to discuss what has not been raised by the paper at all. In the present instance the paper was almost purely pathological; and the discussion on it should have been as much pathological as possible, though for practical outcome a clinical discussion might have been preferable. We are far from disagreeing with the learned President when he rebuked the theorising tendencies of pure morbid anatomists and pathologists, and insisted that clinical facts, when facts, were just as good as any other. Nay, more; we hold he was quite right when he said that the system of hypothesis-building was just as rampant as it was a hundred years ago, only different names were used. We do not admit that these modern terms are more scientific—they only seem to be so. Instances of such quasi-science spring up in our mind by the score. Be that as it may, Dr. Coats and the other speakers added a goodly array of well-set facts to our knowledge, and did good service, though all could not say with old Stoerk, "Non hypotheses condo, non opiniones vendito—quod vidi-scripsi,"—or *dixi*.

But to fall back on what was said in this discussion from the purely pathological point of view. It was affirmed on the one hand that in hydrophobia we have changes, especially in the medulla oblongata and spinal cord, so uniform and so well marked that they could fairly be pronounced characteristic. On the other hand, it was asserted that so little was this the case that the same changes were to be found in chorea, ascending paralysis, and other nervous diseases of totally different types. In point of fact, some affirmed that the microscopic appearances described were simply those of irritation at certain points in the nervous system, producing the migration of white corpuscles, or even local hæmorrhages. Nay, more than one speaker suggested, on good grounds, that inasmuch as the leucocytes, so freely spoken of, were found unusually abundant in nearly all structures in the body, their origin must be sought for rather in unusual conditions of vascular tension than in any other peculiarity of the disease; and it was also hinted that the unusually high temperature sometimes observed was a concomitant not to be overlooked. It is plain that the whole of the phenomena of the two diseases point to the medulla oblongata and the spinal cord as the spots whose lesions are the cause of the palpable outcome of the disease. Changes have been found in both, but whether these changes are part and parcel of the disease—that is to say, the immediate causes of its phenomena,—or whether there is something beyond, as yet remains a mystery.

SOUTHERN HEALTH-RESORTS.

No. V.—Hyères.

(*Concluded from page* 624.)

The accommodation for visitors at Hyères appears to be at present sufficient for their demands, and there is less building going on than at most of the other winter stations of the Riviera. We have already mentioned the villas on the Boulevard d'Orient, some of which, however, are occupied by permanent residents; and other villas are to be met with south and south-west of the Place des Palmiers, and also on the Boulevard National. *Maisons meublées* or furnished apartments are most abundant in the Boulevard National, the western portion of the Route Nationale, near the post-office and the Bureau Télégraphique, and the western corner of the Place des Palmiers. There are several hotels on entering the town from

the west; the Hesperides, and Hôtel des Iles d'Or—the former with a western, and the latter with a south-western aspect, overlooking the Montagnes des Oiseaux—are both good. Their great drawback is their situation in the Boulevard National, which exposes them to the full force of the mistral. The Iles d'Or is the largest and best hotel, all things considered, in Hyères, and is kept in excellent style, and with a good table and attendance. Its rooms are, however, small, the lower ones narrow, and the upper ones narrow and low. This state of things is accounted for (?) by its having originally been built as a hospital, though our modern notions would scarcely admit the excuse as valid. There is a wing, or *dépendance*, at either end. The passages are long and tortuous, and hence draughty, although provided with doors, which no one shuts, to isolate the different parts of the house. Complaints were made last season that imaginary extras were too apt to be inserted in the visitors' bills, and we know of a case where 17 francs had to be struck off for this reason, while the same individual was charged "cork money" for brandy bought privately and used as medicine upstairs. Other persons were charged for the expense of the *calorifère*, or heating apparatus. This sort of hotel management deserves the strongest reprobation, and we allude to it in the interests of the public. The Iles d'Or has excellent gardens, not only behind it on the flank of the Château Hill, but also on the south side of the Boulevard National.

The Hôtel des Ambassadeurs, in the town itself, is perhaps the best situated of all the hotels, and is better adapted for persons of moderate means than the two former. Its aspect is due south, and the windows command a very extensive view. The rooms are excellent, and the attention of Madame Suzanne, the landlady, to her guests deserves the highest commendation. In the Boulevard des Palmiers, the Hôtel du Parc is well spoken of. It has the disadvantage of an open street running down at right angles to it at the back. The Hôtel d'Orient, near the entrance of the Boulevard d'Orient, has a south aspect, but no garden. The Hôtel de l'Europe, in the town near the Ambassadeurs, completes the list.

Prices are perhaps a little lower at Hyères than at Cannes or Mentone, but the difference is not great. The average *pension* would be 12 to 14 francs. Some of the hotels give wine at the *table d'hôte*. Provisions (meat and poultry) are abundant, and vegetables are grown in large quantities in the market gardens which lie to the south and west of the town. The latter, which are generally enclosed with high stone walls, replace the orange groves which, eighteen years ago, as we learn from Dr. Griffith, covered a large portion of the plain. Orange trees are now scarcely to be met with, except in a few gardens, while the peach, the plum, the strawberry, and the artichoke have taken their place. Acres and acres of the small "hautboy" strawberry are grown at Hyères, and supply the Paris market with the earliest pottles, and their cultivation and gathering give employment to a large number of the labouring women. The gardens are in several places protected from the high winds, especially at the entrance of the valley of Hyères, by dense hedges of tall cypresses, which, with their intense dark green foliage, lend a peculiar character to the landscape. Wheat, olives, and vines are largely cultivated round Hyères, on the hill-sides of the Maurettes and elsewhere, and near the Gapeau river, where elm-trees line the roadside; and also, nearer the sea, there are large fields of mowing-grass. The Maurettes are covered on both sides with the picturesque forests of the *chêne-liége*, or cork oak, a tree which does not reach maturity until the age of fifteen years, and which will only bear removal of its bark every seven years. The Montagnes des Oiseaux are clad with pines. The geology at Hyères is in some respects peculiar. The Château Hill consists of mica-schist and clay-slate with quartz, the higher parts of the Montagnes des Oiseaux of limestone, and the southern spur, on which the votive church of the Ermitage stands, of red sandstone, and the latter formation extends over part of the plain of Hyères. Near the town the soil is a product of the disintegration of the clay slate. It is very fertile under proper management, but in consequence of the dryness of the climate requires constant watering by artificial means. Of late years the rainfall has been very scanty, and the inhabitants say that many of the storms seem to avoid Hyères, and to discharge themselves further inland. Possibly this may be due to the high temperature of the air rising from the heated plain, and to the absence of high peaks in the immediate neighbourhood. However, there is a good and abundant water-supply, part of which comes from the limestone hills to the west, and part from a spring near the Gapeau, which is pumped up by a steam-engine. The plain is also watered by means of a canal more than ten miles long, which comes from the hills on the north of Hyères, and which the various proprietors enjoy in rotation. It also supplies the public washhouse and the ponds of the Jardin d'Acclimatation, an ornamental park, with tropical and Australian plants and trees, and a few extra-European birds and animals, a quarter of an hour's walk south-east of the town—a very agreeable promenade on calm days.

The sanitary condition of Hyères is, on the whole, satisfactory. We have already mentioned one or two points which are capable of improvement. Persons taking villas should see carefully to the drains. Typhoid fever is not, as far as we could learn, at all of frequent occurrence, but in May of the present year (1877) two deaths from it took place among the visitors, and there were two other cases which recovered; a mild case was also admitted into the hospital. It seemed clear that one of the deaths arose from water contamination, as the well lay between two open drains. The open drains at the sides of several of the principal roads, *e.g.*, that to the station, and that to the Ermitage, are sometimes extremely offensive, and although they are flushed from time to time, this measure is quite inadequate to clear them of what certainly is nothing less than stagnant sewage.

The inhabitants of Hyères are, as we are informed by Dr. Vidal, the very courteous and skilful director of the hospital, as a rule very healthy. There is no scofula among the children, and phthisis is rare. We saw one case admitted from a distance in the wards of the hospital, whose scanty complement of patients revealed the small amount of pressing sickness among the poorer classes of the neighbourhood. At the cemetery the large number of old people buried there attracted our attention. Within a few yards of one another we noticed ages of ninety, eighty-seven, seventy-five, seventy-four, all dying in the same year, and the sexton told us that the day before they had buried a man of ninety-three, but he added—"The present generation does not promise to be so long-lived as the last, and drunkenness especially cuts off the men." The last two proprietors of the Château Hill may be mentioned as instances of considerable longevity, one having reached eighty-eight, and the other eighty-two years. The Deputy Mayor, M. Suzanne, has kindly furnished us with an extract from the register for 1876, which shows that there were 303 deaths, 206 births, and seventy marriages, the great excess of deaths over births being explained by the deaths of foreign invalids, and of sailors and others connected with the French fleet in the roadstead, being included in the estimate.

A notice of Hyères would be incomplete without some allusion to the valley of Costabelle, which lies to the south west of the Ermitage spur of the Montagnes des Oiseaux, which latter protect it with their fir-clad slopes from the north and north-west winds. The valley is embosomed in pine woods, broken here and there by vineyards and olive orchards, and by the gardens of the few villas which have sprung up there as yet. Near the shore there are large

groves of olive-trees, which are finer than at Hyères itself, and indicate a warmer climate. There is a fair carriage-road through the woods, which reaches the shore about a mile from the Hyères end of the valley, and joins the coast-road to the village of Ceinturon further west. Among the pine woods at some distance from the sea the Duke of Grafton is building a splendid house. The valley of Costabelle is undoubtedly warmer and more sheltered than Hyères itself, and the north-east corner is almost entirely protected from all but southerly winds. Its western portion is rather exposed to easterly winds, owing to the ridge of the Ermitage not extending within half a mile of the shore. With the exception of two or three villas, the only accommodation for visitors in the valley of Costabelle is the Pension Anglaise—a small and very sheltered unpretentious house, which nestles among the pine-trees almost immediately below the Ermitage ridge, and is capable of containing about twenty-two persons. It would be almost sure to succeed if properly managed, but there were great complaints on the latter score among the residents last season. One of the managers who acted as cook is reported to have starved rather than stuffed his customers. A better hotel is needed at Costabelle, the *salon* and *salle à manger* of the present *pension* being small, low, and stuffy, though the bedrooms are tolerably good, but not lofty.

The walks in the valley of Costabelle and on the neighbouring hills are numerous and picturesque, and, even with a strong mistral blowing, there are few days when an invalid cannot get a sheltered walk. We should add that Costabelle is about two miles south-west of Hyères.

The railway, which was until lately nearly an hour's drive from the town, has now been brought within half a mile of it, and there is communication by the same means with the shore. Passengers change carriages at Toulon if coming from Marseilles, or at La Pauline if from the direction of Cannes. No doubt, Hyères will now be visited more frequently by passing travellers than in former years, and it is not unlikely that winter residents will also increase, though probably not in the same proportion as at the more eastern health-resorts, such as Cannes and Mentone. At present there is an average of 300 English visitors each winter, and there are four or five permanent English residents. There is an English church, library, and reading-room, and the English are favourably regarded by the inhabitants. Visitors of other nationalities—the French, of course, excepted—are but feebly represented.

April and May are, with the exception of occasional windy days, extremely pleasant at Hyères, and hence it is a good resting-place on the home journey for invalids who have wintered further east. The botany of the neighbourhood is interesting, and in some respects peculiar; and not only at Hyères, but elsewhere along the coast, those persons who hurry northward with the arrival of April miss one of the most beautiful aspects of the sunny South.

THE WATER-SUPPLY OF LONDON.

There has been another meeting of the Board of Works, at Spring-gardens, at which, this time, every member was present. The subject of discussion was the proposed scheme of water-supply for London. On this occasion several fierce battles were fought, lost, and won; but each of them seemed to bring out some new point in the history of the case. The object of the meeting was to consider, accept, or reject drafts of Bills to go before Parliament—first, for the acquisition of existing waterworks; secondly, for making new ones for a special purpose. The preamble to the Bills is thus stated, and it is singularly insidious:—"Whereas, with a view to the health of the metropolis, it is expedient that a proper supply of pure and wholesome water for drinking and culinary requirements of the inhabitants thereof should be provided and constantly laid on; and whereas, for the purpose of extinguishing fire, and for other public purpose, a supply of water constantly laid on at high pressure would be of great benefit to the metropolis; and whereas, in order that water should be supplied as aforesaid, it is expedient that the Metropolitan Board of Works should be authorised to construct the waterworks and other works in this Act mentioned, and to supply water in the manner by this Act provided." It seems for some particular reason to turn things upside down. There is not a word about the acquisition of existing waterworks—only as regards the construction of new ones. But the cat is let out of the bag by one of the clauses. There is a distinct sop to the House of Commons' Committee, in the shape of the new supply for the purpose of subduing fire, but, according to the wildest calculation, this supply cannot well exceed 16,000,000 gallons daily; and well may we ask, What is this amongst so many? For not only is this to be the source whence fires are to be extinguished without the aid of engines, but it is also to be our supply of potable water. It is not to be the water in which we wash and bathe—not the water used for water-closets and such like—not the water, in fact, used for the daily purposes of life,—it is to be potable and culinary water only. Moreover, we are to have this great advantage: the new supply is to be kept constantly at such a pressure as is represented by 100 feet of fall in all places. This means considerably over 300 in some. Have any of our readers experience of the effects of such a pressure under the continuous supply arrangements. A completely new set of taps and pipes have to be introduced. Should your taps give way or your pipes burst, you have the pleasure of draining the street or district of water. When the water is cut off in any district, every house lacks it. It is, however, quite true that all of these objections are obviated by the double supply. From the old companies we get a trifle of 120,000,000 gallons a day, which would flow in the old manner, but we now know to what vile purposes it is doomed. Of course it would be quite useless to purify water intended for such purposes, and so we shall still be able to enjoy, when the new supply is cut off, a twang of the old nastiness—probably in double volume. Moreover, it will be an interesting thing for the new servant to ascertain which is the pure drinking-tap, which the filthy tap. Little mistakes are likely to arise; let us hope the Board does not think them awkward. The whole scheme seems to us so redolent of self-approbation and confidence, as to beget a feeling of wonder in less gifted mortals than Boardmen—yea, so as to remind us of the story of a benighted king called Nebuchadnezzar.

Moreover, at the last meeting of the Board, one of the silly members, who probably, according to another "honourable"—as they like to call themselves,—would need education, openly declared that nearly every member would have supported the Bill for the purchase of the water companies only; but this does not seem to be what is wanted. So the Board, by a small majority, go to Parliament with a scheme apparently symmetrical, but whose monstrosity will yet be made manifest to the public; and then—— ?

THE WEEK.

TOPICS OF THE DAY.

In the Court of Appeal, last week, the case of Hill *v.* The Managers of the Metropolitan Asylums District was heard. The plaintiff, Sir Rowland Hill, and other gentlemen residing at Hampstead, have brought an action to recover damages for the deterioration of their property, through the proximity and bad management of the Small-pox Hospital at that place. The injury done was alleged to be enormous, and the damage was laid at more than £30,000. Two causes of damage were alleged—direct infection, in consequence of the buildings having been erected too near the plaintiffs' dwellings; and indirect infection

by the passage of patients, nurses, funerals, and infected cabs along the roads leading past the said dwellings, thereby rendering ingress and egress to and from these houses unsafe. Direct infection of small-pox, they said, according to scientific authorities, extends to a distance of thirty-feet; and it was asserted that three consecutive gardeners in a garden adjoining the hospital premises had died of small-pox, and that there had been numerous other cases of death and illness from the infection in the neighbourhood. The defendants denied all the allegations in the plaintiffs' claim, and also pleaded that they were acting in conformity with the terms of their Act of Parliament, and were therefore protected from all liability. To this the plaintiffs replied that they had performed their duties negligently; and to support this allegation they proposed to administer to the defendants thirty interrogatories as to the construction of the hospital buildings, the means used for disinfection, etc. Baron Huddleston had granted leave to administer these interrogatories; but, on the application of the defendants, the Court of Queen's Bench discharged this order, on the terms that the plaintiffs should have full opportunity of inspecting the defendants' premises and books. Against this order of the Queen's Bench Division the plaintiffs now appealed. Finally, their Lordships ordered the appeal to be dismissed, leave being given to the plaintiffs, after the inspection already granted, to deliver further interrogatories if necessary.

It will be remembered that an application was made some time ago to the Chancellor of the Consistorial Court of London on the subject of the disused churchyard of St. Matthew, Bethnal-green. The case involved an important point—whether churchyards closed from interments can be used for public purposes. The incumbent and the churchwardens applied for a faculty to erect a mortuary, a coroner's court, and rooms for post-mortem examinations in the churchyard; and the application was opposed by some of the parishioners, who alleged that the ground had been consecrated, and could not be used for secular purposes. It had been arranged that the case should be heard by *vivâ voce* evidence: but it was subsequently determined that documentary testimony should be given. Mr. Prichard now produced his proofs in support of the application, and called on Mr. Moore, proctor for the objectors, to bring in his evidence. Dr. Tristram made an order that the proofs in opposition should be filed in fourteen days, and remarked that, although he would hear the case on affidavits, he should require some of the deponents to attend the Court for cross-examination.

In accordance with the recent order issued by Colonel Henderson, the police are reported to be capturing stray dogs in the streets of London and the suburbs at the rate of over 200 a day. Of this number about 30 per cent. are claimed and recovered by their owners; and the remainder, with the exception of a few of the most valuable, are destroyed. If prompt measures of this description are carried out all over the country we shall soon cease to hear of hydrophobia except as a very rare occurrence.

At a meeting of the Birmingham Hospital Sunday Committee, held last week, the result of the collections made on October 28 last, in aid of the General Hospital, was announced to have amounted to £5200. Since the establishment of the periodical collections in 1859 the total sum of £83,464 has been contributed on behalf of the local charities as the result of the special appeals on Hospital Sundays. The town of Birmingham must be congratulated on the benevolence and liberality of its inhabitants, this result being, relatively, greatly in excess of the amounts collected in the metropolis for a similar object.

Some further unpleasant revelations affecting our milk-supply were made at Bow-street Police-court last week, where a man had been summoned by his master, a milk-seller, for adding eight quarts of dirty water to thirty gallons of milk, with intent to defraud his employer. The prisoner did not deny the charge, but asked the prosecutor if he had ever given his men instructions to increase the bulk of the milk by adding a mixture. Mr. Hanson, the master, replied that he never told him to put in dirty water. The prisoner then called attention to some white stuff which was kept in the cellar, which, he alleged, was used at the rate of four quarts to sixty-four quarts of water for adulteration purposes, and which was known among his fellow-servants as "the fake." Mr. Hanson explained that the substance referred to was condensed milk, and was only occasionally used when the regular supply ran short. Corroborative evidence was given by the prosecutor's foreman, who denied all knowledge of "the fake." The prisoner said he could call witnesses in support of his statement. Mr. Flowers said his eyes had been somewhat opened by the prisoner's statement; the charge made against his master was very serious, and he should adjourn the case for further evidence. It would appear that to the already long list of abominations with which the London milk-supply is adulterated must now be added dirty water, and "the fake," whatever that may be.

A deputation recently waited upon Mr. Sclater-Booth, at Whitehall, representing the ratepayers of Orsett, to protest against the proposed conversion, by the guardians of eighteen parishes of that district, of the wards of the union into a small-pox hospital. Last June the Guardians of Grays sent into the women's ward of the Orsett Union a non-pauper case of small-pox, which spread to no less than seventy persons, many of whom died. Notwithstanding the experience of the danger of an infectious hospital in close proximity to the workhouse, yet the Guardians had determined on erecting such an institution there, against the wishes of the whole population. It was stated that the infirmary, into which the Guardians admitted the case spoken of, was only eighteen feet from the women's wards, and persons passed it going in and out of the workhouse. The infection had been traced from the workhouse to the village, there being a south-west wind blowing at the time the case was admitted; and within twenty-four hours there were no less than sixteen cases in the village. Despite the protests of the ratepayers, the Guardians were about erecting a new building, at a cost of £1000, on the same spot, adjoining the Union. Mr. Sclater-Booth promised that their representations should be considered in conjunction with the proposals of the Guardians, and care should be taken that the interests of the ratepayers should not be prejudiced in any way.

The *Sanitary Record* says:—"Recent statistics show that the rate of mortality among grocers is as 76 to 100 among the general population at equal ages, while the death-rate among drapers is as 108 to 100 by the same standard. On analysing the cause of this difference between the drapers and the grocers, it is found that it lies in the mode of living. The principal disease which destroys the draper is pulmonary consumption. The explanation is simple: The grocer lives in a shop, the door of which is open the whole day, and he is very active himself in business; the draper, on the other hand, lives in a close place, with the doors of his shop closed, and in a dusty and close atmosphere. No one, whose pleasure or business calls on him to enter the majority of our large drapery emporiums in London, but will feel in a position to testify to the truth of this description. The heat and closeness which are their usual characteristics sufficiently account for the general pallor and unhealthy appearance of the male and female attendants in them."

We are in a position to contradict positively the rumours which have been circulated in several of our contemporaries touching the intended retirement of Sir William Muir, K.C.B., the Director-General of the Army Medical Department. Sir William has recently suffered from a severe and sudden attack

of illness, but he has recovered most satisfactorily, and has once more taken up his duties. On Monday last he inspected the Herbert Hospital at Woolwich. The rumour that he was to be succeeded by Dr. Munro, C.B., the present head of the Medical Branch at Whitehall-yard, is equally without foundation. At the present time Sir William Muir is little more than half-way through his term of office as Director-General; any speculation as to his successor is, therefore, rather premature.

The Vestry of the parish of St. Anne, Westminster, have passed the following resolution on the postponement in the formation of the new street from Charing-cross to Tottenham-court-road:—"This Vestry has heard with great regret that the Metropolitan Board of Works has postponed the formation of the new street from Charing-cross to Tottenham-court-road; that such postponement of a great metropolitan improvement, which has been admitted to be a necessary improvement for upwards of half a century, is attended with great loss and inconvenience to a large body of respectable ratepayers, who are now uncertain when their houses and businesses will be taken from them, and can therefore make no provision for the future. That this Vestry further regrets that the reason alleged for the delay in making the street is stated to be the difficulty the Board finds in providing sites for buildings for the working-classes—a difficulty which could be fairly met by immediately purchasing for the purpose some of the large plots of property comprised within the limits of deviation."

It is reported from Berlin that black plague has broken out at Tiflis, but we have not yet heard any confirmation of this rumour.

We are very sorry to hear that Dr. C. D. F. Phillips is unfortunately one of the sufferers by the collision on the South-Western Railway last Saturday night. He has two broken ribs, and has severely strained his back and neck. On Sunday he suffered very greatly from pains shooting from the spine into both legs, but we are happy to say that, when we last heard, these were passing off.

SENATE AND CONVOCATION OF THE UNIVERSITY OF LONDON.

We regret to hear that the opinion which we expressed on November 17, concerning the unsatisfactory nature of the reply of the Senate of the University of London to the deputation from Convocation, on the subject of the relations of the two Bodies, is likely to prove to be only too correct. We ventured at that time to say that "the deputation should have insisted upon receiving a distinct promise from the Chancellor that the old difficulties should be swept away before new ground was taken up." Instead of doing so, the Annual Committee of Convocation thanked the Senate for having virtually "abandoned" their resolution to proceed with the admission of women under Russell Gurney's Act. In duly noticing this reply, we consented to take a more sanguine view of the state of affairs than we had previously done, and we congratulated the University on this harmonious settlement of the serious difficulty with which it had been beset. But it seems now that our first and less hopeful anticipation was the correct one. We understand that the Senate, at its meeting last week, while acknowledging the thanks of the Annual Committee, distinctly declared that the Senate had made no promise to abandon Russell Gurney's Act, but considered itself free to proceed as it might see fit. It would appear, therefore, that the Senate rejects all the generous advances of Convocation in the direction of reconciliation. At a time when Convocation seems eager to provide for the Senate an honourable retreat from the unfavourable position in which it has landed itself, the Senate rejects the offer, and clings to the position as pertinaciously as ever. The supplemental Charter, which the Senate proposes to introduce to provide for the admission of women into the University, will probably be submitted to Convocation for its approval at the Ordinary meeting in January. But this will not be the first business before the House on that occasion. The report of the Annual Committee will first be read, and the whole question of the treatment of Convocation by the Senate will be thoroughly discussed. Convocation will find that the Senate has distinctly refused to accede to the request "not to take any further action" under Russell Gurney's Act. We venture to say that, after such treatment as this, Convocation will be in no mood to deal with the proposal of a *supplemental* Charter. Convocation will not be content with a supplemental Charter. It will surely take steps at once to obtain a *new* Charter—a Charter in which its privileges will be more definitely stated and more inviolably secured. The reconstitution of the Senate will probably be a prominent feature in the remodelled Charter. When this reform is completed, we may hope to hear of harmony and successful co-operation between the great body of graduates of the University of London and the executive, which at present most unfortunately consists in large proportion of despairing politicians out of place, whose idle hands find a congenial occupation in meddling and muddling.

HOSPITAL REGISTRATION.

The offices of Medical and Surgical Registrars have at present become such well-established appointments, and such important adjuncts to the teaching power of the medical schools, that, as their value is more and more recognised and appreciated, we wonder how our predecessors could have done without them. It was not, therefore, without some surprise that we learned that the London Hospital authorities were considering the possibility or advisability of abolishing these offices, which have been established on their present basis for only about three years. We could not but regret that such a step should be even thought of; and our regret was all the greater when we learned that the motive which induced such a proposition was one of economy. In a large hospital like the London, registration is an important item in the year's expenses. The Committee feel the necessity of the most strict economy, and we can scarcely wonder that, in times of commercial depression such as these, unusual efforts have to be made in order to meet the very heavy expenses of so large an unendowed institution. We are very glad, however, to hear that the Registrars are to be continued. The medical staff strongly opposed any change; and the Committee, sensible of the great value of registration, yielded to suggestions which, apart from questions of expense, were so much in accord with their own wishes and with practical common sense.

It may not be unprofitable, on such an occasion, to point out that there are two sides to this question; for we think that registration (in the now conventional sense of the word) has a lay, as well as a medical, aspect. The medical aspect is well known, but the lay one is not so generally understood. Yet it is clear that anything which conduces to a careful, thorough, and continuous study of the various cases admitted into any hospital will increase the efficiency of its internal administration, as well as the sum of accurate medical knowledge. The more thoroughly cases are taken, the better satisfied will be the patients, and the more exact and genuine the results of treatment—for we shall then learn sooner and with greater certainty the difference between disorder and disease; we shall more quickly rid our hospitals of patients who ought never to have been admitted; and fewer of those who are admitted will be kept in for such indefinitely long periods as is sometimes the case at present. Accurately recorded accounts of the "past history" and of the "present condition" of patients will, moreover, be of the greatest service in years to come, when preventive medicine will occupy a still higher and more assured position than it does at present. So that the lay committees of our hospitals, in providing for

careful registration of their cases, are doing that which is decidedly advantageous in the present, as well as likely to produce large results in the future.

A further advantage, from a lay as well as a medical point of view, of having Registrars is that their presence may be of service to the resident officers. These latter appointments are necessarily of short tenure, and it is obvious that applicants, however capable of holding office, are least capable when they first come on. That to have a friend near at hand, who is able and anxious to help them, would be a clear gain, will be allowed by all who have held such appointments. The advantages, too, of the training which such an office affords is very great, and in our opinion it has, or should have, great weight as a qualification for the higher staff appointments as these become vacant.

We are far from saying that our present system of registration is perfect; on the contrary, we think that it is susceptible of great improvement and of higher development. We do not, however, look to immediate results; in this, as in other matters, there is a seed time as well as a harvest, and those who would reap must first of all sow. We should be pleased, however, to see one uniform system of registration adopted at all hospitals. Some year or two ago, one or two Hospital Registrars endeavoured to bring about such a plan, but the difficulties which presented themselves then seemed insurmountable. The initial step in this direction ought to be taken by the chief medical and executive officers of each hospital; if these gentlemen could be brought to see the advantage and importance of such a combination, and to take active steps to bring it about, the difficulties would soon prove to be surmountable. One or two preliminary and representative meetings would, we think, under proper direction, suffice to put the whole question upon a satisfactory, if not on an absolutely final basis; the annual reports might then be placed in the hands of a skilled statistician; and thus we should have reliable data to work on.

We cannot close our remarks without congratulating the Hospital authorities on their decision. It would have been too retrograde a movement, even when carried out under financial pressure. We hope and believe that the material help which they so much need will not be withheld by those who can give it, and that so the liberal spirit in which the institution is conducted may not be in any way hampered. And we will add that while it is clear that it is the duty of the public to liberally support the hospitals, it is equally clear that the hospital authorities have a duty to perform to the public, not only in curing or relieving patients, but also in furthering in every possible way the advancement of the science and art of medicine.

PATHOLOGICAL SOCIETY OF DUBLIN.

At the meeting of the Society, on Saturday, December 8, the President, Dr. Hamilton, in the chair, Dr. T. E. Little presented a case of dislocation of the spine in a young man, aged eighteen, who died eighty-five days after a fall, down the hold of a ship, on his back and shoulders. Cruveilhier's paralysis occurred before death, which resulted from apnœa owing to the wasting of the intercostal muscles. There was a dislocation of the fifth from the sixth cervical vertebra, the articular processes of the fifth being hitched in front of those of the vertebra below. The spinal canal was narrowed to half its normal lumen, and there was a greyish spot in the anterior columns of the cord. There was inter-muscular wasting. A glazed or glossy appearance of the hands and fingers had been noted during life. Dr. Nixon showed specimens of saccular aneurisms on the right and left middle cerebral arteries of a woman, aged about forty-five, who died of meningeal hæmorrhage. The kidneys were intensely congested, and the lungs also were gorged with blood. There was left hemiplegia. Dr. E. H. Bennett exhibited the head and neck of a femur, removed by excision from a boy aged nine, suffering from morbus coxæ, in the stage of suppuration. He also exhibited the innominate bone and femur of the same patient, removed (post-mortem) seven months after operation. There was caries of the innominate bone and dorsum ilii. The floor of the acetabulum was cribriform, and an intra-pelvic abscess sprang from its perforated floor.

REGISTER OF MEDICAL STUDENTS IN PARIS.

The following "census" of the medical students now registered in Paris, which we have received from a perfectly reliable source, will interest our readers:—

1. *Number of Students Registered on the Books of the Paris Faculty of Medicine, December* 1, 1877.

Male students	4796
Female students	21
Total	4817

2. *Nationality.*

A. Male Students (Foreign).

America	184
Armenia	8
Austria	9
Bavaria	1
Belgium	3
Egypt	10
Great Britain and Ireland	21
Greece	12
Ionian Islands	2
Italy	3
Poland	20
Portugal	2
Prussia	6
Roumania	79
Russia	18
Servia	4
Switzerland	13
Turkey (Asia)	9
„ (Europe)	28
Total number of foreign students	438
French students	4358
Total of male students	4796

B. Female Students.

France	5
Great Britain and Ireland	5
Russia	11
Total of female students	21

3. *Examinations and Degrees conferred, from November* 1, 1876, *to November* 1, 1877.

Number of examinations	6360
Number of M.D.	553
Number of *officiers de santé* or general practitioners	15

REGENERATION OF THE RETINAL PURPLE OUTSIDE THE BODY.

Prof. Kuhne and Dr. A. Ewald (*Centralblatt*, No. 42, 1877) have discovered that solutions of Boll's 'see purple" or "see red," in purified bile which is *absolutey free from ether*, if bleached by exposure to sunlight, recover their colour in a dark room. Similar solutions of the retinal (rodless) epithelium, mechanically freed from insoluble black pigment granules, etc., turn pink in the dark, pale in the light, and pink again if replaced in the dark. The colour of the retinal purple is restored with the greatest intensity in mixed solutions prepared from the epithelium and the retinal rods. It is an interesting fact that if the retina of a frog be bleached in the light before the animal is killed, the colour does not afterwards return under the action of darkness if the epithelium is removed, whereas, in dead frogs, bleaching in the light is followed under identical circumstances by purple regeneration, and the colour can be destroyed and revived several times.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

THE following resolutions have recently been agreed upon :— "That, in the opinion of the Society, whenever a case of infectious disease occurs in any house or vessel, it should be a legal obligation on the person in charge of the house or vessel, or on the person in charge of the case, to report the fact to the sanitary authority without delay." "That it should be a legal obligation on every medical practitioner in attendance on any such case to give immediate written information respecting its nature to the occupier or other person responsible for reporting it to the sanitary authority."

PROFESSOR LISTER ON LACTIC FERMENTATION.

WE would draw attention to the announcement that at the next meeting of the Pathological Society, on Tuesday evening, the 18th inst., Professor Lister will bring forward a communication upon "Lactic Fermentation and its Bearings upon Pathology."

OPIUM-SMOKING.

DURING the last two years my attention has been frequently given to the question of opium-smoking, as in that period I have treated a considerable number of patients who have been addicted to the use of the drug in this way. My opinion on the subject must go for what it is worth, but as many people who speak and write about it absolutely know nothing whatever about it, the following note of what I have seen of the habit during the last twelve years may not be altogether without value. In this period, then, I have had under my notice, and occasionally under my treatment, several Chinese writers, a good many compradores and small traders, who have all smoked opium more or less. The first thing that struck me in connexion with this habit in the classes I have referred to was, that although they partook of a drug which in my opinion was injurious, it did not, so far as I could see, in more than 10 per cent. distinctly interfere with their general health. All of them have been smoking it for many years, but, with the exception of the 10 per cent. referred to, the amount consumed was not greatly—occasionally not at all—increased from year to year. They were able to attend to their duties, were healthy and active, and enjoyed a good appetite. In reference to these—the 90 per cent.,—the conclusion I have come to is that, while opium, so far as I could see, did them no good, it did not manifestly injure them. I say *manifestly* injure them, because I have a suspicion that eventually the continued daily consumption of even a moderate amount of the drug will be injurious to the health of those using it, and that this in the long run will become apparent. But this is mere suspicion. Of the 10 per cent. who took opium in large quantity—that is, an amount sufficient to interfere with the general health, as indicated by loss of appetite, constant diarrhœa, impaired physical and mental energy, loss of sexual power, etc.,—the condition is as miserable as anyone can well imagine. In their case there is a constant desire that the daily dose should be increased. They find their ordinary business irksome ; and so impaired are their faculties that a slight call for activity of mind or body urgently demands, in the first place, an increased amount of the drug.

I have little knowledge of how opium affects the upper, that is the official and literary, classes, but one would expect that, inasmuch as they have intellectual resources unknown to the trading community, the use of the drug would be to them, if to any, what some have been foolish enough to describe as "a harmless stimulant."

Its use amongst the lower classes, I think, is much more limited than is usually stated. I have taken pains to inquire how many servants in the employ of Europeans here use the drug, and I have found that while many years ago almost every household had several servants who smoked opium, it is a rare thing now to find a single servant who does so, and this in spite of higher wages than the labouring classes generally obtain. Doubtless this is partly due to the determination of foreigners to have nothing to do with servants who smoke opium, but the fact remains that many of the residents have Chinese who have been in their employ for many years in the receipt of high wages, and who have never shown any desire to cultivate the habit.

Many who admit that the use of opium is an evil, contend that it is no more so than that of alcohol. To this I demur. My opinion of opium is, that, except as a medicine, it is never necessary, and for other purposes is seldom, if ever, of any service ; while alcohol is only injurious when taken irregularly and in too large quantities, and to the majority of people who either work with head or hands it is in some shape or other, if not a necessity, a great comfort, and, as a dietetic agent, of very considerable value.

The tendency of those who use opium is to increase the dose. This is by no means universal in the case of those who use alcohol, while a large minority continue to take it in ever-decreasing quantity. Amongst the uneducated and lower classes generally the use of both opium and alcohol, when they can be obtained, is often excessive ; and it is difficult to say which has the more debasing effect when so taken.

The conclusion I have come to from what has been brought under my own notice is, that foreigners have generally exaggerated the amount of evil said to follow the use of opium. I have no doubt in my own mind that opium-smoking is unmistakably an evil. It is a comfort to believe it is not so great an evil as is very generally believed.—*Dr. J. Watson, in the Chinese Customs Gazette.*

OBSTETRIC PRACTICE IN CHINA.

IT would be interesting to ascertain the results of obstetric practice among foreigners in China for purposes of comparison with statistics obtained in other parts of the world. As a contribution, I will analyse the last fifty obstetric cases that have occurred in my practice. Out of these fifty, five were abortions earlier than the third month, and four were miscarriages earlier than the sixth month. There was one case of twins, both females. By the forty-one labours at term there were born twenty-three girls and nineteen boys. Out of the total of fifty, one mother died of puerperal fever of the nervous form, without evidence of septicæmia. This latter case proved fatal within thirty-four hours of the first appearance of excitement. Of the forty-two children born at term, one died of trismus on the fifth day, and one was born dead, having died probably the day before labour set in. In the forty-one cases at term there were forty head presentations, one of the right shoulder, and one of the left shoulder with loop of funis (pulseless). Of these last, the former was rectified by bipolar cephalic version, the labour proceeding naturally afterwards ; the latter was also rectified in the same manner, but, probably on account of the child's death, the head was driven backwards between the shoulders, and the presentation, when fairly lodged in the brim, was found to be one of the face. As the mother was not exhausted, and as the child was known to be dead, time was given, and after two hours it was found possible to extract with the long forceps. Still considering the forty-one cases at term, the forceps was used in twelve cases, of which six were at or above the brim, and six in the cavity. In ten of these cases it was applied in default of uterine action ; one case has been described above, and in the remaining case there had been obliteration of the os, which was represented by little more than a tubercle high up behind the pubes. Incision of the os at three points, followed by steady digital dilatation under chloroform while water-bags were being sent for, produced, by the time these latter arrived, an amount of expansion that barely justified an attempt with the forceps. The difficulty was greatly increased by the excentric position of the os. There were special and urgent reasons which need not be specified for hurrying the birth. The membranes were ruptured, and at the third essay I succeeded in placing the forceps, and delivering a healthy female child. It will thus appear that, out of the fifty cases summarised, there were only two of serious difficulty. In none was there any threat of post-partum hæmorrhage—a fact which may be contrasted with Tilt's representations as to the frequency and formidable character of this accident among European residents in India. But

the marked tendency to inertia is worthy of attention. Of the forty-one mothers delivered at full term, twenty could not nurse at all, two nursed for about four weeks, and fifteen for more than three months; one died, of one I have no information, and the remaining two had nursed on previous occasions; but in one case the child was born dead, and in the other the child died four days after birth. In twenty-nine cases chloroform was administered throughout the entire of the second stage; in the remainder either there was some objection on the patient's part, or labour was terminated so speedily as to render chloroform unnecessary. —*Dr. Jameson, in the Chinese Customs Gazette.*

FROM ABROAD.

Extraction of Cataract.

Dr. Derby communicates to the *Boston Med. and Surg. Journal* (November 1) a paper bearing the title "A Few Practical Suggestions concerning Extraction of Cataract," which he had intended to read to the American Ophthalmological Society, but, owing to the railway riots, its meeting was prevented.

The operation of extraction of senile cataract, he observes, is likely always to remain the capital operation of ophthalmic surgery, and is one about which more interest centres (with the possible exception of iridectomy for glaucoma) than any other. From time to time modifications and improvements have been suggested; and it would be a matter of great interest to have the recorded experience of a candid surgeon, who, after fifteen or twenty years of full practice, would publish a truthful history of his successive changes of opinion, and give his reasons for the course he now pursues. In the present paper Dr. Derby draws attention to only two or three points, concerning which he has been led to materially change the views which he formerly held.

1. *The Use of Mydriatics preparatory to Extraction.*—The usual reasons for dropping in atropia prior to the operation are known to all, and yet many surgeons have long given up its employment. So far from the passage of the knife being rendered more easy, it was found that its point could be more readily directed against a background of iris than when this was wanting; and that wound of the iris was less likely to occur when the pupil was contracted, than when the point of the knife was met by the swollen periphery of a dilated pupil. And mydriasis, returning again after the aqueous humour is resecreted, was found directly to encourage prolapsus of the iris after extraction, and healing-in of the iris in the corners of the wound, when Von Graefe's method had been employed. For these reasons, Dr. Derby has for some years relinquished the use of atropia, and has even employed myotics, dropping into the eye a few drops of a 1 per cent. solution of eserine two or three hours before extracting. At the time of the operation there is then considerable myosis, which interferes in no way with the extraction, and returning, like mydriasis, with the re-establishment of the anterior chamber, exerts on the iris a degree of traction that reduces to a minimum the danger of its healing-in to the corners of the wound, and renders the complication less frequent than heretofore. This contraction of the pupil readily yields to atropia, should it be found desirable to employ it in the after-treatment. Although capsular remains are at first examination found to occupy the area of the pupil, the edge of the iris may generally be made to separate from them with readiness after repeated instillations of atropia. Secondary cataract ought theoretically to more frequently follow when its use is so long postponed; but practically this is not the case. Dr. Derby states that the only eserine fit for use is obtainable at Vée's, 42, Rue du Faubourg St. Denis, Paris.

2. *The Employment of Anæsthetics.*—In Boston, the use of ether in extraction has been for some time past a matter of course; freedom from pain, and the immobility produced, having been regarded as conclusive reasons. Yet the state of anæsthesia is apt to throw appreciable obstacles in the way of successful extraction. The congestion frequently induced encourages hæmorrhage, and the anterior chamber often fills with blood before the division of the capsule, and the patient's will being in abeyance, he is no longer able to render that assistance to the surgeon which is of so much importance. Every needed motion has to be given to the eye by means of the forceps. In profound anæsthesia the muscles are relaxed, the eye loses its tension, and the difficulty of removing cortical fragments is considerably increased. The surgeon is unable, by roughly testing vision, to know whether he has performed his task thoroughly; and the patient loses the moral support of once exercising his newly acquired sight—a support that has cheered many a one through the long, dark days of convalescence. In spite of every precaution, too, the retching and vomiting, which may last for hours, may have an injurious effect upon the eye, and render the patient unable to take nourishment, while his *morale* is lowered. Dr. Derby feels convinced that the superior results which are obtained by some European ophthalmologists, especially Arlt and Wecker, are, after allowing for their dexterity and constant practice, in part due to their not using anæsthetics. For the last year he has followed their example, the patients readily agreeing to dispense with them, and testifying to the little pain caused; and in no case has he had to employ the fixation forceps after the section was completed.

3. *The First Examination of the Eye after the Operation.*—Formerly, Dr. Derby was in the habit of making a hasty examination the day after the operation, and the day after that; but he gradually found that the eye did just as well if left closed for two or three days, changing the dressings daily. Moreover, he came to trace the commencement of inflammatory complications to the first separation of the lids, however carefully and hastily performed; and he was induced to keep prolonging the time during which the eye was allowed to remain unopened, until now he rarely examines until the morning of the seventh day after the operation. Supposing extraction performed in the early morning, he renews the bandage at about five on the same afternoon, bathing the lids with tepid water, and applying fresh lint and bandage. The severe pain which occurs exceptionally a few hours after the operation often yields to a single gentle sponging with iced water. Next morning the bandage is again renewed, and if all is going on well, and there is no swelling, undue secretion, and lachrymation, the bandage is reapplied, and afterwards changed only once a day—the case being allowed to go on thus until the morning of the seventh day, when the lids are opened. It is astonishing to some to observe how little evidence of the operation is then present—a trifling redness close to the wound being sometimes all that is to be seen. Atropia may now be used, if needed; but many cases do not require it all. The eye is now closed, and allowed to remain so for a day or two, a shade being substituted for a bandage, and the room still kept darkened. The redness about the wound, slight at first, will be observed steadily to increase for several days after opening before it begins to disappear. In answer to theoretical objections to this practice, it may be observed that a fair trial of the plan will show that the longer the wound is left undisturbed, in contact with and guarded by the covering provided by nature, thus sealed and protected from any contagion-germs with which the atmosphere may be infected, the greater will be the success in the after-treatment of cataract.

Mortality Returns of the Paris Hospitals.

In his report for the quarter ending in September (*Union Méd.*, November 8 *et seq.*), Dr. E. Besnier states that the mean temperature was 1° C. lower than the mean of the quarter calculated for the period 1806-70, while the humidity was much more considerable than that of the same quarter of preceding years.

1. *Affections of the Respiratory Organs.*—The influence of *normal seasonal conditions* upon the diseases of the respiratory organs is exhibited by the double modification of their number and relative gravity. In the hospitals, in which the number of cases of phthisis (these cases not being excluded from the French general hospitals) is pretty much the same, and to which are brought all patients suffering from grave affections of these organs, the proportion of the seasonal diminution is considerably masked. But still it is exhibited in a very precise manner, not only by the lessening of the number of the patients treated, but also by the absolute and relative diminution of the number of deaths. A table which is furnished allows of the exact comparison not only of the relations of one year to another, but those of one season with another, or with the seasons of the same year or of several different years. The accumulation of a number of documents of this kind, which Dr. Besnier has been making for years, will shortly, he feels confident, enable him to exhibit the exact formula of the

normal course and mean seasonal mortality of pulmonary affections, which are no more exempt than other affections from the true laws, which have to be discovered.

2. *Diphtheritic Affections.*—"Endemo-epidemic diseases, even when undergoing the most excessive annual paroxysms, or while pursuing for years an ascending progress, are none the less subjected, with mathematical regularity, to the influence impressed upon them by vicissitudes of season. In typhoid fever, for example, I have already shown that, however intense may have been the epidemic paroxysm, the disease none the less at the commencement of winter undergoes a diminution, which, in an immutable manner, brings it back to the lowest point of its curve at the end of spring. So for diphtheria: although we are in this very year in the midst of the most violent paroxysm which the disease has ever attained, the decline, which we have (repeatedly) shown to be normal, and regular during the summer period, has none the less been produced. From 728 deaths from diphtheria which took place in the whole of Paris during the first quarter of 1877, the curve descended to 592 in the second, and to 479 in the third or summer quarter, and that in spite of some partial violent explosions which testify to the persistence of the epidemic paroxysm." A table is given, indicating the prevalence of diphtheria in each arrondissement, and it is observed that while the disease was diffused over the entire town, its principal foci were found at the most elevated points, being in complete opposition to what is observed in this respect with regard to typhoid fever. Just as in the case with the other affections of the respiratory organs, not only has the number of cases of diphtheria diminished this quarter, but especially is this the case as to the proportionate mortality. This was 83 per cent. in the past quarter, 79 in the second, and 58 in the third —"enormous modifications entirely unappreciated by observers working in a small circle, and which should ever be borne in mind in estimating the value of therapeutic agents, which, under these circumstances, increases or diminishes according to the variable degree of benignity or malignity of the affection. It is to be hoped that experimenters in therapeutics or statistical therapeutists will bear these remarks in mind." During the quarter there were admitted 188 cases of diphtheria, 109 of which proved fatal, or a mortality of 57·98. M. Bergeron, of the St. Eugénie Children's Hospital, states that the cures of diphtheritic angina, uncomplicated with croup, have been 53 per cent., instead of 47 per cent. in 1876; while the cures after operation for croup have been 22 per cent., instead of 11 per cent. M. Archambault, of the Enfants Malades, states that there were admitted 49 cases of diphtheria (some of them in a hopeless condition), in 31 of which the respiratory passages were affected; and of these 49 cases, 33, or 67 per cent., proved fatal.

3. *Small-pox.*—This has during this quarter exhibited two declining movements—the one seasonal, which is a normal one, the summer quarter furnishing the fewest deaths of all the year; and the other annual, which is very marked. During the quarter there were but 21 deaths from small-pox in the whole of Paris, there having been 76 for the corresponding quarter of 1876, and 74 for that of 1875. Yet the curve is relatively high: it commenced at 0 in 1873, and the figures for 1874 and 1873 were only 12 and 3. The deaths from small-pox in the hospitals this quarter were 8, out of 65 cases admitted.

4. *Typhoid Fever.*—"The laws of the seasonal progress of typhoid fever, which I have deduced from attentive observation of the evolution of the disease in all its phases, are so precise that I was able in my preceding report (*Medical Times and Gazette*, page 343), on the second quarter of 1877, to announce without hesitation that the typhoid curve had reached its annual apogee, and that it was about, at the same time that variola would decline, on the contrary, to rise by a regular, continuous movement definitively decisive in August. The following figures represent this progress, and allow of our tracing the curve for Paris. Thus, while there were in all Paris but 47 deaths from typhoid in June, there were 77 in July, 121 in August, and 128 in September. Without forcing analogies, or instituting misplaced comparisons, I may remark that, considered by years and seasons, epidemic diseases increase and diminish alternately, submit to a true gravitation, pass through curves which are proper to them, and are subjected in their phases to certain laws. Taking the years and seasons as the plane of the evolution of these diseases, exactly in the manner in which astronomers take space as the field of gravitation of the stars, we ought to be able, by attentive and sufficiently prolonged study, and by numerical observations in conformity with scientific procedure, some day to trace the normal map of epidemic diseases, as it is now sought to trace the map of vicissitudes of the atmosphere, and has long since been traced the celestial map. It is useless to object that the complete realisation of this project, of which I only now lay down the positive bases, cannot be effected by an isolated individual, nor in a short period; but when we take into account the clearness and precision of the results which we have already been enabled to partially establish, I entertain no doubt that their realisation will be one day attained." The total deaths of the quarter from typhoid in Paris were a little above the ordinary summer mean, but they amount to less than one-half of the deaths in the same quarter of 1876 —viz., 326, as compared with 655. In the hospitals 488 patients were treated, with a mortality of 128, or 26 per cent. —the same quarter of the eight preceding years having furnished 3265 cases, with 907 deaths, or 27·77 per cent. "The typhoid mortality attains each year its maximum in the second quarter (absolute mortality); but it is in the third quarter that the *relative mortality* rises to the highest level. So that whatever may be the number of deaths, which is always larger in the third than in the fourth quarter, I can affirm that the relative mortality (the mortuary co-efficient) will be lower in October, November, and December, than it was in July, August, and September. As usual, I point out this peculiarity to practitioners who are experimenting on the therapeutics of typhoid fever, and who always omit to inquire the rate of mortality of the disease at the time their experiments are being made."

REVIEWS.

Anatomy, Descriptive and Surgical. By Henry Gray, F.R.S. Edited by Timothy Holmes, M.A. (Cantab.), Surgeon to St. George's Hospital. London: Longmans, Green, and Co. 1877. Eighth Edition. Pp. 800.

The eighth edition of "Gray" is just issued. We have much pleasure in welcoming this new edition, which is improved both in quantity and quality on its predecessors. The chief changes in this issue have been made in the sections on microscopical anatomy and on development—two subjects which are so constantly advancing that they must necessarily be almost rewritten for each edition, if the work is to maintain its present position among students' handbooks. It is undoubtedly "the book" at present, and is the one which we should confidently recommend for all first and second years' students. We must, however, say that many of the old plates ought to be recut, for they are much worn and much less distinct than formerly. Some of them ought to be replaced by more modern ones. We cannot think that Fig. xii. would help anyone to recognise, at the College of Surgeons, costal cartilage from a man seventy-six years of age; at least, we will hope not, for the sake of the microscopic preparations at the College. We have made many microscopic specimens of skin, but we have failed hitherto to produce anything quite like Fig. 50. Indeed, it is so diagrammatic that we should fear it would mislead, rather than aid, students. Could not something better be devised than borrowing from old obsolete German *clichés?* To us it is always a matter of regret that our standard works should borrow and copy plates, rather than have original ones made for themselves. "Gray" is a well-known and firmly established book, and is in the hands of an editor quite able to secure original histological and other drawings; as future editions are called for we sincerely hope that he will do so.

Spinal Disease and Spinal Curvature: their Treatment by Suspension and the Use of the Plaster of Paris Bandage. By Lewis A. Sayre, M.D., Professor of Orthopædic Surgery in New York. London: Smith, Elder, and Co. 1877. Pp. 121.

Dr. Sayre, of New York, with the energy and enthusiasm so characteristic of our Transatlantic brethren, recently undertook a voyage to Europe, in order to introduce and advocate a plan of treating spinal disease which is simple and very inexpensive in its details, easy of application, and—what is more to the point—efficient and satisfactory in its results.

We need not dwell at any length on the very unsatisfactory

result of the treatment of this disease as at present carried out among the poor; each one of our children's hospitals has a long list of spine cases, which drag on month after month, and in which, even should a cure be effected, the results are such permanent deformity that the patients must ever after be classed as cripples, and serve as permanent witnesses of one of the weakest points of our surgical therapeutics.

Profesor Sayre, before proceeding to deal with the treatment, gives a brief summary of his views, "which are somewhat at variance with those of the standard authorities," concerning the nature of *caries* or *Pott's disease* of the spine.

Under the heading of "Pathology," he states that "the deformity of the spine known as Pott's disease, or posterior angular curvature, is a result of slow inflammation and consecutive loss of substance in the bodies of certain vertebræ, and in the corresponding intervertebral discs." This is, no doubt, true as regards the result, but it can scarcely be looked on as the "pathology" of the disease. We must confess to a little disappointment that the subject has not been more fully developed, seeing the very large opportunities which the author of this work seems to have enjoyed. The rest of this paragraph ought to have been merged into the succeeding one on "Ætiology," for it discusses the cause of the disease: "I have for many years held that it (spinal disease) is almost always, if not always, produced through some injury to the bone or cartilage, and that, in common with carious diseases of joints, it is essentially of traumatic origin. The almost constant primary cause, I believe, is some injury sufficient to disturb the nutrition of the bodies of certain vertebræ and the intervertebral cartilages, and to induce inflammatory softening and disintegration of the structure of these organs. (*sic*) I reject altogether the view held by the profession in general, that Pott's disease is above all others one of essentially strumous origin, that it is necessarily dependent upon a tuberculous diathesis, and never met with save when constitutional dyscrasia is present." While we can agree with some of the paragraph we have just quoted, we must join issue as regards the essentially traumatic origin of this disease "in common with carious diseases of other joints." We have known, for instance, of hip-joint disease developing in one joint, while the patient was under treatment in hospital for disease in the other hip-joint, and this although the child had been confined to her bed for six months or more. So, too, with spine disease; it not infrequently shows itself without our being able to trace the slightest traumatism. We cannot accept a traumatic cause, except the effect follow within a reasonable period; neither can we allow to pass unchallenged a statement that children sustain falls and bruises (of which we know nothing), any of which could be rightly regarded as the traumatic source of disease, which only manifests itself after many months' interval. If a child sustain an injury, or fall, or blow, so slight as never to come within the cognisance of its parents, the effects of which, however, months later, show themselves in carious disease of the spine, then we should argue a distinct dyscrasia—a constitution with exceedingly vulnerable tissues; one prone to take on low, chronic forms of inflammation; and one in which, such processes, once started, are exceedingly difficult to stay. This constitution is, in England, expressed by the term "scrofulous." Certainly, if one examines the sum total of cases of spine disease seen in our London hospitals during any given year, it must be admitted that nine-tenths of them occur in this so-called "scrofulous constitution." We nevertheless admit that a certain proportion of cases do follow immediately on a fall, and agree with Dr. Sayre that these must be classed as essentially "traumatic." We think, too, that this justifies the remark that spinal disease "occurs more frequently among boys than among girls, because the former are more exposed to accidents."

The *symptoms* of spinal caries, in its early stages, are sometimes very obscure, and consist mainly in transmitted and reflex nervous disturbances. "The nerves that make their exit from the spinal canal at points corresponding to the seat of the disease become more or less involved, and will manifest such disturbance by symptoms developed at their peripheral extremities." Thus, when the disease affects the cervical spine, the troubles and earliest nerve-manifestations will be referred to the throat and chest—dysphagia and a sense of constriction round the neck, or a troublesome cough, and pain may be the first, and for some time the only symptom. In early diseases of the dorsal spine, dyspeptic symptoms are generally the most marked. If the spinal disease commence still lower down, the symptoms will be referred to either bladder or rectum, or perhaps both. "The chief and earliest complaint is that of a frequent desire to relieve the bladder. The patient suffers occasionally from pains radiating from the pelvis along the thighs. When any of the above-mentioned symptoms are present, and they cannot be explained by the presence of some well-recognised disease, the surgeon should always extend his investigation to the points where the nerves distributed to the seats of pain and uneasiness make their exit from the spinal cord."

Dr. Sayre's method of *examining the spine* is peculiar, but practical. The child should be stripped, "and so placed across the knees of the surgeon that its face looks downwards, its arms resting over one thigh, and its legs over the other. The surgeon, by separating his thighs, is then able to make a gradual extension of the trunk and spine of his little patient." It was the comfort afforded by this extension that first suggested the idea of suspension to Dr. Sayre.

We must pass on to what, after all, is the most noteworthy feature of the book—*the treatment of spinal disease*. "The great object . . is to maintain *rest of the affected parts*, by such means as will not debar the patient from the benefits of fresh air, sunlight, and change of scene." Few will differ from our author on these two points. That rest must be secured is self-evident, and it is equally clear that if fresh air can be obtained at the same time we shall have solved one of the greatest difficulties connected with the treatment of this class of diseases. It does seem to us that Dr. Sayre has shown us how to accomplish this. "The bandages used in the making of this apparatus must consist of some loosely woven material, such as cross-barred muslin, musquito netting, or crinoline. This should be torn into strips three yards long, and from two and a half to three inches wide, according to the size of the patient upon whom it is to be used. Its meshes may be completely filled by drawing the bandage through very fine and freshly ground plaster-of-Paris that has not been long exposed to the air, this plaster at the same time *being rubbed into* the material. Each strip should then be loosely rolled up so as to form an ordinary roller bandage. Several of the bandages thus prepared may be kept ready for use in air-tight tin vessels. When required, they are *set on end* in a basin containing sufficient depth of water to *cover them entirely*. A free escape of bubbles of gas through the water will be observed for a short time; when this has ceased, the bandages are ready for use." The surface of the skin should be protected by an elastic but *closely* skin-fitting shirt, or vest, without armlets, but with tabs to tie over the shoulders, and composed of some soft woven or knitted material. The preliminary arrangements (the vest, and the plaster-filled bandages) being completed, the child is suspended. For this purpose a tripod about nine feet high, provided with a rope and pulley, is the most convenient apparatus. To the pulley is attached an iron cross-beam, and from this the child is suspended by means of an adjustable head and chin collar. The collar fits round the neck in such a way as to grip the occiput behind and the chin in front. Other straps pass beneath the arm-pits. The pulley-rope is now adjusted, and the patient is extended as far as is considered safe; adult patients may extend themselves as long as they feel comfortable. As it is the intention of this "jacket" to restrict thoracic movements, some precautions are necessary with regard to the abdomen and its movements during diaphragmatic respiration (which is, of course, substituted for thoracic), as also for its increased size after meals. For this purpose, the "dinner pad" is employed. It consists of a pad of cotton folded up in a handkerchief, so as to form a wedge-shaped mass, the thin edge being directed downwards. This is placed over the abdomen, between the shirt and the skin. It is important to make it thin where it comes under the lower edge of the jacket, or else the jacket would fit too loosely about the lower part of the abdomen. Any prominent spinous processes must be protected from pressure by little pads of cotton or cloth placed on either side of them. If the patient be a female, especially if she be developing at the time, it will be necessary to apply a pad under the shirt over each breast before the plaster bandage is put on, in order not to interfere with the nipple or breast. These pads, as also the "dinner pad," must be carefully removed just before the plaster completely sets. The plaster bandages are now to be applied, commencing round the smallest part of the body, and gradually working downwards to the crest of the ilium and a little beyond it, and then from below upwards in a spiral direction until the entire trunk from the pelvis to the axillæ has been encased. The bandage must be placed smoothly round the

body, and must *not* be drawn tight; "it should be simply unrolled with one hand, whilst the other follows and brings it into smooth, close contact with all the irregularities of the surface of the trunk. Sufficient bandages must be applied to afford firm support. In order to accomplish this with the least possible weight, Dr. Sayre recommends that strips of tin, roughened like a nutmeg-grater, be inserted between the turns of the bandage. The patient must be kept in the recumbent position until the jacket is dry. If there are sores or abscesses, windows must be cut in the usual manner.

For caries of the cervical region, Dr. Sayre recommends that the head be suspended. The plaster jacket alone is of little, if any, service. For this he has invented what he calls the "jury-mast" apparatus. Our space will not allow of a detailed description; for this and engravings we must refer to the original.

We do not intend to quote any of the cases which are given in the book in support of this plan of treatment. Our own experience bears out, in the main, the truth of Dr. Sayre's assertions. We have seen great benefit result, and we believe that when the necessary mechanical skill in adjusting the jacket shall have been obtained by surgeons, they will have in their hands a means, both simple, economical, and efficacious, of successfully treating a disease which, as seen in the out-patient departments of our metropolitan hospitals, has hitherto almost worn out their patience, and all but defied their efforts for cure.

Dr. Sayre's book is admirably illustrated, and especially by some beautiful photographs, and we would refer the reader to the book itself for information on many points which the limits of our notice forbid us to enter upon.

Ophthalmic and Otic Memoranda. By D. B. St. John Roosa, M.D., and E. T. Ely, M.D. New York: Wood and Co. 1876. Pp. 264.

This neat little book, suitable for the pocket, will be found useful to the student or general practitioner. It does not profess to be a complete treatise, but it nevertheless contains a very great deal of information. It includes the anatomy of the parts, as well as the diseases which are incidental to them. We should think it is likely to be highly appreciated.

The Examiner in Anatomy. By A. T. Norton, F.R.C.S. London: Smith, Elder, and Co. 1877. Pp. 174.

Mr. Norton is doing good work in drawing attention to the necessity of learning how to give *written* answers to *set questions*. We have often adverted in our columns to the utility of this practice; we are not quite sure, however, but that Mr. Norton's book is not as good as it ought to be, coming as it does from a public teacher of anatomy. It lacks, here and there, that precision which the science of anatomy so rigidly demands; and the answers given to his questions are not always as clearly expressed or as concise as they might be. Nevertheless, the book will be useful, if only to encourage students in a class of work which is very essential to those who would do well at examinations.

A Guide to the Examinations at the Royal College of Surgeons of England. By Frederick J. Gant. Third Edition. London: Baillière, Tindall, and Cox. 1877. Pp. 146.

Mr. Gant has collected the examination papers of the College for some years past, and has issued them in the form of a little volume. The mere collection of such papers is of interest, even if it did not serve any other purpose; for it will enable us at a glance to compare the examinations of past years with more recent ones, and so in some measure to gauge the advances which surgery is making both as an art and a science.

An Atlas of Human Anatomy. By Rickman John Godlee, M.S., F.R.C.S. With Explanatory Text. London: J. and A. Churchill. 1877. Part II.

The second part of this beautiful Atlas has just appeared: it fully bears out the favourable opinion which we formed of it as judging by Part I. It contains the dissections to expose the *posterior triangle of the neck*, the *brachial plexus*, and the structures at the back of the neck. The remaining figures illustrate both the superficial and deep parts which are supplied by the branches of the external carotid artery, and also the internal carotid artery in the whole of its course, as well as its relations to the cranial nerves. It is likely to prove as useful to the physician and surgeon as to the anatomist. We are well aware of the labour entailed in the execution of such a work, or otherwise we should wish that it might appear in monthly rather than in bi-monthly parts.

PROVINCIAL CORRESPONDENCE.

MANCHESTER.

December 12.

Notice of the late Mr. Henry Runcorn—Meeting of the Medical Society—Radical Cure of Double Congenital Hernia—Removal of the Whole Tongue with the Scissors—Glycerine of Carbolic Acid as a Dressing after Ovariotomy.

The suffering poor of this city have sustained a severe loss by the death of Mr. Henry Runcorn, the Resident Obstetric Surgeon and House-Surgeon to St. Mary's Hospital. His connexion with the institution commenced thirty-six years ago, when he was appointed House-Apothecary, and continued unbroken to his death. Regardless, almost to a fault, of his own interests and comfort, peculiarly diffident and unobtrusive in manner, he lacked many of the qualities which insure success in private practice. As a resident officer, however, he was very highly esteemed, not only for his faithful and efficient services, but also for his personal worth and his unwearied kindness to the poor. His large experience of difficult midwifery, in connexion with the maternity department of the Hospital, led to his being appointed Resident Obstetric Surgeon when that office was first created, five or six years ago. The arduous and responsible duties which he thereby undertook were fulfilled with praiseworthy devotion and remarkable success. He had been suffering for some days from a severe cold, of which he could not be persuaded to take sufficient care, when he was attacked, on November 24, with symptoms of acute pneumonia. The disease rapidly assumed a very severe character, and he died early on the morning of November 28, aged sixty-five years.

The December meeting of the Manchester Medical Society was almost entirely devoted to surgical topics. I can only allude to one or two of the more interesting communications. Mr. Thomas Jones showed a little boy, two years of age, on whom he had performed the operation for the radical cure of a double congenital inguinal hernia. On July 22 the hernia on the right side descended, and could not be reduced even under chloroform. After symptoms of strangulation had been present for eight hours, the operation of herniotomy was performed antiseptically. The sac having been opened, the stricture divided, and the gut returned into the abdomen, the neck of the sac was isolated from the spermatic cord, and a catgut ligature was passed round it. The wound healed, without a trace of suppuration, in four or five days. On August 1 it was found necessary, for similar reasons, to operate for strangulation of the intestine on the left side, when the opportunity was seized to pass a catgut ligature round the neck of the sac on that side also. In this instance there was a little suppuration; the wound, however, healed satisfactorily, and up to the date of the meeting (December 5) there had been no re-descent of the hernia on either side.

Mr. Walter Whitehead exhibited two patients, in one of whom he had removed a portion of the tongue, and in the other the whole of the tongue, for epithelioma, by means of the scissors alone, without division of the symphysis or submental incision. The latter operation was thus performed:—The patient, a woman of sixty-four, having been placed under the influence of chloroform, a gag was inserted, and the tongue firmly secured by a strong ligature passed through its substance near the tip. The operator, taking firm hold of this ligature with his left hand, divided successively the frænum and the sub-lingual tissues on each side. The tongue being then drawn well forward so that the epiglottis was brought fairly into view, the operation was completed by cutting through the base of the tongue, first on one side and then on the other. Two large vessels were divided: one of these was tied during the operation; the other, after bleeding for a little time, ceased spontaneously. Smart hæmorrhage, however, took place after the removal of the patient, and it was found necessary to have recourse to the thermo-cautery. The operation was not followed by any

constitutional disturbance, and though a fortnight had not yet elapsed, the patient appeared at the meeting perfectly well. The merit of this operation consists in its simplicity. Nearly sixty years ago Boyer described ("Traité des Maladies Chirurgicales," tome vi.; Paris, 1818; page 392) an operation for epithelioma of the tip of the tongue, in which, by means of a pair of straight scissors, he removed a V-shaped portion about an inch in length, and united the flaps by sutures. But, although Mr. Whitehead distinctly repudiates any claim to originality, he is the first, so far as he himself is aware, to have demonstrated the practicability of removing the whole tongue by this simple method. With regard to the hæmorrhage which occurred subsequently, he is quite convinced that this may be prevented in future by taking care to tie both ranine arteries during the operation, whether they give trouble at the time or not.

In the course of a discussion which followed a paper by Mr. Bradley "On Antiseptic Surgery," Dr. Thorburn, the Obstetric Physician to the Royal Infirmary, mentioned a plan of dressing the wound and pedicle after the operation of ovariotomy, which he had recently adopted with marked success. The pedicle having been secured by the carbolised catgut ligature, and divided, the stump and ligature are freely smeared with the glycerine of carbolic acid of the Pharmacopœia, and returned within the abdomen. The edges of the abdominal wound, including the peritoneum, are treated in a similar manner before the wire sutures are tightened, a pad of lint soaked in the carbolised glycerine is placed over the wound and secured by a bandage, and the parts are not disturbed for ten days. Twenty-five cases of ovariotomy have been thus dealt with, and though six of the cases died, in none of the six could the fatal result be attributed, in the least degree, to septicæmia. In no instance had there been any purulent or other discharge, or any inflammatory exudation in the track of the sutures. Dr. Thorburn contended that by thus trusting the wounded parts to the undisturbed influence of the carbolised glycerine for many days, he puts to more practical proof his faith in the antiseptic virtues of carbolic acid than do those operators who examine the condition of the wound so much more frequently.

Dr. E. Lapper, F.C.S., Demonstrator of Chemistry in the College of Surgeons, Dublin, has been appointed to the Chair of Chemistry in the Ledwich School of Medicine, rendered vacant by the death of Dr. W. Handsell Griffiths.

West Kent Medico-Chirurgical Society.—The third meeting of the twenty-second session was held on Friday, December 7, at the Royal Kent Dispensary, Greenwich-road, at 8 p.m.; W. Johnson Smith, F.R.C.S. (President), in the chair. Dr. John Curnow read a paper on "The Diagnosis and Treatment of Acute Diseases induced by Alcohol." The next meeting will be on Friday, January 4, at the same time and place. Dr. J. Milner Fothergill will read a paper "On Diseases which simulate Heart Disease."

London Hospital Medical College.—Since the death of Mr. Kershaw, late Secretary of this College, various changes have been made. When the College Board, consisting of nine members of the House Committee and six members of the staff, with Sir Edmund Currie as chairman, was established, a Secretary was appointed to supervise and co-ordinate the working of the College, and the medical and surgical management of the Hospital. The Secretary, being the officer of the College Board, did not interfere in any way with the functions of the House-Governor, the latter officer being the chief administrator of the Hospital, and the adviser of the House Committee. The College Board, just previous to Mr. Kershaw's death, had resolved to take up this part of their task as the complement to the remodelling of the College, in which they had been very successful. At the recent meeting of the College Board, it was proposed by Dr. Down, and seconded by Rev. J. Kitto—"That a Principal of the College be appointed." It was further proposed by Mr. Couper, and seconded by the Treasurer of the Hospital (Mr. Thomas Fowell Buxton)—"That Dr. Norman Chevers be requested to accept this office." In virtue of this post he will sit at the Board as one of its members, and will also discharge the duties of Medical Secretary. We are sure that this appointment will be satisfactory to all interested in the School, and will serve to enhance its position as an eductional institution.

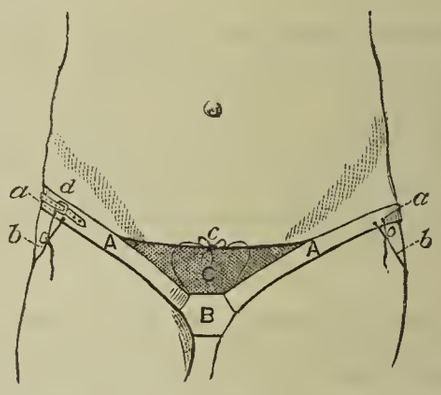
GENERAL CORRESPONDENCE.

NEW FORM OF SUSPENSORY FOR THE TREATMENT OF VARICOCELE BY ELEVATION.

Letter from Mr. W. R. Williams.

[To the Editor of the Medical Times and Gazette.]

Sir,—It is an instructive pathological fact, and one not fully appreciated, that varicocele affects only the lower part of a spermatic vein. The disease, I believe, has never been traced above the external abdominal ring. The reasons for this are obvious. Below the ring the veins are almost destitute of support, yet subject to great fluid pressure; whereas, higher up, the state of affairs is just the converse. This simple explanation clearly foreshadows the treatment. It seems to say—shorten the fluid column, and support the dependent vessels. But how is this to be effected? I answer, by elevation—by raising the scrotum and its contents above the pubes. This arrangement has a double advantage; thus, it directly shortens the fluid column several inches, and at the same time converts it into a hydrostatic syphon. The elevated veins constitute the shorter arm, the contents of which exactly counterpoise a similar height of fluid in the longer arm. In this way the hæmostatic pressure is still further reduced; and the residual strain is transferred from the weakest and most dependent part of the vessels. The suspensory I am about to describe was designed to fulfil these indications. It consists of three parts (see figure):—



1. *The pelvic band*, A, which passes round the pelvis midway between the anterior superior iliac spine and the top of the great trochanter. On either side two loops, *a*, *a*, are attached; to these the gluteal tapes are made fast. When the body is erect, these loops should be in a vertical line with anterior part of the great trochanter. At *d* is a buckle fastening.

2. *The perineal portion*, B, is a triangular tongue, the base of which is forwards at the scrotum; while the apex, to which the gluteal tapes, *b*, *b*, are attached, passes backwards to within about an inch of the anus. The gluteal tapes run along the gluteal folds to the pelvic loops, *a*, *a*.

3. *The scrotal network*, C, supports the scrotum and its contents on the supra-pubic cushion. It should be somewhat bagged above, but contracted below. A small cord, *c*, rove through the upper border, allows the requisite adjustment. Urination is readily effected by depressing the network.

I have not had a sufficiently lengthy experience of this method to enable me to state that it will bring about a radical cure, but its tendencies are in this direction. It does for varicocele what the elastic stocking does for varix of the leg: it enables the patient to undertake an amount of walking exercise that was before impossible, and does not fail to relieve that dragging pain which in ordinary cases is the most distressing symptom. The suspensory is made by Mr. Sillis, of George-street, W.C.

I am, &c.

W. Roger Williams, M.R.C.S.

Mr. John Henry Buxton has been elected Chairman of the House Committee, London Hospital, *vice* Sir Edmund Hay Currie, who has resigned after an active service of ten years. The House Committee purposely chose one of its younger members as Chairman, in the hope that he would have both the time and strength to devote himself actively to the duties of the post.

REPORTS OF SOCIETIES.

THE PATHOLOGICAL SOCIETY.

TUESDAY, DECEMBER 4.

CHARLES MURCHISON, M.D., LL.D., F.R.S., President, in the Chair.

MULTIPLE SARCOMA IN A BOY.

MR. BUTLIN brought forward a boy aged twelve, suffering from multiple sarcoma. He was first seen by Mr. Holden in June, 1875, when a tumour as large as a walnut was removed from the region in front of the left ear. This proved, microscopically, to be a round-celled sarcoma. Four months later two fresh tumours of the same nature were removed from the left frontal region. About twelve months later (in August, 1876) both testicles were found enlarged and indurated, and continued to increase in size under treatment with iodide of potassium and mercury. Since that time other tumours had made their appearance in the following situations:—In the left scapular region, at the back of the left thigh, on the back, over the trochanter, and on the chest-wall. All these growths increased in size and involved the skin and neighbouring structures. The tumour on the thigh sloughed, and the surface granulated and healed completely. The right testicle had certainly been decreasing in size for some months. The boy's general health had never been affected. Mr. Butlin said that the nature of the growths, their mutual relation, the absence of visceral infection, and the sloughing of one of them, were all points of interest in this case. There was no strumous or syphilitic dyscrasia, nor were there any inflammatory characters about the growths except the occurrence of sloughing, which was an occasional event in tumours. He therefore considered the growths as round-celled sarcoma. The right testis alone did not increase in size. There was no evidence that the tumours first removed had been the source of the later tumours by infection, for there was involvement neither of the lymphatics nor of the lungs. The multiple appearance, therefore, probably represented repeated outbreaks of a disease; local irritation being sufficient to determine them in a subject predisposed to their development. He could not offer a prognosis.

The PRESIDENT said that he had a lad under his care at St. Thomas's Hospital with mediastinal tumour, who had had his thigh amputated fifteen months ago for sarcoma.

MULTIPLE TUMOURS OF THE BRAIN.

Dr. PEARSON IRVINE showed this specimen. It was removed from the body of a boy aged seven years, who died in Charing-cross Hospital in November last. He came of a delicate family. In 1876 he had measles, but completely recovered to all appearances, and was well until June of this year. He then had a sense of general illness, with pains in the head. The headache gradually became more severe, persistent, and localised over the left frontal eminence. He began also to suffer from vomiting, restlessness at nights, with moaning in his sleep. In August he was noticed to squint, and complained of double vision and loss of sight. On admission it was found that the boy could walk with precision, but had in walking a slight lateral nodding of the head. He had right internal strabismus; the right lid drooped; the pupils were equal, and dilated; vision was dim. He had a loud systolic murmur all over the cardiac area. There was no retraction of the abdomen. A few days after admission he had severe unilateral convulsions (right), followed by temporary hemiplegia and anæsthesia. Convulsions recurred frequently, and at times were general. By the end of October he was quite blind, the discs being blurred, the veins enlarged, and the arteries buried in "fluffy" exudations. The speech throughout was thick and slow, but memory was perfect. Towards the end the patient had difficulty in swallowing, and took a long time over a small quantity of food. He had no cough, and no regular fever, though for days together at times he had an elevated temperature. After death there was found constriction of the pulmonary orifice, probably congenital; enlargement and caseation of the bronchial glands. One large mass, completely reduced to greenish-yellow pulp, extended over the front of the trachea, beneath the thyroid gland. The upper lobes of both lungs were thickly sown with grey granulations, surrounded by early pneumonic changes; these were less abundant in the lower lobes. They were found also in both kidneys. The cerebral membranes were not adherent; the brain was flattened, and there were six to eight ounces of serous effusion at the base. There were no lymphoid exudations or grey granulations. A tumour the size of a large nut fell from the falx cerebri in the removal of the brain; and at the base of the cerebellum, attached to the pia mater, others were found. In the substance of the brain, and at the bottom of the sulci, several others were found, rounded, and of the size of marbles. Five like bodies were found in the lateral ventricles, falling off easily from the lining membranes. The right half of the cerebellum contained three large masses, and in the left frontal lobe a large mass existed. The pons was healthy. These tumours were all easily enucleated, and had firm fibrous capsules. Some of them were cheesy in the centre, but less so than the bronchial glands. The corpora striata and optic thalami were flattened. The tumours, which microscopically showed the appearances of "tubercular growths," were enucleable possibly because they had ceased to grow and become encapsulated. Dr. Irvine observed that possibly the bronchial mischief was primary (coming on after measles), and that the brain-mischief was secondary to bronchial caseation. There had occurred an acute tuberculisation of the lungs and kidneys. The appearances, at least, indicated that, as regards time, these changes must have been secondary to one another. It was remarkable how few signs of paralysis, or other affection of nerves, showed themselves. The third and sixth cranial nerves were partially affected. It was likely that the unilateral convulsions and the slowness of speech, with subsequent difficulty in deglutition, as also the lateral nodding of the head, were due to the cerebellar tumours, and to compression of the eighth pair of nerves. Dr. Irvine had lately seen two other cases in which tumours limited to this situation had been accompanied by loss of vision on the side affected, and in which symptoms attributed to pressure below the tentorium had led to a diagnosis of the site of the tumours.

CHYLOUS URINE.

Dr. DICKINSON exhibited a specimen of chylous urine, passed by a woman of twenty-one, a patient under his care at St. George's Hospital. The girl, who had never been out of England, had first passed chylous urine two years before her admission; and she had then begun to suffer from debility and emaciation. The urine at first had resembled rich milk, being quite white; and it contained a coagulum: there were no renal casts, but a considerable number of blood-corpuscles. The milkiness increased after meals; albumen was always found in quantity; a molecular base could sometimes be distinguished microscopically. Dr. Dickinson, considering that the chyluria might be due to regurgitation of chyle from the thoracic duct, had applied a tourniquet over the last lumbar vertebra. The immediate effect was most successful; the first specimen of urine passed after the application being normal in appearance, and almost free from chyle; and the subsequent effect was as satisfactory, the amount of chyle being less than one-eighth of what it had been at first, and the patient now weighing nine stone instead of five. Dr. Vandyke Carter, from his experience in India, had contended that the chyle in chyluria was not excreted by the kidney, but mixed mechanically with the urine, inasmuch as the proportions of albumen and fats were preserved in the "urine" as in the chyle, and because the blood was not found chylous when the urine was. The molecules of the chyle, also, were found in the urine; and occasionally even "chylous cells." Dr. Dickinson pointed out, in support of this view, that in cases of superficial chylous discharge the pelvic region or thighs were the ordinary seats of the flow; and it was to these regions and to the mucous membrane of the urinary tract that the chyle would regurgitate in case the thoracic duct were obstructed. Of the few recorded necropsies in chylous urine, in one the kidneys were healthy, in one fatty, and in one tuberculous; while Dr. Lewis had found filariæ in abundance in the kidneys in the chyluria of Bengal. The kidneys, therefore, were not always diseased; besides, renal casts did not occur in chyluria (except in Dr. Ralfe's specimen exhibited at the last meeting, which was probably complicated with intermittent hæmaturia); it was, therefore, improbable that the chyle was excreted by the kidneys. It probably reached the urine in some lower part of the urinary tract.

Dr. ALEXANDER MORISON also exhibited specimens of chylous urine, which had been passed by a woman of fifty-six, a Jewess, born in Algeria, but who had passed the last thirty-one years of her life in Europe. She had been stout; had

borne eight children; and had eaten very freely of oily food. For some time previously she had been a patient of Dr. Leared's. When seen by Dr. Morison she was suffering from debility, dyspepsia, and the passage of milky urine, with lumbar pains; and she was greatly emaciated. The urine varied in quantity, and in colour from a dead white to a simple opalescence; and the specimen of morning urine exhibited was much clearer than the other specimen, which had been passed in the evening. After fasting the clearness had been further increased. The specific gravity varied from 1040 to 1017 before separation of the coagulum which spontaneously formed in it after being passed; and from 1035 to 1013 after coagulation. The urine was faintly acid; and sugar had been frequently found in it, both before and after filtration. Microscopically it contained small refracting particles, leucocytes, and torulæ, but neither casts nor filariæ. Both sugar crystals and crystals of fatty acids had been extracted from it. Dr. Morison said that endemic influence could hardly be at work in this patient, who had been so long out of the tropics. He believed that the chyluria was related to the menopause, and the glycosuria might have preceded or even caused the chyluria.

Dr. Ord exhibited a specimen of fat from chylous urine, which proved to have been obtained from the same woman who was now Dr. Dickinson's patient. She had been under Dr. Ord's care twelve months ago, and the chylous urine had been most carefully examined. To the naked eye, the fluid at that time closely resembled milk; and microscopically it presented a molecular basis, with blood corpuscles (chiefly red), delicate fibrinous coagula, and masses of nucleated protoplasm. There were neither casts, crystals, nor filariæ. Examined chemically, the fluid yielded ordinary albumin, alkali-albumin, and a pellicle on boiling. The pinkish colour disappeared on boiling; nitric acid caused a copious precipitate. No sugar was present. Fat was found to the amount of 0·5 per cent.; but Dr. Thudichum could find only a small quantity of fatty acids, and no lecithin. Altogether, the specimen was composed of olein, palmitin, stearin, and a very small quantity of a fatty acid with a different melting-point, and of alkali-albuminate. The resemblance of the fluid to chyle was very close, and the chylous urine was probably due to admixture. The blood had been examined several times, and found perfectly normal.

Dr. Leared spoke of Dr. Morrison's case, which he had previously seen. At that time no sugar could be obtained after filtration. Chyluria was probably hereditary, and the partiality of the Jews, especially of the Jews in Algeria and Morocco, for olive oil, might account in some measure for the frequency of the disease among them. He also knew of a case of chyluria of some fifteen years' standing, in which the disease had made its appearance shortly after a severe railway accident.

The President asked whether chylous discharges from the surface of the body were invariably associated with chylous urine.

Dr. Dickinson said that chylous urine and chylous discharges were frequently associated, and frequently alternated with each other. In his case neither the blood nor the urine contained filariæ. Certainly chyluria was not invariably due to the presence of filariæ. As yet there was not sufficient evidence to show at which part of the urinary tract the chyle escaped.

Dr. Pye-Smith said that he thought it was generally admitted that chyluria was due to admixture of chyle and urine. Observations seemed to indicate that this mixture occurred by direct passage of chyle from the lymphatics at some point beyond the mesenteric glands into the bloodvessels. Lewis had found lesions in the kidney due to the presence of filariæ; and might not these produce direct openings, and so chyluria? This explanation appeared more simple than that of chyluria by regurgitation.

Dr. Dickinson replied that Prout had regarded chyluria as closely related to albuminuria. The pathology of the disease was still obscure, and further observations were required to test his theory.

Softening Syphiloma of the Liver.

Dr. Wilks showed this specimen, from a woman of thirty-five years without a history of syphilis. For two years before her death she had had abdominal symptoms, commencing with enlargement of the abdomen, jaundice, emaciation, and vomiting: hepatic tenderness and signs of ascites were then discovered. Acute peritonitis supervened, followed by chronic; and enlargement of the right lobe of the liver was ascertained to be present. Post-mortem, a large cavity was found in the right hepatic lobe, containing a yellow bilious fluid, and presenting large hard masses of syphilitic appearance. The liver contained other masses of a similar character. Dr. Wilks said that syphilitic formations usually ended in drying up, cicatrisation, and puckering; the general belief among pathologists being that syphilitic masses did not soften. The characteristics of syphilomata had been exaggerated. Syphilomata did occasionally soften. Dr. Moxon had shown such a specimen in the liver years ago, and had suggested that similar cases in the lung might produce some specimens of vomica. He had himself seen an "abscess" of the liver, with curdy contents, associated with syphilitic lesions; and also instances of softening syphiloma of the brain, and in the mediastinum. Softening nodes were familiar to all. He had once regarded softening of a gumma as a late change, as due to decay of old syphilitic material. But he now inclined to the view that the softening was active, the syphiloma growing like other tumours, and becoming liquid in the centre.

OBSTETRICAL SOCIETY OF LONDON.

Wednesday, December 5.

Charles West, M.D., F.R.C.P., President, in the Chair.

Dr. Roper showed a specimen of Calcified Fibroid Tumour of the Uterus; and a Tumour of the Placenta, believed to be an organised blood-clot, or a growth intermediate between myxoma and fibroma.

Secondary Puerperal Hæmorrhage.

Mr. C. Stewart Redmond said in this case hæmorrhage came on a month after confinement. The woman lost a great amount of blood. A portion of placenta was found in the uterus and removed, and perchloride of iron solution injected. Some febrile disturbance followed, but the patient made a rapid recovery.

General Dropsy in the Fœtus, with Hypertrophy of the Placenta.

Dr. Bassett said that during labour delay had occurred after the birth of the head. It was believed after auscultation of the mother's abdomen that the child was dead. Delivery was effected by drawing down an arm by the blunt hook. The child was greatly œdematous; the placenta large and hypertrophied, weighing three pounds and a half, and in twelve hours it discharged one pound of fluid.

Dr. John Williams said that what we knew of the production of dropsy in the child was the result of our knowledge of the mode of production of it in the adult. Heart disease never caused in the adult uniform general dropsy. That condition was always the result of a blood-state. The effect of central obstruction was to cause œdema of the most distant parts from the heart. In the fœtus the placenta would suffer first; this would interfere with the flow of blood through that organ, and dropsy of the fœtus in consequence. The placenta acted not only as an organ of respiration for the fœtus, but probably also as a renal organ, and anything which interfered with the circulation in it, or increased the thickness of its tissues, would interfere with the elimination of excrementitious products from the blood of the child. This would bring about a blood-condition similar to that met with in Bright's disease, and general anasarca in consequence.

Dr. Edis thought that it ought to have been learned whether or not the child was dead, without the aid of chloroform. The proper treatment was to have brought down an arm at once; the issue might then have been different.

Dr. Roper said that when a head had been born an hour or two without the body, the probability was that the child was dead. The delay is due to disease of the fœtus, ascites, or something else. In that case he would perforate the thorax and deliver.

The President regretted that no reference had been made to the researches of Simpson. New observations should be made, and compared with those made before.

Complete Rupture of the Perineum.

Mr. Charles Robert Thompson said that in this case the arm of a dropsical fœtus appeared through the anus of the mother, and ruptured the perineum completely. Deep sutures

were at once inserted. On the third day they were removed. On the fifth day an aperient was given. The patient was perfectly recovered at the end of a month.

Dr. Hayes was in favour of the use of sutures in laceration of the perineum. He kept them in five days.

Dr. Bantock used silkworm gut.

Dr. Wynn Williams used the first material at hand.

Dr. Murray recommended lateral incisions of the vaginal orifice with a view to prevent rupture.

Dr. Edis thought that the treatment of the bowels was an important point. It was important to insure regular action from the first. He uses silver wire covered with guttapercha.

Meningocele complicating Labour.

Dr. Woodworth Poole related a case as above, in which version was tried by the bipolar method, but ineffectually. The hand was then introduced into the uterus, and version effected by the feet. At the back of the head was a large translucent cyst measuring fourteen metres in circumference.

Double Vagina and Uterus.

Dr. Henry Gervis contributed this case. The patient had been married four years; suffered from dysmenorrhœa and spanæmia sometimes. There were two vaginæ, separated by a septum from one-twelfth to one-eighth of an inch in thickness. The left vagina was larger than the right. At the top of each vagina was a cervix with a small os uteri. A probe could be introduced into the left for half an inch, and into the right for an inch and a half. There were two uteri. The septum between the vaginæ was divided by the galvanic écraseur with a view of relieving the patient's suffering.

Extra-Uterine Pregnancy.

Dr. Henry M. Madge, in a paper entitled "Notes on Extra-Uterine Pregnancy," said that though there are differences of opinion with regard to the varieties of extra-uterine pregnancy, yet most cases may be referred to the tubo-ovarian and tubo-abdominal. The author was of opinion, however, that the placenta may be developed within the ovary, and also when attached to the peritoneum. Mr. Jessop's case was clearly abdominal. In such a case there is no decidua, and there can be no uterine sinuses nor utero-placental vessels—the so-called curling arteries and veins, the size of crowquills, passing from the peritoneum to the placenta; and therefore there must be an absence of what is called the sinus system. The membrane to which the placenta is attached allows of interchange of fluids, and the nourishment of the fœtus is thus provided for. Nothing is known of the structure of extra-uterine placentæ, but it is evident they must be all fœtal. Many questions were raised by such cases as Mr. Jessop's, where the fœtus was not surrounded by membranes—such as, What is the source of the liquor amnii, the origin of vernix caseosa, the disposal of the fœtal urine, etc.?

Removal of Large Uterine Myomata by Abdominal Section.

Mr. Lawson Tait gave particulars of four cases. The first operation was performed on account of recurrent intestinal obstruction due to a myoma; the patient recovered. The next was the removal of a rapidly growing soft myoma reaching nearly to the xiphoid cartilage in a woman aged forty-five. The tumour was freely movable, with but few adhesions. The pedicle was clamped. Patient died on the fifth day after operation. It was found that the uterine cavity entered the tumour for about six inches. The third case was a patient aged forty-one, suffering from a multiple fibroid reaching above the umbilicus. There was no distress, except occasional pressure on the intestines. The author urged her to leave it alone. She determined to have it removed, however, and the operation was performed May 19. The patient died May 22. The last case was a patient suffering from a tumour of somewhat doubtful nature. A medical practitioner tried to tap it, and the tumour then grew rapidly, and the patient's health suffered in consequence. The tumour was removed, the pedicle being clamped. The patient made a good recovery.

Dr. Fancourt Barnes had assisted at an operation for the removal of a fibroid complicating pregnancy. The tumour was in the pelvis. There was great difficulty in removing it. Patient died in five or six hours.

Dr. Playfair said that in two of the patients operated upon the diagnosis was doubtful. In one it was done against Mr. Tait's advice. Why was it done? The course of fibroids is not usually fatal, and abdominal section should not be undertaken for their removal unless life was endangered.

Dr. Routh said the great point in this operation was, how the pedicle could be secured. He had collected cases, and found that death was due to slipping of the ligature or clamp. The pedicle ought to be transfixed. The rule should be, never to listen to what a patient says of the desirability of an operation. Unless there be danger the operation is not justifiable.

Dr. Aveling said that the difficulty he had met with was in dealing with the broad ligament.

Dr. Bantock said the feasibility of the operation depended on the presence of a pedicle. If the fibroid involved the body of the uterus, the operation was contra-indicated. He recommended ligaturing the pedicle in small pieces by transfixion—each ligature linking to its neighbour like the links of a chain.

MEDICAL NEWS.

University of London.—The following candidates have passed the recent B.S. Examination (for Honours) in the First Class:—

Symonds, Charters James (Gold Medal), Guy's Hospital.
Verco, Joseph Cooke, M.D. (Scholarship and Gold Medal), St. Bartholomew's Hospital.

Royal College of Surgeons of England.—At the half-yearly examination for the diploma of Fellowship of this institution, which was brought to a close on the 24th ult., the following Members of the College were reported to have acquitted themselves to the satisfaction of the Court of Examiners, and at a meeting of the Council yesterday, the 13th inst., were admitted Fellows of the College, viz.:—

Amphlett, Edward, M.A. and M.B. Cantab., Leamington, diploma of Membership dated November 17, 1875, student of Guy's Hospital.
Archer, Wm. Gammon, M.A. and M.B. Cantab., Birmingham, January 23, 1877, of St. Bartholomew's Hospital.
Cantlie, James, M.A. and M.B. Aber., Dufftown, Banffshire, May 24, 1877, of the Charing-cross Hospital.
Clarke, Julius St. Thomas, M.B. and L.R.C.P. Lond., Leicester, May 20, 1862, of Guy's Hospital.
Dent, Clinton Thomas, M.A. Cantab., Chesham-street, S.W., January 27, 1875, of St. George's Hospital.
Elliot, Norman Bruce, L.R.C.P. and L.S.A. Lond., Denmark-hill, January 24, 1873, of Guy's Hospital.
Harsant, William Henry, L.S.A., Bristol, July 27, 1874, of Guy's Hospital.
Paley, William Edmund, L.R.C.P. Lond., Peterborough, January 20, 1874, of Guy's Hospital.
Taylor, John William, Birmingham, January 21, 1873, of the Charing-cross Hospital.
Verco, Joseph Cooke, Adelaide, South Australia, November 18, 1874, of St. Bartholomew's Hospital.

Three candidates having failed to acquit themselves to the satisfaction of the Court of Examiners, were referred to their professional studies for one year. At the same meeting of the Council, the following Members of the College were elected Fellows of the College, viz.:—

Donald, John, Army, Wilmslow, diploma of Membership dated September 4, 1835.
Walker, William Newman, Tollington-park, June 23, 1843.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, December 6:—

Colmer, Ptolemy Samuel Henry, Yeovil, Somerset.
Fox, Joseph Tryelles, Lordship-lane, Stoke Newington.
Hall, John Lees, Porchester-gate, Hyde-park.
Hope, Robert Charles, York-road, Lambeth.

The following gentleman also on the same day passed his Primary Professional Examination:—

William Henry Walter, St. Bartholomew's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Bradford, Cordley, M.R.C.S. Eng., L.S.A. Lond., House-Physician to the Queen's Hospital, Birmingham—Surgeon to the Cornwall Works, Birmingham.

Helme, J. Milner, M.B. Edin.—House-Surgeon to the Royal Southern Hospital, Liverpool, *vice* W. Roughton, M.R.C.S., resigned.

NAVAL, MILITARY, &c., APPOINTMENTS.

Admiralty.—Staff Surgeon Joseph Halpin has been placed on the Retired List from the 30th ult.

Militia.—Surgeon-Major Edward Jackson, M.D., 2nd Warwick, resigns his commission; Surgeon William Cullinan, Clare, to be Surgeon-Major.

War Office.—Surgeon-Major Archibald Henry Fraser to be Deputy Surgeon-General, *vice* Vere Webb, retired on half-pay; Surgeon-Major Charles Rattray, M.D., retires upon temporary half-pay; Surgeon-Major William Samuel Chapman retires upon temporary half-pay; Surgeon-Major Charles George Wiche (Bombay Army) to be Deputy Surgeon-General.

BIRTHS.

De Brent.—On December 8, at Church House, Aveley, Essex, the wife of Mortimer de Brent, M.R.C.S. Eng., of a son.

Dyer.—On December 9, at Ringwood, Hants, the wife of H. Geary Dyer, L.R.C.P. Edin., of a daughter.

Fawcett.—On December 4, at Newcastle-on-Tyne, the wife of W. J. Fawcett, M.B., Surgeon A.M.D., of a daughter.

Gowers.—On December 10, at 50, Queen Anne-street, the wife of W. R. Gowers, M.D., of a daughter.

Hill.—On December 9, at 58, West Cromwell-road, S.W., the wife of T. Wood Hill, L.R.C.P. Edin., M.R.C.S. Eng., of a son.

Pitman.—On November 29, at Acacia House, Highgate-hill, N., the wife of Robert Pitman, L.R.C.P., of a son.

Startin.—On December 7, the wife of James Startin, M.R.C.S. Eng., of 17, Sackville-street, of a daughter.

Thomson.—On November 18, at Mogador, Morocco, the wife of H. Richardson Thomson, M.R.C.S., of a son.

MARRIAGES.

Caithness—Westmacott.—On December 11, at St. Saviour's Church, Paddington, James Ernest Caithness, Esq., of Calcutta, to Eugene Sarah Henrietta, fourth daughter of John Guise Westmacott, L.R.C.S. Edin., of 19, St. Mary's-terrace, Paddington.

Goate—Adams.—On December 5, at the Church of the Holy Trinity, Attleborough, W. R. Goate, solicitor, son of C. E. V. Goate, M.D., to Minnie, daughter of J. Adams, Esq.

Harries—Benson.—On December 5, at St. Luke's, Chelsea, Thomas Davies Harries, of Aberystwith, F.R.C.S. Eng., to Annette, youngest daughter of the late S. Benson, Esq., of the Royal-avenue, S.W.

McIntyre—Seymour.—On December 4, at the parish church, Odiham, Hants, William McIntyre, L.R.C.P. L.R.C.S. Edin., of Odiham, to Emma, third daughter of the late John Grove Seymour, Esq., of Odiham.

Symes—Blackman.—On December 11, at Unity Church, Islington, John Edwin Symes, to Elizabeth Florence, eldest daughter of Charles Thomas Blackman, M.R.C.S., of Highbury-grove, London.

DEATHS.

Blakeley, Thomas, M.D., at Brighton, on December 6, aged 54.

Broster, Richard William, M.R.C.S. Eng., L.S.A., late of Beaminster, Dorset, eldest son of William Broster, Esq., of Marland-place, Southampton, at Topsham, Devon, on December 3.

Copeman, Frances, wife of Edward Copeman, M.D., at the Upper Close, Norwich, on December 6, aged 68.

Dean, Peter Thomas, M.D., on December 9, at The Cottage, Upper Norwood, aged 44.

Duncan, Alexander Campbell, M.D., late of H.M. Indian Service, at Wardie-road, Edinburgh, on December 10.

Evans, Herbert Norman, M.D., late of Hampstead, at St. Leonards, on December 10, aged 75.

Gaine, Adele Brydges, wife of Charles Gaine, M.R.C.S., at 8, Edgar-buildings, Bath, on December 7, aged 31.

Lawrence, Leonard Aust, M.R.C.S. Eng., formerly of Southampton, at 154, Adelaide-road, Regent's-park, on December 6, aged 64.

Starling, Thomas John, F.R.C.S., of Higham Ferrers, at Brighton, on December 3, aged 67.

Trench, William Stewart, M.D., Medical Officer of Health for Liverpool, at 107, Bedford-street, Liverpool, on December 5, aged 68.

Wright, Eliza Brewabd, wife of Matthew Hall Wright, M.R.C.S., at The Hollies, Summer-hill, Birmingham, on December 3.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

The Guest Hospital, Dudley.—Resident Medical Officer. Candidates must be unmarried, and Fellows or Members of the Royal College of Surgeons of England, Edinburgh, or Dublin, and possess a registered qualification in medicine. Applications, with testimonials and certificate of registration, to the Secretary, on or before January 1.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Huddersfield Union.—The Slaithwate District is vacant; area 4810; population 4409; salary £30 per annum.

Tiverton Union.—Dr. Bothwell has resigned the Eastern and Western Districts; area 17,491; population 10,024; salaries £70 per annum for each District.

Warwick Union.—Mr. Wm. A. Parsons has resigned the Workhouse; salary £64 per annum.

APPOINTMENTS.

Farnham Union.—Alfred J. Atkinson, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., to the North and Seal Districts, and the Workhouse.

Lampeter Union.—Abel Evans, M.R.C.S. Eng., L.S.A., to the Workhouse.

Richmond (Yorks) Union.—Edward T. Atkinson, M.R.C.S., L.S.A., to the Richmond Rural District.

St. Matthew, Bethnal-green, Parish.—Thos. R. King, M.D. Edin., L.R.C.S. and L.R.C.P. Edin., as Medical Officer of the Workhouse. Patrick Butler, L.R.C.S.I., L.K. & Q.C.P.I., as Assistant Medical Officer.

St. Thomas Union.—Henry W. Furnivall, M.R.C.S. Eng., L.S.A., to the Woodbury District.

Stockport.—Mr. Oswald Wilkinson as Analyst for the Borough for one year.

Tavistock Union.—Richard E. West, M.R.C.S. Eng., L.S.A., to the Tavistock District and the Workhouse.

Thetford Union.—Edwin J. Gurdon, M.R.C.S. Eng., L.R.C.P. Edin., to the Hopton and Hepworth Districts.

Dr. Livingstone.—The bronze statue of this celebrated member of our profession is just completed, and on view at the foundry at Thames Ditton. It is intended for Glasgow.

Marischal College.—A portrait of Dr. John Macrobin, late Dean of the Faculty of Medicine, University of Aberdeen, has been completed by Mr. George Reid, R.S.A., to be presented to the above College by his former pupils.

Iodised Cod-Liver Oil.—Pale cod-liver oil, one hundred grammes; iodoform, one-quarter of a gramme; oil of anise, ten drops. The iodoform removes from the oil its nauseous and disagreeable odour. M. Fonssagrives prescribes this mixture in the same manner as ordinary cod-liver oil, in cases in which it is desired to combine iodine with it.—*Union Méd.*, December 6.

Dr. J. Bell Pettigrew, F.R.S.—This gentleman, formerly assistant in the Museum of the Royal College of Surgeons, Lincoln's-inn-fields, and now Dean of the Medical Faculty and Professor of Anatomy and Medicine in the University of St. Andrews, has been elected by the Universities of Glasgow and St. Andrews as their representative at the General Council of Medical Education and Registration of the United Kingdom.

The statue of the late Dr. Graves is to be unveiled in the hall of the Royal College of Physicians of Ireland, on Wednesday, the 19th inst., at 4.30 p.m. Critics speak warmly of the merits of the statue. It adds to the interest of the occasion that the sculptor, Mr. Albert Bruce Joy, whose colossal statue of Mr. Laird at Birkenhead was lately unveiled, is the son of Dr. Joy, who for many years practised as a physician in Dublin, and wrote several articles for the "Cyclopædia of Practical Medicine," and who is now living in retirement in London.

It is announced that the Victoria Hospital for Children, of which institution her Royal Highness the Princess Louise is the patroness, stands greatly in need of funds at the present time, to enable the work to be carried on efficiently. The hospital is wholly without endowment; yet, since it was established in 1866, relief has been afforded to upwards of 3040 in-patients and 149,000 out-patients. The Convalescent Home at Margate is a branch of this charity, and has been a great boon to poor children; but to support the Home £400 annually is required, whereas the subscriptions and donations have only amounted to a little over £100 per annum.

Diuretic Action of Cafein.—Prof. Gubler related several cases to the Société de Thérapeutique in proof of this. One of these was that of a man with dropsy from disease of the heart, to whom digitalis had been given with but slight result. After the injection of thirty centigrammes of the bromhydrate of cafein, diuresis commenced on the second day, gradually increasing until four litres and a half of urine were passed. When the injections were arrested, the urine again diminished, to increase again after their resumption. Prof. Gubler observed that with cafein the diuresis is abundant and almost instantaneous, while with digitalis the increase of urine only takes place on the second or third day. The citrate or bromhydrate of cafein does not excite any irritation in the cellular tissue. M. Constantin Paul stated that he attached great importance to the state of the pulse in the use of digitalis, and when it fell to sixty he suspended this, as after then, in spite of the continuation of the symptoms, it acts as a poison. Prof. Gubler said that with cafein the pulse diminished only a few beats, and became more regular; but as a "tensor" of the circulation, cafein is inferior to digitalis. Even sixty beats are too low for patients to take digitalis who have disease of the heart. Digitalis should be given only for five days if tincture is employed, but only for three or four days when infusions or macerations are prescribed. Whatever preparation of digitalis be employed, its effect is to determine diuresis, except where there is no dropsical effusion to eliminate, or when there is "imbecility" of the kidney.—*Gaz. Hebdom.*, December 7.

NEW PROCESS OF EMBALMING.—Dr. Lowell, of Brooklyn, has discovered a new process of embalming, which, it is calculated, will save to the city of Brooklyn alone from $75,000 to $100,000 per annum in the one article of ice, now used for the preservation of bodies for transport, besides doing away with much unpleasant and cumbersome material. A solution of chloride of zinc is the fluid used, and this is contained in a porcelain-lined vessel, raised to a convenient height, so that the contents pass into the vessel by gravity. A finely tapered glass tube is tightly fixed in place in the vein, while a glass U-shaped tube acts as a siphon, conducting the fluid from the receptacle, through indiarubber tubing, into the glass tube. The quantity of fluid thus injected will vary, and four or five gallons may be required. Dr. Lowell says that the injection may be made by either artery or vein, but he prefers the brachial artery above the elbow. "The effects are eminently satisfactory. The colour of the integument is improved, even at the points where hypostasis has been at work."—*New York Med. Record*, November 10.

THE following note, taken from our contemporary *Nature*, on the boring of the deepest artesian well at present existing, has some special interest just now in connexion with the new water-supply scheme of the Metropolitan Board of Works:—"The deepest artesian well in the world is being bored at Pesth, and has reached already a depth of 951 metres. The well at Paris, which measures 547 metres, has hitherto been the first. The work is undertaken by the brothers Zsigmondy, partially at the expense of the city, which has granted £40,000 for the purpose, with the intention of obtaining an unlimited supply of warm water for the municipal establishments and public baths. A temperature of 161° Fahr. is shown by the water at present issuing from the well, and the work will be prosecuted until water of 178° is obtained. About 175,000 gallons of warm water stream out daily, rising to a height of thirty-five feet. This amount will not only supply all the wants of the city, but convert the surrounding region into a tropical garden. Since last June the boring has penetrated through 200 feet of dolomite." We learn also that among some of the ingenious engineering devices invented during the course of the boring are especially remarkable the arrangements for driving in nails at the enormous depth mentioned above, for pulling them out (with magnets), for cutting off and pulling up broken tubes, and above all, a mechanica apparatus by means of which the water rising from the well is used as a motive power, driving the drills at a rate of speed double that previously imparted from the mouth of the well.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Dr. Augustus Florance.—Received with thanks.

A Doubter.—Have the kindness to send us a small portion of one of the tumours for further examination.

Dr. Simpson.—"The Signs of Rain" was composed by the celebrated Jenner, and the following lines addressed to a lady upon the recovery of her daughter, and sent with a pair of ducks, afford a fair specimen of his facetious vein:—

> "I've despatched, my dear madam, this scrap of a letter,
> To say that Miss ——— is very much better;
> A regular doctor no longer she lacks,
> And therefore I've sent her a couple of Quacks."

Arts Examination.—You will find the list was published a few weeks ago in this journal.

Sewers.—The Local Board of Hampton Wick obtained an Act of Parliament last year, forming a large district, which comprised Barnes, Kew, Mortlake, Petersham, Richmond, Kingston, Surbiton, the Dittons, the Moulseys, Hampton, Hampton Wick, and Teddington, into a united sewage district, with taxing power, and complete control over the sewerage.

Mountaineering.—One of the main objects of the promoters of Italian Alpine Clubs—the offspring of the English parent of all such associations—has been to give a greater manliness to the character of Italian youths. These clubs have been formed in many cities of Italy and of the Italian Tyrol. The Italian Alpine Club was founded in 1863.

Dairyman.—Yes, there are dairy laboratories in Italy for chemical experiments. The Germans have a mechanical appliance for getting the cream out of the milk by steam power. There is an invention for a special method of lighting dairies to prevent the possible contamination of the milk from the gases in combustion.

Delta.—1. The estimate is—that 1,033,000 acres of the best land in India are devoted to the production of opium. 2. A Commission, appointed by Government, is sitting in Bombay, to decide on a drainage and sewerage scheme for the city.

A Busy Body.—The American's answer was, "Well, sir, I made one thousand dollars, clean cash, *by attending to my own profession*, and I made the other thousand dollars by letting *other folks' business alone!*"

Fidelis.—The lines are those of the poet Crabbe, on "Evils of Quackery to Infants," the conclusions of which are—

> "She (the nurse) gave her powerful sweet without remorse—
> *The sleeping cordial*, she had tried its force,
> Repeating oft: the infant, freed from pain,
> Rejected food, but took the dose again,
> Sinking to sleep; while she her joy exprest
> That her dear charge could sweetly take his rest.
> Soon may she spare her cordial: not a doubt
> Remains, but quickly he will rest without.
>
> "This moves our grief and pity, and we sigh
> To think what numbers from these causes die."

Pranks.—The anecdote is that Sir Astley Cooper, when a boy, having taken two pillows from his mother's bed, carried them up to the spire of Yarmouth Church, at a time when the wind was blowing from the north-east, and as soon as he had ascended as high as he could, he ripped them open, and, shaking out their contents, dispersed them in the air. The feathers were carried away by the wind, and fell far and wide over the surface of the market-place. The timid looked on it as a phenomenon predictive of some calamity; the inquisitive formed a thousand conjectures. It was not long, however, before the difficulty was cleared up in the doctor's house, where it at first gave rise to anything but those expressions of amusement which the explanation when circulated through the town is reported to have excited.

"STINKING FISH."

Eight tons of fish were seized and destroyed by the officers of the Fishmongers' Company, at Billingsgate Market, as unfit for human food, during the past month.

HEALTH OF BOMBAY.

The death-rate in Bombay for the week ending the 17th ult. rose to a very high figure, being 49·38 per 1000 of the population per annum. There were 240 deaths from intermittent fever.

NOTEWORTHY.

By a recent decision of the Vice-Chancellor, the gift of £1000 in railway debentures to the Corporation of Brighton for charitable purposes was void under the provisions of the Mortmain Act.

MORTALITY IN PARIS.

The official returns of deaths in the city of Paris for the week ending the 6th inst., show an increase of 5 over the preceding seven days, the numbers being 888 and 883. Bronchitis increased from 45 to 53; typhoid fever decreased from 25 to 22, and lung diseases from 68 to 63.

PHYSIC AND FEES IN THE RUSSIAN PROVINCES.

A contemporary, in an article on "The Russians of To-day," writes—"A man had better not fall ill while in a Russian country town, for all the doctors outside the large cities are believers in phlebotomy and violent purgatives. They prescribe tea, but drug it without telling you, and the effects are felt for days afterwards. Their fee is anything you like to give; but whatever you may offer, they will be sure to ask more, and must therefore be dealt with as bluntly as tradesmen."

MATERNAL GOVERNMENT.

The Birmingham Board of Guardians, desiring to alter the dietary of the workhouse, by substituting occasionally currant instead of suet puddings for the children in the workhouse, applied to the Local Government Board for their permission for the proposed alteration. The reply received from the Board stated that they "approve of the proposal of the Guardians of the Parish of Birmingham to give the children in the workhouse currant pudding occasionally, instead of suet pudding. With regard, however, to the formula of the currant pudding, the Board are advised that a little sugar should form one of the ingredients of the pudding to make it more palatable."

STREET PERILS.

We are sorry to observe that drunkenness appears to be on the increase among cabmen. Not fewer than four such offences were brought before the London police magistrates in one day quite recently. One had left his horse and cab in the street while he adjourned to a public-house, from which he came out very drunk. Another had also left his horse and cab in the street, and was found by a policeman drunk. The third had, when drunk and driving furiously, smashed another cab. The fourth was seen by a policeman reclining on the top of his cab quite drunk, and driving at a furious pace. The penalties imposed were small fines, with the alternative of short terms of imprisonment. The fines were paid. Surely these offences, imperilling as they so seriously do the public safety, deserve as a punishment something more adequate than a trifling amercement, if drivers of public vehicles are to be made to feel the responsible duties of their calling.

ADULTERATION UNIVERSAL.

According to the annual report of the Local Government Board, in the metropolis in 1876-77 there were 4177 samples of food and 110 samples of drugs submitted for analysis. Of the former there were 515, or about one-eighth of the whole number examined, pronounced adulterated; but of the 110 samples of the latter examined, only 7 were found to be either more or less adulterated. In Manchester sophistication appears to be practised to a serious extent: of 149 samples of food examined, nearly one-half, or 68, were adulterated. In Liverpool more than one-fourth, or 73, out of 219 samples of food were adulterated; of drugs, only 3 samples were analysed, but one of these was found adulterated. In Bristol 58 samples of food out of 180 examined were adulterated. In Birmingham, of 67 samples of food and 25 of drugs, 25 of the former and 9 of the latter were adulterated. In Leeds nearly one-fourth, or 21, out of 95 samples of food were found to be "unduly mixed" with foreign substances.

Nocturnal Literary Work.

It may be of some practical utility to take note of some remarks the *World* makes on the suffering among those who are addicted to nocturnal reading and writing, from the defects of artificial light. The writer says—"A literary friend has lately imparted to me how much his discomforts of this kind have been removed by following the advice of an oculist, who told him to work at night only by the light of Silber burners, consuming either oil or gas. It seems that the light given by these burners, besides being abundant in quantity, is almost exactly like sunlight in its quality, so that it produces the same spectrum when refracted through a prism, and allows even the most delicate shade of colour to be distinguished. The irritating effect of ordinary artificial light is chiefly due to its superabundance of yellow, and from this the Silber lights are free. I impart this information for the benefit of all whom it may concern."

COMMUNICATIONS have been received from—

Dr. Byrom Bramwell, Newcastle; Dr. E. Lapper, Dublin; The Registrar of the University of London; The Registrar of Apothecaries' Hall, London; The Secretary of the Society of Medical Officers of Health, London; The Sanitas Company, London; Mr. Howard Marsh, London; Dr. Sutton, London; Dr. Hughlings-Jackson, London; Mr. J. Knowsley Thornton, London; Mr. Bacon, Seaton; The Secretary of the Obstetrical Society, London; Mr. Spencer Watson, London; Mr. Henry Coright, London; Dr. E. Sparks, Menstone; Mr. W. M. Bywater, London; Dr. J. W. Moore, Dublin; Sir Joseph Fayrer, London; The Secretary of the Harveian Society; The Secretary of the West Kent Medico-Chirurgical Society; Dr. Wm. Duncan, Shetland, N.B.; Dr. C. Theodore Williams, London; Dr. J. Mitchell Bruce, London; Mr. John Chatto, London; Dr. Thomas Barlow, London; Mr. B. R. Wheatley, London; Mr. C. J. Cullingworth, Manchester; Mr. J. Hancocke Wathen, Fishguard, Pembrokeshire; Dr. Graily Hewitt, London; Mr. T. M. Stone, London.

BOOKS AND PAMPHLETS RECEIVED—

Henry Gray, F.R.S., Anatomy, Descriptive and Surgical—I. B. Lyon, F.C.S., Surgeon-Major, Food Tables—Dr. Wilhelm Roth and Dr. Rudolf Lex, Handbuch der Militar-Gesundheitspflege—Transactions of the Medical Society of the State of Pennsylvania, 28th Session—Dr. C. Binz, The Elements of Therapeutics, translated by Edward I. Sparks, M.A., M.B. Oxon.—Isaac Ott, A.M., M.D., The Action of Medicines.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Cincinnati Clinic—Revista de Medicina y Cirugia Practicas—Gazeta Medica da Bahia—Night and Day—Students' Journal and Hospital Gazette—Dr. Bremond's Révue de Littérature Médicale—Dietetic Reformer—Edinburgh Medical Journal—Analyst—Dublin Journal of Medical Science—Australian Practitioner—Nordiskt Medicinskt Arkiv.

APPOINTMENTS FOR THE WEEK.

December 15. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 1½ p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

17. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Medical Society of London, 8½ p.m. Dr. Andrew Clark, "Prognosis of Certain Forms of Heart Disease."

18. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society, 8½ p.m. Professor Lister, "On Lactic Fermentation, and its Bearings on Pathology." (Mr. Lister's Specimens will be ready for inspection at 8 p.m.)

19. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex; 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 1½ p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.; St. Peter's Hospital for Stone, 2 p.m.

20. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

Harveian Society, 8½ p.m. Dr. Graily Hewitt, "On the Mechanical System of Uterine Pathology."

21. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

Medical Microscopical Society, 8 p.m. Dr. Urban Pritchard, "On the Cochlea of the Ornithorhynchus." Special Meeting to consider Mr. Golding-Bird's resolution.

VITAL STATISTICS OF LONDON.

Week ending Saturday, December 8, 1877.

BIRTHS.

Births of Boys, 1266; Girls, 1169; Total, 2435.
Average of 10 corresponding years 1867-76, 2228·9.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	811	736	1547
Average of the ten years 1867-76	828·7	824·7	1653·4
Average corrected to increased population ...	...	...	1769
Deaths of people aged 80 and upwards ...	...	...	45

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	3	10	4	...	5	1	3	...	3
North... ...	751729	5	10	18	2	4	...	7	1	4
Central ...	334369	...	5	4	...	4	2	1	...	...
East	639111	7	20	6	1	7	2	4	...	6
South	967692	10	31	14	2	16	...	6	...	6
Total	3254260	25	76	46	5	33	5	21	1	19

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·791 in.
Mean temperature	43·4°
Highest point of thermometer	55·0°
Lowest point of thermometer	35·5°
Mean dew-point temperature	40·5°
General direction of wind ... ...N.N.E. & W.S.W.	
Whole amount of rain in the week...	0·49 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, December 8, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Dec. 8.	Deaths Registered during the week ending Dec. 8.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2435	1547	55·0	35·5	43·4	6·33	0·49	1·24
Brighton	102264	43·4	71	36	53·0	36·5	43·3	6·28	0·74	1·88
Portsmouth ...	127144	28·3	92	49	53·8	36·5	44·6	7·01	0·74	1·88
Norwich	84023	11·2	49	31	50·0	34·8	43·8	6·56	0·87	2·21
Plymouth	72911	52·3	60	34	54·0	33·5	43·2	6·22	0·69	1·75
Bristol	202950	45·6	134	81	53·7	35·6	43·4	6·33	0·49	1·24
Wolverhampton ...	73389	21·6	58	31	51·2	29·2	40·1	5·06	0·32	0·81
Birmingham ...	377436	44·9	307	190	...	...	...	...	...	...
Leicester	117461	36·7	92	40	52·5	32·8	42·3	5·73	0·42	1·07
Nottingham ...	95025	47·6	79	56	51·9	33·3	42·0	5·56	0·57	1·45
Liverpool	527083	101·2	381	309	51·9	38·5	42·6	5·90	0·58	1·47
Manchester ...	359213	83·7	256	187	...	...	...	...	...	...
Salford	162978	31·5	117	75	51·7	32·1	41·0	5·00	0·77	1·96
Oldham	89796	19·2	71	48	...	...	...	...	...	...
Bradford	179315	24·8	127	73	49·8	36·5	41·7	5·39	1·11	2·82
Leeds	298189	13·8	244	145	52·0	35·0	42·9	6·06	0·86	2·18
Sheffield	282130	14·4	196	145	50·1	36·5	42·9	6·06	0·97	2·46
Hull	140002	38·5	115	39	49·0	32·0	41·6	5·34	0·75	1·90
Sunderland ...	110382	33·4	88	45	...	...	...	...	...	...
Newcastle-on-Tyne	142231	26·5	100	50	49·0	36·0	43·8	6·56	0·31	0·79
Edinburgh	218729	52·2	142	126	50·1	32·7	40·0	4·44	0·24	0·61
Glasgow	555933	92·1	362	252	50·7	32·0	41·4	5·22	0·81	2·06
Dublin	314666	31·3	163	221	53·0	28·4	42·6	5·90	0·26	0·66
Total of 23 Towns in United Kingdm	8166734	38·4	5739	3810	55·0	28·4	42·5	5·84	0·63	1·60

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·79 in. The lowest reading was 29·28 in. on Thursday afternoon, and the highest 30·10 in. at the end of the week.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. Salford, however, forms an exception to this rule, as the estimate is based upon the rate of increase of inhabited houses within the borough during the six years ending July 1, 1877. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

IS HEBRA'S PRURIGO MET WITH IN ENGLISH PRACTICE?

By JONATHAN HUTCHINSON, F.R.C.S.,
Senior Surgeon to the London Hospital and to the Hospital for Diseases of the Skin, and Surgeon to the Moorfields Ophthalmic Hospital.

PROFESSOR HEBRA'S DESCRIPTION OF PRURIGO—HIS ASSERTION OF FREQUENCY—RARITY IN ENGLAND—RESEMBLANCES AND DIFFERENCES IN ENGLISH CASES—TEST OF TREATMENT—PRIMARY LESION—GROUPS OF PRURIGO CASES—IMPORTANCE OF THE TOPIC.

GENTLEMEN,—In Hebra's work on Skin Diseases you will find a valuable chapter on "Prurigo."(a) As the result of long study of the local causes and clinical history of cases attended by persistent skin irritation, Hebra has arrived at the conclusion that there is a not uncommon form which is wholly distinct from all the rest, and for which he claims the term "Prurigo" to the exclusion of all others. He teaches that this malady has its origin in the nerve-structures of the skin, and that it occurs quite independently of local irritants, beginning spontaneously, and invariably in early life; and that there is nothing in the way of diathesis or health-condition which can be suggested as its cause. He further asserts that although it varies at different periods of the year, and is sometimes much relieved during hot weather, and may also be considerably benefited by local treatment, yet that it is essentially incurable.

He speaks of this malady as if it were tolerably common, and says that he has seen a thousand cases, and his description of it is most graphic and complete. Itching is of course its most prominent symptom, but is always preceded and attended by papules. These papules are sub-epidermic, as big as hempseeds, and differ little if at all from the colour of the skin. They may appear on all sorts of places, with, however, a definite tendency to prefer certain regions, and with the exception that the palms and soles and the flexures are never attacked. The skin is liable, as might be expected, to secondary changes in the later stages of the disease and when the scratching has been long continued. Thus it will become discoloured by pigmentation, eczematous, or thickened by chronic œdema; but these conditions, when they occur, are always secondary to the original malady. The terms in which the incurability of the malady is asserted are very strong. "He may do whatever he pleases, his malady will follow him to the grave. Only those who are unacquainted with this disease in its entire extent can assert that it is with difficulty curable. No, it is not with difficulty curable, for then it might under certain conditions be cured; it is incurable. Hence all that the physician can do is to use means by which the sorely tried sufferer's lot may be rendered more tolerable and he be prevented from falling into utter despair."

Hebra considers that his disease corresponds pretty much to Willan's descriptions of *Prurigo mitis* and *formicans*, and he asserts that it is a disease of the skin itself, and discredits the hypotheses which would associate it with the nervous system or the blood, equally with those which would assign it to local irritation. As I have already said, he insists that the first stage is papular, and states that he would prefer to use the term "pruritus cutaneus" for other conditions in which itching precedes the development of papules. It is, perhaps, needless that I should add that he of course draws the strongest line of demarcation between this disease and the large majority of those which have been described under the name of *Prurigo senilis*, and which are, as a rule, due to the irritation of lice.

We must receive anything which comes from the pen of such an acute observer with the utmost respect and consideration, and if we differ we must do so with great caution. Yet in again bringing before you this summary of Hebra's description of the prurigo which may not improbably in future bear his name, I feel bound to state in the first place that I suspect that some of its features are too sharply drawn. At any rate, it has been a matter of much surprise amongst English observers in dermatology that we meet with exceedingly few cases which at all closely fit with the definition of Hebra's prurigo. In infancy we have a considerable number of patients in whom the malady seems to be threatened, but although they are often very intractable cases, yet we believe that, as a rule, they get well in the end; at any rate, they do not return to us in adult age. Then, on the other hand, we do meet with certain cases which closely correspond in most points to Hebra's description, but which have begun much later in life, and have had perhaps a duration of only a year or two. As a minor matter, I may add that some cases, in other respects the most closely resembling the disease in question which I have ever seen, differed from Hebra's statement as to the influence of season in that they always displayed a strong tendency to improvement in winter. Indeed, I believe I might say, to sum up, that I have scarcely, although carefully on the look-out for many years, seen a single example of severe prurigo in an adult with the history of its having existed from infancy. One of the two cases which I detailed in a former lecture is still uncured, and it is quite possible may prove incurable. Should it do so, it will, I believe, come the nearest to conformity with Hebra's descriptions of any that I have ever observed. But it must be noted that the eruption did not show itself in infancy, but with the first menstruation at the age of eight.

Now, the question of the identity or otherwise of these several maladies seems to me to resolve itself into this: Are they really due to the same cause or class of causes? If they are, we shall find them occurring in the same class of patients, and remediable for the most part by the same methods of treatment. A name is nothing if it does not help us either in prognosis or in treatment. If it merely attaches itself arbitrarily to some one prominent feature which, although indeed very conspicuous, is after all the common property of a number of really different things, it is in danger of becoming an incumbrance rather than a help. I have been told by gentlemen familiar with the practice of the Vienna *clinique* that the cases which I call "winter prurigo" are really the prurigo of Hebra, and that the facts that they do not begin in children, and that they almost invariably get quite well in warm weather, are by no means important. I am told also that cases such as that of P. and of Harriet S., in which the eruption is worse in summer, often gets well in winter, and affects the face by preference, are also, in spite of these discrepancies, well-marked examples of Hebra's prurigo; and lastly, that the very numerous cases of pruriginous lichen in infants are also instances of Hebra's prurigo in its first stage. But if we are to widen the term so much as this, it seems to me that the description to a large extent loses its clinical value. It becomes no longer true that Hebra's prurigo is a disease which always begins in infancy, that it is usually made worse by cold, that it affects the face only secondarily, or that it is incurable. We find, on the contrary, that those examples of it which begin in infancy result in recovery (although admittedly after long periods of treatment); that those which are most intractable (cases of the P. and Harriet S. type), although they sometimes begin in infancy, very usually do not appear till after puberty, are made worse by heat, cured by cold, and usually have the face first affected. The cases have in common the features that the eruption is difficult to treat, very prone to relapse, and for the most part very pruriginous. Here their similarity, in the main, ends, and I am not at all sure that we might not find the solution of the matter in admitting the simple fact that when once the skin has been made very irritable over a long period, by whatever cause, it becomes very liable to take on the same condition again;—*once pruriginous, always pruriginous*, seems to be the thread of connexion which runs through the subject. This seems to me the point for the appreciation of which we are chiefly indebted to Hebra, and it is undoubtedly an important one, although I cannot help thinking that his expressions in respect to it are much too strong.

My remarks as to the differences which exist between the several groups of prurigo cases have thus far had reference chiefly to their clinical history, but if we take also the question of treatment, we shall find my inferences, I think, fully borne out. You cannot prescribe for "prurigo" in one and the same manner if it is to include all these different groups. The cases which result from varicella or other exanthems may be expected to gradually wear themselves out, and, so far as we yet know, the most that the prescriber can do is to alleviate the itching by the use of tar baths and by preventing scratching. They are uninfluenced by weather or climate. The sufferer from winter prurigo will be quite well if you can send him to a warm climate, and he will be very much helped, even

(a) See vol. ii. of the New Sydenham Society's Translation.

through an English winter, if you insist upon his wearing double-thick woollen clothing. The sufferers from the relapsing prurigo which is aggravated in the summer must avoid exposure to heat, and especially protect the face from the sun, and in not a few cases the liability to this form seems to be diminished by the use of arsenic. It would seem, indeed, to be allied in part to the acne of puberty, and in part to the dartrous state. The pruriginous lichen of infants is to be cured by preventing the child from scratching, by the use of the Persian powder to prevent the attacks of fleas, etc., and by spirit or tar lotions. Thus you will see, I think, that the question whether we consider prurigo as a peculiar malady, the cause of which is unknown and the course of which is uninfluenced by treatment, or whether we rather regard pruriginous irritability of skin as a symptom which may be evoked in connexion with several very different causes, is not without its important practical consequences. One is, indeed, almost tempted sometimes to think that it would be more convenient to deny that there is any malady deserving the name of "prurigo," and that we ought rather to think of pruriginous irritation as a symptom which may attend a large number of different skin diseases. If, indeed, we are offered no alternative, if we are not to be allowed to append qualifying adjectives to the word, but are to speak of prurigo as a clinical entity in the same sense as we speak of psoriasis as one, then I unhesitatingly avow my conviction that it would be better to forget it.

We must say just a few words as to the primary skin lesion which attends cases of prurigo, or rather, perhaps we ought to say, the different kinds of lesions which are present in pruriginous cases. Hebra makes it an important point in the description of his disease that there are minute papules which are not developed by scratching, but which precede it. Although, as has been well suggested by Dr. Hilton Fagge, it is almost impossible to feel certain on this point, since we scarcely ever see prurigo cases before the skin has been scratched, yet it is highly probable that this statement is, to some extent at least, true. Very intelligent patients suffering from prurigo will say that they are able to discover on a surface of skin which is quite pale, little, intensely irritable spots, which, when once found, it seems almost a matter of necessity to try to dig out with the nail. The suggestion of Hebra that such spots are really inflamed nerve-papillæ, with possibly a little effusion over their summits, is one which is well worthy of being kept in mind. It is these which, when surmounted by a blood-crust, resemble so exactly the results of bites of lice. But by far the majority of the minute papules which are present in prurigo cases are, I cannot have the least doubt, of the nature of lichen. We have defined lichen to consist of prominent hair-follicles, with more or less of growth—to be, indeed, a morbid aggravation of the physiological state *cutis anserina*. On pruriginous skins at different times, or often at the same time, you will see all gradations from the slightest form of cutis anserina to the most developed lichen. No one can, I think, doubt that there are lichen spots which are irritable, and which, in many instances, induce scratching. Acne is, as we have said, a disease of almost the same structure as lichen, but with more tendency to accumulation of secretion in the sebaceous glands and to inflammatory processes. As might be expected from this fact, we have a distinct form of prurigo which occurs in the acne positions (face and shoulders) and at the acne age (puberty and after), and assumes a decidedly acne type.

You must allow me, then, to repeat that, as the result of careful inquiry extending over many years, I am unable to identify any cases that will fit exactly with the Vienna description of "prurigo." We have, of course, many cases which accord well with different parts of that description, but none to which it applies as a whole. In the first place, we have fortunately none which in the least approach it in degree of severity and in resistance to treatment,—none which are protracted from childhood through the whole life. The cases which most nearly approach this feature are those in which the eruption is benefited by cold weather, and in which the face is always a part principally affected. In this group also the pruriginous element is by no means intense. The cases to which I have given the name of winter prurigo agree with Hebra's description in that they are always worse during cold weather, but they depart from it very widely in the facts that the lower extremities are usually first and most severely affected, that the liability never begins in childhood, and that the patients are not only better, but quite well, in summer. It is very probable that this disease may assume in the cold of a Vienna winter a far more aggravated type, and may thus afford the larger number of the examples to which Hebra's statements apply, but it is remarkable on this supposition that we have no mention of the absolute immunity during hot weather. We have in London practice plenty of cases of intractable prurigo in children (Lichen pruriginosus of authors), but although in many examples of this we are quite unable to boast of having really seen our patients cured, yet we have every reason to believe that they do get ultimately well. At any rate, we do not find these cases return for advice at later periods than those of early childhood.

(*To be continued.*)

HARVEIAN LECTURES
ON THE
MECHANICAL SYSTEM OF UTERINE PATHOLOGY.

DELIVERED BEFORE THE MEMBERS OF THE HARVEIAN SOCIETY.

By GRAILY HEWITT, M.D., F.R.C.P.,
Professor of Midwifery and Diseases of Women, University College.

Abstract of Lecture II.

In this lecture the relation of the various uterine symptoms to *alterations of shape* of the uterus was considered.

First, it was pointed out that on *à priori* grounds the best form for the uterus must be that originally given to it. External beauty of form and health are generally conjoined. The preservation of its proper form must be equally necessary for the health of the uterus, and for the carrying on of its various important functions.

Pain is the commonest uterine symptom, and, as a rule, the one most seriously complained of. There is—1. Spontaneous pain, not very common, produced by cancer, tumours, acute inflammation, etc. 2. Pain on motion. This is very common. It has been far too little noticed by pathologists. Formerly the author spoke of it as uterine "lameness." But the designation now proposed is *dyskinesia*. Such a term is required to designate symptoms of this kind. Uterine dyskinesia may be slight or severe; the characteristic is that it is produced by motion, and in not a few cases patients are entirely incapacitated by it, and entirely invalided. These pains are too often regarded as fanciful. They have, as a rule, a real cause. This cause is distortion of the uterus. Two propositions might be given—1. Uterine distortions and displacements invariably give rise to dyskinesia. 2. Dyskinesia (referable to the uterus) is invariably associated with presence of uterine distortion or displacement. Proposition 1 is more nearly true than is generally imagined. Proposition 2 is almost absolutely true. Chassaignac (in 1862) attributed such pains to the jars (*ballottements*) of the displaced uterus. This author evidently appreciated the importance of the "deviations" in this respect. Some writers contend that these distortions and displacements give no discomfort: in fact, cases differ. In pure descent of the uterus, with no flexion, there may be little pain. In cases of slight version and slight flexion conjoined, there may be little pain. But decided distortion is, with very few exceptions, always painful. Sometimes, again, congestion is absent, or the uterus has been long in the distorted condition, and has acquired tolerance of it. Particular positions of the body, exertions, lifting weights, stooping, riding, even sitting, often give rise to this pain, uterine distortion being the provable cause. Why do these movements produce pain? Chassaignac thought them due to the jarring of the uterus. Dr. Graily Hewitt attributes them to temporary aggravation of the flexion produced by the exertion. Observation conclusively proves this to be true. Treatment equally demonstrates its accuracy, for the pain is relieved by whatever prevents aggravation of the flexion. The reason why aggravation of the flexion gives pain is next considered. Compression and condensation of the uterine tissues at the seat of the bend, and the effect of this compression on the nervous fibres at this point, is the probable cause. Such condensation is inevitable (shown by reference to sponge model of the uterus). Increase of the congestion generally also existing in cases of flexion may account partly for the pain. But the compression and condensation theory is the best. Certain sensations as "sinking," "bearing down," are probably due to stretching of the uterine ligaments. Displacement of the ovary—a rare event—occasions dyskinesia to a severe extent.

Undue sensitiveness of the uterus to the touch was next considered. Observation shows that the uterus is almost never painful to the touch unless uterine distortion be present. The more severe distortions, accompanied by congestion, are those in which the tenderness is greatest. In 1868 the author published a paper to show that Dr. Gooch's "irritable uterus" was nothing more than severe chronic retroflexion of the uterus. Subsequent observation confirms this statement, but severe anteflexion may also give rise to exquisite tenderness to the touch, and to a somewhat similar train of symptoms. Acute sensitiveness to the touch is sometimes located at the internal os in chronic flexions, and is found out by use of the sound.

Menstrual Disorders.—The conditions of healthy menstruation were first described. The uterine secretion, fluid, and mucous membrane *débris* have to pass through a small aperture surrounded by dense tissues. This, the smallest part of the uterine tube, is at the middle of the uterus. The escape should be continuous. The capacity of a tube is greatest when circular; flatten it, and it becomes less. Such flattening occurs even to the extinguishing of the tube when the uterus is strongly flexed; and usually the flexion has effect at the middle of the uterus, where the tube is smallest. The condensation of tissues at this spot also renders less easy any dilatation of the tube. (This effect of flexion was illustrated by sponge model of uterus.) Professional opinion has for some time now inclined in favour of the "obstruction" view of dysmenorrhœa. The author, in 1863, expressed these views. Observation conclusively shows that they are correct. The horizontal positions alone—the prone or supine, according to circumstances—have great effect in relieving dysmenorrhœa, because they partly relieve the existing flexion. The pain indicates expulsive effort of the uterus due to the retention; this expulsive effort partly opens the tube, and partial escape of fluid occurs. Scanty discharge of brown fluid means retention, and partial disintegration of the menstrual blood. Further gushes of puriform or watery fluid observed between catamenial periods—purulent leucorrhœa in gushes—are another result of dysmenorrhœal retention. This is a very characteristic symptom of chronic flexion, though not one always present. These cases are commonly called cases of endometritis. But the endometritis results from the irritation of retained products, and it ceases when the canal of exit is made patent by dilatation or straightening of the canal. A further result in many cases is hypertrophy of the body of the uterus, the result, as Dr. John Williams has remarked, of increased muscular action of the uterus.

Another system is *menorrhagia*. In most instances when not due to cancer, fibroid tumour, etc., menorrhagia is due to uterine flexion. First retention, then expansion, then increase of area of uterine cavity, then increased quantity of blood. Clots now and then form, causing great pain in their expulsion. Sometimes the clots break down; hence sanious subsequent leucorrhœa. Attention was directed to the pouch formed by the flexed enlarged uterus, from which, in the upright position of the body, the fluid cannot readily escape. The flexed constricted uterine canal opposes also this escape. The fluid escapes in gushes.

Thus, dysmenorrhœa, leucorrhœa, and menorrhagia are in very many cases associated with flexions; and the effect, in such cases, of treatment of the flexion element is of itself a sufficient proof of the correctness the relationship indicated between the distortion and the symptoms in question.

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.—The annual report of the Society of Medical Officers of Health for the year 1876-77 shows that fifteen meetings were held by the Society during the year, in the Scottish Corporation Hall, which was kindly placed at their disposal for the purpose. The Society now consists of 156 members—namely, 36 metropolitan, 69 extra-metropolitan, 18 retired medical officers of health, 15 associates, and 18 honorary members. Dr. Buchanan, who has filled the office of President for the last two years with so much advantage to the Society, has intimated his desire not to be again nominated to that position, this step becoming necessary from the pressure of other engagements. The report contains an abstract of the papers read before the Society during the session, but as many of these have already been reported in our columns, it is not necessary to reconsider them now. The Society presented a testimonial in the shape of a silver jug and two goblets to Dr. J. Northcote Vinen, Honorary Secretary, who has held that post for fourteen years to the entire satisfaction of all the members.

ORIGINAL COMMUNICATIONS.

THE STRUCTURE AND FUNCTIONS OF THE NERVOUS SYSTEM.

By JAMES ROSS, M.D., M.R.C.P.,
Honorary Physician to the Southern Hospital for Diseases of Children, Manchester.

(*Continued from page* 643.)

III.—FUNDAMENTAL PROPERTIES OF THE NERVOUS SYSTEM.

In the previous communication the fundamental properties of nervous tissues were briefly sketched; and it was then seen that on ultimate analysis these tissues consist of cells and fibres, having the correlative functions of origination and conduction of molecular motion. The problem which must now be determined is—how are these cells and fibres put together to form a nervous system? The general law of organisation is that unlike functions entail unlike structures; and inversely, that unlike parts assume activities of unlike kinds. On looking at a simple nervous system, the greatest contrast of parts is shown between certain knots termed ganglia and certain cords termed nerves, which connect one ganglion with another, or with different parts of the organism. And since these parts exhibit the widest structural contrast existing in the nervous system, they will also exhibit the widest functional contrast. The ganglia are composed of nerve-cells with thin connecting processes, held together by a fine connective tissue; and the nerves are composed of nerve-fibres arranged side by side in a bundle, also held together by a firm connective tissue, and the whole surrounded by a fibrous sheath. Functionally regarded, the ganglia are originators of motion, and to some extent conductors also, while the nerves are simply conductors.

In the principal nervous centres of the higher animals, however, the ganglia, instead of forming knots, have come by approximation and fusion to form a continuous mass, which from its colour is called the grey substance; and the conducting fibres, instead of forming cords connecting two separate ganglia, also form a continuous mass, which from its colour is called the white substance. But, besides the central organs and the conducting apparatus, we must distinguish in a nervous system the peripheral terminations of the conducting apparatus—terminations which are specially adapted on the one hand for receiving impressions from environing agents and objects, and on the other for transmuting the molecular motions of the nervous system into the molecular motions of the work organs. It is not intended to enter upon even the most general consideration of the peripheral terminations of the conducting apparatus; hence our subsequent remarks will be confined to the consideration of the conducting apparatus itself, and to the central end organs of this apparatus.

The conducting apparatus, as already pointed out, consists of cords called nerves, and continuous masses called the white substance, both of these being composed of nerve-fibres, which remain unbranched in their whole course. Nerve-fibres are grouped into three classes with reference to the direction in which the energy passes through them—(I.) those which convey impressions from the periphery to a nerve-centre, named afferent; (II.) those which convey impulses from a nerve-centre to a work organ, named efferent; and (III.) those which conduct between two nerve-centres, named inter-central.

I. The afferent fibres are further subdivided into—(1) those which minister to reflex action, that is, those in which the disturbances, conveyed by an afferent nerve to a centre, are immediately transferred to efferent nerves; (2) sensory nerves, or those which convey impressions from the periphery destined to reach the highest nervous centre, which we shall subsequently see to be the organ of mind (they are called sensory, because any disturbance of them produces a sensation which the mind always refers to the peripheral extremity of the nerve); and (3) inhibitory nerves, or those which restrain action. It is generally assumed that there are three distinct kinds of nerve-fibres, corresponding to these three functions; but this is an assumption which is by no means proved as yet. The same system of afferent fibres may administer to the sensory and reflex functions, and it may depend upon various other actions, such as the relative resistance which the inter-central fibres concerned in the operation offers to the conduction of the impression, whether the one or other action, or both of of them, will ensue. The balance of evidence, however, appears to be in favour of the view that distinct fibres exist for

these functions. But the existence of inhibitory nerves is very doubtful. No one doubts the existence of an inhibitory function; the only question which arises is, whether the function is simple or compound. If the function is simple, there will be special nerves to minister to it; but if it is compound, it will be a resultant of the action of nerve-fibres, or of nerve-fibres and cells engaged in other operations. For instance, I throw the flexors of my leg and thigh into a state of rigid contraction, yet there is no movement of my leg, because I have at the same time thrown the extensors into contraction. The one action counteracts the other, and the leg is kept in a state of rest; but although the nerves which supply the extensors have been made to perform an inhibitory function, there are no special inhibitory nerve-fibres concerned in the action. But let us take an example from a more purely inhibitory function.

If the central end of the superior laryngeal nerve after section be stimulated by a gentle interrupted current, the respiratory rhythm is rendered slow or stopped altogether in a state of expiration; while, if the central stump of one of the divided vagi be stimulated, the respiration, which from the division of the nerves had become slow, is quickened again. If the nerve has become exhausted by previous stimulation, further stimulation of the main trunk may cause slowing, or even standstill, of the respiration. In accordance with these facts it is generally supposed that the superior laryngeal branch of the vagus contains inhibitory fibres, while the main trunk contains both accelerating and inhibitory fibres, the former of which largely predominate. It is very doubtful, however, whether there is any necessity to assume the existence of any fibres except the afferent fibres engaged in ordinary reflex action. The afferent impulses are first conveyed to an automatic respiratory centre in the medulla oblongata, which centre possesses a rhythmic action whereby it emits complex co-ordinated impulses of inspiration and expiration. The afferent disturbances brought to this centre by the pneumogastrics modify its regulative impulses according to the requirements of the system. When, however, the afferent fibres are stimulated by a faradic current, the rhythm of the molecular disturbances conveyed by them may be so out of relation to the rhythm of the automatic centre, that fibres which usually excite the centre to action may now arrest the action. It is well known that two strings may be arranged in such a manner that each will produce a musical note when made to vibrate separately, while they may under one set of circumstances produce two musical notes, the one of which harmonises with the other; and under slightly different circumstances produce, not a musical note, but a succession of beats with intervening periods of silence. It is quite possible, therefore, that the different effects obtained by stimulating the central ends of the divided vagi and their branches may arise from the altered rhythm of the afferent impulses acting upon an automatic centre already engaged in action.

But the most remarkable instance of inhibition is offered by the heart. It is found that if the peripheral portion of a divided pneumogastric nerve be stimulated for even a short time by a faradic current, the heart is immediately brought to a standstill, with its cavities flaccid and dilated. Here it is assumed that the pneumogastric contains cardio-inhibitory efferent fibres. There are good grounds for believing that the fibres of the pneumogastrics which end in the heart terminate in local automatic ganglia; and hence these fibres must be regarded as inter-central, and not as true efferent fibres. Hence the cardio-inhibitory action of the pneumogastric is susceptible of the same explanation which was given of the respiratory inhibitory action—namely, that the action of the automatic ganglia is arrested by the loss of harmony between the rhythm of their action and the rhythm of the impulses conveyed to them by the artificially stimulated nerve. This explanation is much strengthened by the fact discovered by M. Onimus, that by duly regulating the rhythm of the galvanic shocks passed through the nerve in correspondence with the cardiac rhythm he could increase the number and power of the cardiac beats. The influence of the vaso-motor nerves in causing dilatation of the minute arteries is another striking instance of an inhibitory action. The general law, as discovered by Ludwig and Lovén, is that when an afferent nerve is stimulated there is reflected back to the part along its vaso-motor nerves an influence by which its minute arteries are suddenly dilated; while an influence is sent to every other part of the body, which slightly contracts the arteries supplying them. There are good grounds for believing that arterial tone is maintained by local peripheral nervous mechanisms present in or near the small arteries, which are connected by inter-central fibres with the central mechanism in the cord. The function of these mechanisms, like the functions of the local automatic ganglia of the heart, may be stimulated or arrested according as the rhythm of the impulses conveyed to them from the centres in the cord are in harmony or out of harmony with the rhythm of their own actions. Loss of arterial tone, therefore, does not necessitate us to postulate the existence of special inhibitory fibres. Everyone is conscious of being able by an effort of the will to stop reflex movements; and when the brain of a frog is removed, reflex actions are developed to a much greater degree than in the entire animal. If the optic lobes of a frog from which the cerebral hemispheres have been removed be stimulated by placing upon them a crystal of sodium chloride, it will be found that the generation of reflex impulses in the spinal cord is greatly interfered with—that is, the stimulation of the optic lobes has inhibited the reflex action of the cord. From these experiments it has been assumed that specific inhibitory centres exist in the optic lobes. But this assumption is by no means warranted by the facts. It is quite possible that waves of disturbance conveyed along afferent reflex nerves to certain motor cells, may be met by impulses conveyed down through the ordinary channels connecting these motor cells with the higher nerve-centres, in such a way that the one molecular disturbance will counteract the other. This is rendered more probable since various other instances may be adduced to show that one nervous action interferes with the execution of another, without anyone ever thinking of ascribing such interference to special inhibitory centres or fibres. If the toes of one leg of a brainless frog are dipped into dilute sulphuric acid at a time when the sciatic nerve of the other leg is being powerfully stimulated by a faradic current, it will be found that either the reflex withdrawal of the foot will not take place, or that the period of incubation will be much prolonged. Goltz observed that, in the case of the dog, micturition, set up as a reflex act by sponging the anus, was at once stopped by sharply pinching the skin of the leg. From these, and many other similar examples which might be adduced, it is evident that two sensory impulses, arriving at the same centre by different paths, may interfere with each other in such a way that either the one counteracts the other, or the stronger current caused by the major disturbance drafts off that caused by the minor disturbance, so that the specific effect of the latter does not take place. These considerations therefore tend to show that inhibition is not a simple but a derivative function; and that, although it may be correct to speak of an inhibitory action, this affords no warrant for assuming the existence of distinct inhibitory centres and fibres.

II. The efferent nerves are subdivided into—(1) motor; (2) secretory; (3) trophic nerves. The further consideration of these nerves may be deferred at present, since the function of the motor nerves does not differ from that of the motor fibres already noticed, and the best evidence of the existence of the secretory, and especially of the trophic nerves, is derived from pathological facts.

III. The inter-central fibres may be subdivided into—(1) commissural fibres, or those which unite ganglionic centres of the same order; (2) centripetal fibres, or those which convey impulses from a lower to a higher centre; (3) centrifugal fibres, or those which convey impulses from a higher to a lower centre. A few words of explanation are necessary. I have used the word fibres instead of nerves in speaking of the inter-central channels, because, although we meet both with commissural, centripetal, and centrifugal nerves, yet the most prominent ganglionic centres have become so amalgamated, that the inter-central channels connecting them do not form nerves; but the fibres are packed along with the centres by means of the neuroglia, so as to form the white substance of the cord and brain. The words "centripetal" and "centrifugal" are generally used as synonymous with afferent and efferent; and Mr. Herbert Spencer was the first to use the word "centripetal" in the sense given to it here, and it will conduce to clearness if a corresponding meaning be given to "centrifugal."

Let us now consider the relations which the nervous centres bear to one another, and to the organism at large; or, in other words, the manner in which the nervous tissues and mechanisms are put together to form a nervous system. We have already seen that unlike parts have unlike functions, and for every distinct part of the organism we may expect to find a distinct function, presided over by a distinct nerve-centre. On the other hand, when the parts have become structurally fused, the functions also have become fused, and we may expect to meet with a similar fusion of the nerve-centres. In the development of an organism the first structural contrast arises between the outer and inner surfaces, represented by

the epiblast and hypoblast of the germ-vesicle. The most fundamental structural and functional differences will therefore be found to exist between the outer system of organs which react on environing agencies, and the inner system of organs which carry on sustentation; and we may expect to find the most fundamental structural and functional differences between the nerve-centres which preside over these two systems. The usual classification of the nervous system into cerebro-spinal and sympathetic acknowledges this distinction, since the first presides over the actions of the external, and the second over those of the internal organs.

But a third layer, called from its position the mesoblast, forms between the epiblast and hypoblast, and this layer gives origin to all the parts of the body consisting of connective tissue, muscles, vessels, and nerves, as well as to the urinary and generative organs. The parts derived from this layer serve to connect together the external and internal organs: and, in so far as the intermediate tissues subserve the functions of the external organs, their functions are regulated by the cerebro-spinal centres; and when they subserve the functions of the internal organs, their functions are regulated by the sympathetic: while, in so far as their function is intermediate between the external and internal organs, but partially independent of them, they have an intermediate and partially independent nervous system, termed the vaso-motor.

(*To be continued.*)

ÆGLE MARMELOS OR BAEL.

By Sir J. FAYRER, M.D.

A short notice of Goa powder had the effect not long ago of attracting attention to, and I hope of extending the utility, in this country, of a remedy much used and valued in India in the treatment of certain forms of skin diseases. I should be glad if a similar result were to follow notice of another Indian remedy that would, I think, also be appreciated and valued were it properly tried—I allude to the ægle marmelos or Indian bael fruit. Of course, I know it is now to be found in most English dispensaries, and that it is perfectly well known (by name) to physicians in this country—but this is in the dry form, when it is old and desiccated, the essential oil and aroma dissipated, and all the merits of freshness gone, in which condition it is probably inert,—or in the form of the fluid extract of the Pharmacopœia, of doubtful efficacy.

Steamers come from Bombay in twenty-six days, and there is no reason, that I know of, why they should not bring the bael fruit quite as fresh and fit for use here as in India; and it is only when fresh and nearly ripe that it is of any real value. In this state it would keep for months, and would be useful in a variety of forms of bowel complaint as in India, especially in chronic diarrhœa and dysentery, or in irregular action of the bowels, when it not unfrequently is said to be as beneficial in constipation as in the opposite condition. Given in the form of sherbet it is pleasant and refreshing, soothing and demulcent, from its aromatic and astringent properties, and from the viscous character of the mucilage that surrounds its numerous seeds.

It is hardly necessary to say that the bael is an orange with a ligneous rind in which there is much essential oil; that its pulp is astringent, and contains numerous seeds embedded in the tenacious mucilage. It is common in India, ripens in the autumn, and could be easily brought to England in the imperfectly mature condition. The bael has frequently been described, and is well known to medical men in India as a valuable remedy—not, as sometimes supposed, in the treatment of acute dysentery, but in certain chronic forms of that and other bowel complaints. Martin, Cleghorn, Grant, Waring, Jackson, and others, have spoken of its good effects. Sir R. Martin in the *Lancet* of 1853, and Mr. A. Grant in the *Indian Annals* of 1854, call attention to it. The latter says, "It is useful in habitual constipation, taken early in the morning, and also in the irregularity of the bowels attended by periods of looseness alternating with constipation as is so often seen in certain seasons in India. It has been given with good results in mucous diarrhœa, chronic diarhœa, and dysentery." In fact, many Indian physicians have spoken highly of bael for such purposes, and to a great extent I can confirm their opinion—at all events, quite sufficiently to say that it is a useful and pleasant remedy for some forms of bowel complaint in their chronic conditions; and to express my belief that it would be a valuable addition to our resources in the treatment of similar diseases here.

The preparations of bael are sherbet, and conserve or marmalade—both pleasant to take.

The officinal are the "liq. belæ" liquid of the Pharmacopœia, and the dry fruit. The non-officinal forms are the best.

For further information on the subject I would refer to the *Indian Annals of Medical Science of* 1853, pages 223 to 234; in articles by Dr. Cleghorn and Mr. Grant, giving a full description of the fruit, its preparations, and its properties, and to a paper by the late Sir R. Martin in the *Lancet* of 1853. I think that the facility with which it could, in these days of rapid communication, be imported, may induce some one to try the experiment.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

NEWCASTLE-ON-TYNE INFIRMARY.

ACUTE CANCER OF THE BLADDER AND OTHER ORGANS.

(Under the care of Dr. BYROM BRAMWELL.)

J. B., aged thirty-four, pitman, single, was admitted on December 16, 1875, suffering from swelling of the right leg and thigh.

Previous History.—Five weeks ago a small lump appeared in the right groin. Four weeks ago the right leg and thigh began to swell. He has been off work and confined to bed since. He has rapidly lost flesh. There has been a dull pain in the right groin. Until five weeks ago he was well and at work. He has been an unusually strong, healthy man. He has not had syphilis. The family history is good.

Condition on Admission.—He looks ill: the features are pinched, the conjunctivæ yellow. He is considerably emaciated. The right thigh is enormously swollen and hard. The skin of the right groin and lower part of the abdomen on the right side is thickened and brawny. A few hard purple pimples stud its surface. The abdomen is swollen, and contains some ascitic fluid. The liver is very much enlarged, measuring eight inches and a half in the nipple-line. The lower margin of the liver is hard and sharply defined; no nodules can be felt on its surface, which is decidedly tender to the touch. The bowels are costive. The spleen is slightly increased in size. The urine contains a trace of bile, but is otherwise normal. The thoracic organs seem normal. The pulse is 100, very weak; the temperature 98·6° Fahr. The patient is stupid and drowsy; he cannot be got to answer questions. The optic discs are normal. The blood is normal.

Subsequent Progress of Case.—Patient rapidly got worse. On December 19 he had a series of severe convulsions; both sides of the body were affected, consciousness was lost, and he foamed at the mouth. On December 20, at the time of my visit, he was insensible, and apparently dying. The eyes were turned to the left side; there was some nystagmus. Slight convulsive twitchings occurred every now and again in the right arm; the mouth seemed slightly drawn to the right side; the pulse was 140; the temperature 100° Fahr. On December 21 he was better, quite sensible, and able to answer questions. There was no paresis. The position of the eyeballs was natural; the discs were healthy. The swelling of the right thigh and groin was rapidly increasing. On December 28 the jaundice was very much deeper, and he was in every way worse. The thickening and tubercular appearance had extended over the right side of the abdomen up to the level of the umbilicus. The amount of fluid in the abdomen had increased. On December 30 he vomited a quantity of "coffee-grounds." On January 1 he died.

The *Post-mortem* was made forty-two hours after death. The skin was of a yellowish-green colour; the conjunctivæ were yellow. The right leg and thigh were enormously swollen. The skin of the right groin and of the lower part of the right side of the abdomen was hard and brawny, and was thickly studded with hard nodules, varying in size from a pin's head to a split pea. The abdomen contained a considerable quantity of yellow serum. The termination of the small intestine was firmly bound down to the right iliac fossa. The pelvic cavity was filled with a dense mass of new growth. This mass, which was harder than cartilage, surrounded the urinary bladder and rectum. The walls of the bladder were infiltrated with new growth, and were fully three-quarters of an inch thick; the vessels

going to and from the right lower extremity were pressed upon and partly obstructed. The mass of new growth extended upwards along the front of the spinal column, surrounding on all sides the aorta. Both ureters, in passing through the pelvic mass, were partly obstructed. The left kidney and left supra-renal capsule, pancreas and duodenum, were embedded in the growth. The liver weighed six pounds; its surface was studded with small white nodules, none larger than a pea; a few similar nodules were scattered through the substance of the organ. The walls of the gall-bladder were very much thickened, and contained similar deposits; the gall-bladder contained half an ounce of dark green bile. The spleen weighed six ounces, and was natural; the mesenteric glands were enlarged. The pelvis of the right kidney was considerably dilated; the right ureter, in its upper part, was also dilated—below, as has been already mentioned, it was obstructed. The right kidney weighed eight ounces and a half; its capsule was slightly adherent; on section it was of a dirty yellow colour, the result, apparently, of bile pigmentation; the cortical substance was swollen and congested. The left kidney weighed eight ounces and a half; it presented the same appearances as the right; its pelvis was dilated and studded with numerous small nodules of new growth. The heart weighed fourteen ounces, and was healthy. The pleural surface, especially the visceral layer, was studded with small nodules, identical in every way with those found in the liver and kidney. The right lung weighed one pound fifteen ounces, the left two pounds one ounce; both were œdematous and congested. The bronchial glands were enlarged. The membranes over the surface of the right ascending frontal and ascending parietal convolutions were thickened and adherent to the brain-substance; the adhesions were recent. There was a considerable amount of recent yellowish-green lymph, and numerous small nodules of new growth. These nodules were similar to those found on the surface of the liver, lung, and kidney. The membranes over the left hemisphere and at the base were normal; in the right Sylvian fissure and over the inferior surface of the right frontal lobe there were signs of inflammatory action, but no deposits. The brain was otherwise healthy.

On *Microscopical Examination* the new growth was found to be typically cancerous—a fibrous stroma with loculi containing largely nucleated round and oval cells. The secondary deposits in the liver, kidneys, lung, and brain all presented the same structure. In the skin of the groin and abdomen the division into loculi was not so well seen, but there were multitudes of cells with large oval nuclei infiltrated throughout the brawny tissue.

Remarks.—The case is exceedingly interesting from its very rapid course and from the wide extent of the secondary deposits. The infiltration of the brain, kidneys, lung, and liver in these respects resembled the deposit of miliary tubercle, rather than of carcinoma. The character of the new growth in the pelvis and abdomen was peculiar. I refer especially to the manner in which it had extended along the front of the spinal column, surrounding in a ring of almost stony hardness the aorta and other structures with which it came in contact. I have seen two other cases of a similar character. In one the mass of new growth was more localised, and an abdominal aneurism was closely simulated.

ENLARGEMENT OF THE LIVER AND SPLEEN IN CONGENITAL SYPHILIS.

(Under the care of Dr. BYROM BRAMWELL.)

At the meeting of the Pathological Society of London held on February 6 of the present year, Mr. Hutchinson described some cases of syphilitic enlargement of the liver in the following words:—"In several cases I have witnessed in young persons the subjects of hereditary taint great enlargement of the liver, which has subsequently wholly disappeared. It is difficult to believe that there is any kind of gumma-growth in such cases, and we are obliged rather to fall back upon the hypothesis of mere vascular turgescence. This turgescence may possibly in its turn be due to some disease in the nervous system. I well recollect a lad whose case illustrated what I am saying. He had on more than one occasion such enlargement of the liver that it hung below his navel, and was easily visible as a swelling when he lay on his back in bed. I had had him under observation for many years. He had nodes on almost all his long bones; and his mother, and several of his brothers and sisters, had suffered most severely from syphilis. At length he died. At the post-mortem, which was made by my colleague Dr. Sutton, the liver was found natural, and, excepting some patches of slight thickening of the capsule, showed no changes. . . It seems clear, however, that among the unexpected incidents of constitutional syphilis we meet occasionally with general enlargement of such viscera as the spleen and liver, independent of any of the conditions of new growth, which we recognise as specific and capable of spontaneous resolution."

The following case was apparently an example of this condition:—

B. B., aged twelve, was admitted on October 26, 1876, suffering from enlargement of the liver.

Previous History.—He has always been delicate. Four years ago he was laid up for some weeks with "gatherings" in various parts of his body. A cicatrix, the result of one of these abscesses, is to be seen in the left groin. For some time past he has been under the care of my friend Dr. Drummond, who recommended him to me. The enlargement of the liver has been noticed for several months, and remains stationary.

Family History.—His mother is dead. His father is a dissipated, drunken fellow. He had one brother and one sister; they both died young.

Condition on Admission.—He is small for his age. The forehead is square; the nose shrunken; the teeth somewhat peg-shaped. The nose used to be sore, and it "mattered" for a long time. There is a small cicatrix at the left angle of the mouth. The corneæ are clear. There are no nodes. He is thin and pale; the tongue is clean; the appetite good. The abdomen is very large-looking in its upper half. On palpation the swelling is found to be due to an enlargement of the liver. The inferior border is sharp and well defined; it reaches the umbilicus. Superiorly the liver dulness extends as high as the fourth rib. To the left it can be traced to a point drawn downwards in the line of the left nipple. The surface is quite smooth; the organ seems uniformly enlarged, and can be freely handled without causing any uneasiness. The spleen is also enlarged; its anterior border can be grasped between the finger and thumb when pressure is made with the other hand from behind. The blood is quite normal. The other organs are healthy.

The *Treatment* consisted in the application of the tincture of iodine and of the biniodide of mercury ointment externally; the administration of the syrup of the iodide of iron, iodide of potassium, and cod-liver oil internally, together with a generous diet.

Progress of the Case.—The patient's general condition quickly improved. The enlargement of the liver decreased somewhat; at the time of his discharge (December 28, 1876) the inferior border was an inch above the umbilicus. The lad has been under observation since his discharge. The liver enlargement still continues, but is less than at the time of his discharge.

Remarks.—I was at first doubtful whether the liver and splenic enlargement might not be "waxy." The healthy condition of the urine, the absence of diarrhœa, and the improvement under treatment, were against this supposition. The evidence of hereditary syphilis was not, perhaps, so strong as it might have been; still it was, I think, sufficient to justify the diagnosis.

BORAX LOTIONS.—1. Borate of soda 50 grammes (℥xij.), water 500 grammes (℥cxxij.); four tablespoonfuls to be added to a quart of warm water. 2. Borate of soda ℥j. to ℥jss.; emulsion of sweet almonds ℥xxxij. These lotions are useful in pruritus of the vulva, in aphtha of the genital organs of little girls, and in parts attacked by chilblains.—*Union Méd.*, December 1.

FECUNDITY OF WOMEN IN SOUTH AMERICA.—Dr. Posado-Arango, writing from Antioquia, in Columbia, South America, observes that the occupation of wet-nurse does not exist here, as every woman, rich or poor, suckles her own child until signs of a new pregnancy are apparent, which is usually the case in the ninth month—so that every child is eighteen months older than the one which succeeds it. There are, however, many women who produce children who are in good condition every eleven months. Thus suckling is nowise in opposition to procreation. Every marriage gives rise usually to from ten to thirteen children, and there is a lady here who has thirty (some of them twins) living children. A man, also, who has married three times, has had fifty-one children; and as his last wife is still young, he may perhaps reach his sixtieth child. Women marry early, from thirteen to sixteen years of age, and begin menstruating at thirteen or fourteen. The nature of their nutriment certainly contributes to this great fecundity. Maize forms the principal basis of this; and its influence is also observable with respect to hens and sows.—*Union Méd.*, December 4.

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Medical Times and Gazette.

SATURDAY, DECEMBER 22, 1877.

THE SEWAGE AND THE THAMES.

The question of the disposal of our metropolitan sewage, which has for some years lain comparatively quiescent, bids fair to become again one of the most prominent, as it is one of the most difficult, of our social problems. It is now twenty-five years since the first great attempt was made to grapple with the gigantic evils that had arisen from the *laissez aller* policy of former generations. And the attempt was made manfully—no half-measures were used; the enemy was looked straight in the face; and the plan of action, when once decided on, was carried out vigorously, notwithstanding the great financial and engineering difficulties inseparable from an undertaking of such magnitude. For result we have the great main drainage system of Bazalgette—an engineering work of which London may well be proud. But no sooner have we settled quietly down in the belief that our exertions have been crowned with success, and that we have solved once for all the problem of the ultimate disposal of our sewage, than we are told that we have only been preparing a fool's paradise for ourselves; and that while we have been remedying one evil, we have brought upon ourselves another little less formidable. The main object of our endeavours hitherto has been to rid ourselves of noxious refuse, without such refuse becoming a nuisance elsewhere. Even in this, it is said, we have not been entirely successful; and we are now asked to believe that our refuse is becoming a serious impediment to the navigation of Father Thames.

Very soon after the opening of the main drainage system in 1863 it was found that changes were taking place in the bed of the Thames, which in places was gradually becoming filled up by deposits of mud, and that near the southern opening of the drainage works the depth of the water had decreased from seventeen to seven feet, and the bottom was found to consist of mud instead of gravel as heretofore. This discovery gave rise to some consternation, for it was immediately supposed that what was taking place rapidly near the outfalls would be going on less rapidly over the whole bed of the river for some distance above and below those points—that a gradual process of damming-up the river had been begun, which must end in disastrous results.

In 1867 an inquiry into this matter was set on foot, and directions were given that periodical surveys of the river-bed should be made. It was then stated, as the result of the inquiry, that the shallowing process which had taken place was not due to the accumulation of sewage-matter, but to the opening up of a new channel by extensive dredging operations undertaken some time previously, and which, by altering the course of the stream, had deprived the old channel of its wonted scour, and so led to its gradual filling up with mud. The periodical surveys have shown that although the Thames, instead of decreasing, has gradually increased in depth near the sewer-outlets during the past sixteen years, yet the rate of increase has been only half what it was during the previous thirty years. It has been found also that mud taken from the bed as high as Woolwich Reach is largely contaminated by organic matter. These results were embodied in a report presented to the Thames Conservators by Captain Calver, F.R.S., of the Royal Navy. This gentleman appears to doubt that the dredging can have been the cause, or at any rate the sole cause, of decrease in the river's depth. He considers that the surveys show that there is a gradual deposit going on in the river-bed, which, on account of the presence of sewage-matter in it, he regards as mainly due to sewage discharge. If this interpretation of the facts be correct, we cannot consider our sewage question as settled, nor, indeed, as much nearer to a solution than it was five-and-twenty years ago.

How does it happen that sewage thrown into a tidal river is not at once carried out to sea, but hangs about, and finally leaves behind as deposit the solids which it held in suspension?

It would appear that, discharged as it is many miles from the mouth of the Thames, even though the discharge takes place during the early part of the ebb tide only, the sewage does not arrive at the mouth so as to be mingled with and lost in the sea before the tide turns. It is thus carried up the river again, and, oscillating in this way with the tide, its actual rate of progression towards the sea amounts to no more than five miles in a fortnight. It has also been calculated that any given portion of sewage is only finally disposed of at the end of twenty-two days. During the whole of this period the suspended matters are gradually sinking and being deposited in the river-bed.

Granted that such is the case, we must not suppose that these solids are entirely or even mainly composed of fæcal or other organic matters. In London, with its soot and dirt, large quantities of insoluble inorganic material must be carried into the drains by the rain and by other means, and these will for the most part be very much heavier than the insoluble organic materials, many of which will be little, if at all, heavier than water. Hence the deposit will be composed largely of these heavy and, in themselves, harmless substances, which, however, carry along with them some organic particles. Such being the case, it is obvious that the silting-up question is a separate one from that of the disposal of our excrementitious matter; for, were the latter to be withheld altogether from our sewers, there would still be a mud deposit, differing only from that which now exists in so far as it would contain a smaller proportion of organic substances.

We will first deal briefly with the mud question. It is, we suppose, incontestable that the river is the only possible receptacle for our rain and other waste waters. If the evil to which Captain Calver has called our attention be a real one, how are we to avoid it? To us there appear to be but three possible solutions of the problem—either to leave things as they are, trusting to the dredging-machine to keep the bed of the river free; or to filter the sewage before throwing it into

the river (an arrangement which would necessitate the construction of large filtering-beds near the present outfalls); or, lastly, to carry the sewage for such a distance farther down the river before discharging it as to allow of its much more complete admixture with the sea before the turn of the tide stops its progress. The second and last alternatives would involve great outlay, and the probability is that the evil might be successfully combated by the dredge.

The other question—viz., that of the contamination of the river and of the river-mud by excrementitious matter—is by far the more important of the two from the medical standpoint, if we are to believe that this contamination is really going on in any appreciable degree. Captain Calver lays great stress on this point, but his statement is denied by Sir Joseph Bazalgette, who, trusting to the great dilution of the sewage, and the oxidising power of water, considers that the contamination is not enough to be dangerous, and that it can scarcely even be looked upon as a nuisance. Captain Calver, however, adduces one very telling fact, namely, that the river below bridges has of late years become much more fatal to fish than previously—so much so, indeed, that the Dutch fishermen, who twenty-five years ago towed their cargoes of live fish as high as Erith, now seldom come higher up the river than Hole Haven, some twenty miles below. Here we have to deal with the old problem, how to dispose safely of excrementitious matter: to which is now added the question, Can we not utilise it for manure, and thus turn to profit what hitherto has been treated as waste?

The possible solutions to these questions are, roughly, three: either to preserve the excrement in an undiluted form, and thus make use of it—in other words, to adopt the *dry* method of removal; or, secondly, to remove it by water as at present, and to separate it before discharging the water into the Thames, the residue being used for manure; or, finally, without attempting to utilise the sewage in any way, to disinfect it before its discharge.

The dry system, of which the best representative is Moule's plan of disinfection with dry earth, though excellent in small communities and in agricultural districts, may be at once set aside as regards London, for to carry it out it would be necessary to supply not less than 40,000 tons per week of prepared earth. It is needless to dwell upon the impracticability of such a plan.

As regards the other systems, we are afraid it is useless to wait until some financially successful plan shall have been discovered for utilising our sewage. We must be content if we can prevent the pollution of our river; and, considering the importance of doing so, we ought not to complain if we have to pay, even somewhat heavily, to secure this boon. Various schemes have been proposed for accomplishing this end—some with a view to the utilisation of the products, some aiming simply at disinfection—but space will not allow us to treat of these in detail. Suffice it to say that no system of preparation for the purposes of manure has hitherto been found, when applied on a large scale, to yield a financial success. Without wishing to prejudge the question too dogmatically, we cannot but think that our endeavours should be directed, in the immediate future, to the simple disinfection of our sewage; and that, far from expecting to find in it a source of gain, we must be prepared to incur an annual loss, and must be well satisfied if, by paying down a periodical sum, we can free ourselves from an incubus which is one of the worst impediments in the way of our national health.

THE ACTION OF ANÆSTHETICS.

Professor Ranke, of Munich, has published in the *Centralblatt Med. Wiss.*, No. 34, 1877, an account of some experiments he has made on the effect of injecting various anæsthetics into the blood of rabbits and frogs. He was led to the investigation by observing that a 10 per cent. solution of chloral hydrate injected into a rabbit's femoral artery caused well-marked rigidity (Starre) in the muscles which this artery supplied. It is well known that even small quantities of chloroform excite muscular rigidity if injected into the corresponding artery; and, on experimenting further, Professor Ranke found that other anæsthetics besides chloral and chloroform—namely, ether, amylene, bromoform, and bromal hydrate—have the same property of coagulating myosin in the living muscle, and producing rigidity, after a preliminary stage of powerful fibrillary twitchings. He also found that iodoform (which has hitherto not been credited with general anæsthetic properties, although it is said that it relieves *local* pain), if dissolved in ether and injected into an artery, causes rigidity, exactly as does chloroform; such rigidity being much more rapid in its appearance, and more intense, than if ether alone were injected. Hence Ranke concludes that the anæsthetic properties of iodoform are, probably, ordinarily masked by its insolubility. The interesting point about this research is this: that while muscular rigidity is excited by true anæsthetics, a number of powerful astringent substances—namely, tannin, sulphate of copper, corrosive sublimate, sulphate of iron, as well as other bodies like alcohol, trichlor-acetic acid, and distilled water—have no such effect. The only substance among those just enumerated which caused anything approaching to rigidity was sulphate of copper in a 10 per cent. solution; but the appearance of the muscles was different from that produced by the injection of the anæsthetics. Ranke therefore believes that the latter exert a sort of specific influence on muscular fibres.

These experiments are further of interest from the fact that Professor Binz, of Bonn, has lately asserted that the narcotics of the Pharmacopœia possess the property of causing a kind of coagulation of the cortical substance of the brain, which so affects its tissue-changes as to render it incapable (for the time) of exercising the functions which are associated with wakefulness. Now, although Professor Ranke has failed to successfully repeat Binz's experiments as described in the *Archiv fur Exper. Pathol.*, Bd. vi., and therefore refuses to admit that morphia (the particular drug experimented with) owes its effect to a "process of coagulation," he is willing to assume that the general effect of anæsthetics is similar to what Binz believes, and that the various consecutive phenomena of narcotism—loss of consciousness, cessation of irritability, first in the motor nerves and then in the muscles, and lastly muscular rigidity—are to be explained "by a gradually intensifying action on the albuminous molecules of the nerve and muscle fibres." If this be true, the muscular rigidity, with which Ranke's experiments chiefly deal, would, as he remarks, be the most conspicuous terminal link of a chain of connected processes.

That coagulation of protoplasmatic matter may be an essential feature in a nervous phenomenon is shown by the remarkable discovery made by Darwin, that the transmission of the stimulus which causes inflection of the tentacles of the *Droseraceæ* and other insectivorous plants is accompanied by the formation of minute granules in the cells of the glands (in *Drosera*), which gradually aggregate into larger and larger spheres, or into "oval, club-headed, thread, or necklace-like masses of protoplasm," and that such coagulation extends from above downwards through the cells of the tentacles. Now, after a time the coagulated material is redissolved, and the cell-contents become once more clear: and this is the point to which we wish to call special attention, because one of Ranke's objections (*loc. cit.*) to the idea of coagulation as an element in anæsthesia is that such coagulation must be *permanent*. The analogy of *Drosera*—not, of course, an exactly

parallel case, but still one bearing on the question—shows that temporary coagulation may occur in living protoplasm in connexion with a nervous process; so that so far Ranke's objection falls to the ground.

The idea of coagulation as an element in nervous phenomena may be a fruitful one by giving a definite direction to research. Any idea is better than that involved, or not involved, in the old explanation of the narcotic effects of morphia—namely, that it so acted "owing to its property of causing sleep"!

THE WEEK.

TOPICS OF THE DAY.

It is instructive to watch how the necessities of modern civilisation seize upon the most incongruous methods to supply the demand for out-of-the-way adjuncts to personal appearance. A little time ago agents travelled the whole of Europe to negotiate the purchase of human hair from the living and the dead. Now it appears that the price of a human jaw at the seat of the war in Bulgaria is 10 fr., more or less. It varies according to the regularity, soundness, and whiteness of the teeth. In Paris the quotation is 50 per cent. greater at wholesale prices. This extraordinary commodity is conveyed in cases containing 500, and the teeth are extracted after their arrival at the city to which the jaws are consigned. The business on the spot must be exceedingly brisk, otherwise it is fair to assume that the teeth would be extracted before transit.

It would appear that the river Thames is beginning to suffer somewhat severely from the large and continuous discharges of sewage from the outfalls at Barking and Crossness. In the summer of this year the Conservators requested Captain Calver, R.N., F.R.S., to report upon the changes which have occurred in the bed of the river since the main drainage scheme was carried out, his attention being also directed to the analyses by Dr. Letheby and Dr. Williamson of the soil of the river-bed at several points near the main sewer outfalls and Woolwich Reach. Captain Calver's report has recently been issued, and from this it is to be gathered that foul and offensive accretions have recently formed within the channel of the Thames; that a material portion of these accumulations is in the immediate neighbourhood of the metropolitan sewage outfalls, and that they have formed since the outfalls came into operation; that the sewage discharged contains matter in sufficient quantity to account for the mass of the new formations; and that some statements connected with the current action and the purification of the sewage after discharge, brought forward in support of the system of sewage discharge at the metropolitan outfalls, are not tenable. Captain Calver recommends that the Metropolitan Board of Works be called upon at once to dredge away such portions of the accreted matter as interfere with the navigation of the river, and that they be requested to adopt such other arrangements as may be calculated to prevent similar accumulations in the future.

In a recent report the British Consul-General at Bagdad (Mr. Nixon) states that in another outbreak of plague this year in that city there were 1549 deaths registered between April 4 and June 1; but this was a lower mortality than in the last year, owing chiefly to Surgeon-Major Colvill having influenced the Jewish community to quit the city of Bagdad, and to their exodus being followed by that of the Christians and the Mohammedans. The disease scarcely appeared in any other locality, and where it did it was apparently carried from Bagdad.

The annual report of the Local Government Board, in dealing with the working of the Sale of Food and Drugs Act, records that the Act has been found to work well in many parts of the country, although the results of the different analyses show that comparative freedom from adulteration is only to be found in a few counties and boroughs. In most localities many of the samples of food and drugs submitted to the analysts were reported to contain deleterious and foreign substances. In the metropolitan districts, out of 4177 samples of food, 515 were adulterated; and out of 110 drugs, 7 were adulterated. In Staffordshire, 25 per cent. of the foods, and nearly 50 per cent. of the drugs, subjected to analysis were not up to the standard; in the county of Somerset, out of 800 samples of food, 164 were adulterated; in Gloucestershire, 37 out of 605 samples were condemned; in Surrey, out of 502 samples of food and 3 of drugs, 56 and 2 respectively were adulterated. In some of the manufacturing districts the proportion of the adulterated samples was especially large—in Lancashire 142 out of 303, and in Salford 33 out of 85. Similar results were elicited in Hampshire, Bedford, Durham, Warwickshire, Sussex, Liverpool, Leeds, Bradford, Brighton, Southampton, Wolverhampton, Nottingham, Sheffield, and other places. Proceedings were not instituted in the majority of these cases, as the extent of the adulteration did not seem to require the prosecution of the sellers.

In a letter to the *Times*, Dr. Leonard, of Upper Norwood, makes a suggestion which should not be lost sight of. He says:—"While we are receiving many tons of dead meat from the other side of the Atlantic in the most perfect state of preservation, we read with astonishment that eight tons of fish were last week destroyed at Billingsgate Market, being unfit for human food; and we ask the Fishmongers' Company how it is that so much excellent food, caught at our own doors, is allowed to go to waste. Is no effort ever to be made to have chilled cells for the conveyance of so much valuable food from our prolific fishing-grounds to market? On March 20 last, the Bremen Geographical Society gave a dinner of fish from the river Ob in Siberia. The fish had been packed in ice, and forwarded from Tobolsk, and arrived in perfect condition after a journey of 3060 miles, though eighty-three days on the road. A moderate amount of energy and proper appliance seems to be all that is necessary to bring our fresh fish to market from any part of the German Ocean and coast of Ireland."

At a meeting of the Lower Thames Valley Main Sewerage Board, held last week at Kingston, an application from the Heston and Isleworth Local Board to be included in the United District was considered, and it was agreed to express disapproval of the inclusion unless one-half of the cost of making the communication between the sewers of Heston and Isleworth and the main sewer or sewers of the joint Board was borne by the Local Board of Heston and Isleworth. Notice was also received from the Chertsey Rural Sanitary Authority that application had been made to the Local Government Board to include Oatlands, Hersham, and Weybridge in the United District.

General Sir Arthur Cotton last week read a paper at a meeting convened by the East India Association, on the "Prevention and Counteraction of Indian Famines." Famine, he said, had not been prevented, though vast sums had been spent on railways, irrigation, and navigation works; nor had we prevented millions from dying of want. We had failed both in producing food and in bringing it to the starving. In the provision of artificial irrigation and improved transit the way to escape from future famines would be found. It might be confidently concluded that all the great lines of India through the populous points might be opened by steamboat-canals at practicable cost; that all the multitude of old works might be greatly improved and extended; that every district in India might be to some considerable extent irrigated; and that innumerable sites existed for storing water on the grandest scale, as had been done at Poona and Sholapoor. In the discussion which followed the address of General Cotton, his views were for the most part warmly approved of.

At Sheffield, last week, Mr. Wightman, the Coroner, resumed the inquiry on the bodies of two children who had

died, it was alleged, from the effects of vaccination. The children, as well as a third, since dead, were vaccinated at Ottercliffe Provident Dispensary by William Taylor, an unqualified surgeon. Erysipelas and inflammation intervened, and the children died. The Coroner advised the jury that if an unqualified person performed an operation from which death resulted, no matter whether properly performed or not, he was guilty of manslaughter. The jury adopted this view, and returned a verdict of manslaughter against Taylor, who was committed to the assizes for trial. We shall wait for the clear evidence in these cases before commenting on the alleged connexion between the vaccination and erysipelas.

Mr. Rawlinson, C.B., who is superintending the sanitary improvements being carried out at Marlborough House, reports that "all old drains and all tainted subsoil are being removed from the basement of the residence; all drains are being removed, and new drains are being constructed externally; all sink-pipes pass into external traps externally ventilated; all timber floors are being taken up, and the ground surface examined, cleansed, and covered by three inches of Portland lime concrete. These floors will be free from any refuse underneath, and will be fully ventilated. Where the old drains have been removed, new clean gravel is substituted, and the surface is then concreted. The entire basement is, in fact, being examined, freed from tainted material, and is also being concreted. No pains or expense are being spared by the Office of Works to free Marlborough House from a suspicion of sewage taint; and when it is again handed over to his Royal Highness, it will, presumably, be as complete in all sanitary works as such a house can be made."

Another death from typhus fever has occurred in the County Gaol, Salop. An inquest was held last week upon the body of Herbert Hartland, aged seventeen, who was committed at the last Michaelmas sessions for felony at Chetton. The prisoner died the day preceding the inquest. The jury, after a thorough investigation into the cause of the death, returned a verdict that deceased died from typhus fever, and expressed a wish that the attention of the justices should be called to the water-supply of the prison. This is the fifth case of typhus fever which has happened in the gaol this year.

At the monthly meeting of the Town Council of Carlisle, held last week, Dr. Elliot was re-appointed Medical Officer of Health. This post would appear to be by no means a sinecure in Carlisle, for at the same meeting it was reported that Dr. Prescot had called attention to overcrowding in dwellings, and had stated that in several parts of the town he found that overcrowding existed to a considerable extent, and the sanitary laws were seriously transgressed. The members of the Council were reminded what a serious epidemic occurred in Carlisle only a few years ago, and they were recommended to keep this subject before them and see what could be done. The matter was accordingly referred to the Health Committee to be thoroughly dealt with.

Communications from the Local Government Board were read at the meeting of the Metropolitan Asylums Board on Saturday last, one of them approving generally of the views of the managers as to the erection of additional buildings on the site of the schools at Darenth, for imbeciles who have proved incurable while under school treatment; and the other enclosing a highly satisfactory report of the Lunacy Commissioners relative to visits to the Leavesden Asylum. The number of inmates of this Asylum is at present 2048—879 males, and 1169 females.

An Order in Council recently published in the *London Gazette* signifies the approval of the Lords of the Privy Council of a resolution agreed to by the Council of the Pharmaceutical Society, declaring that chloral hydrate and its preparations ought to be deemed poisons within the meaning of the Pharmacy Act, 1868.

THE ACTION OF GLYCERINE.

This subject has recently been investigated by Dr. A. Catillon (*Arch. de Physiologie*, 1877, page 83, and *Gazette des Hôpitaux*, 1877, No. 19), chiefly in relation to nutrition. He found that the addition of 0·5 gramme glycerine to the ordinary green food of guinea-pigs caused an increase of *one-tenth to one-fifth* in their body-weight in a month; whereas a number of the same animals, similarly fed, but without glycerine, remained *in statu quo*, but on the addition of the latter drug gained an equal amount of flesh in the same period of time. The increase appears to depend partly on a development of fat, and partly on diminished destruction of nitrogenised tissues. The excretion of urea is reduced by the use of glycerine. Catillon found that in six days, *without* glycerine, he passed a mean of 23·55 grammes per diem; and in the next six days, with similar diet and thirty grammes glycerine, 17·10 grammes. The effect was not increased by larger doses than 30 grammes—in fact, it was rather diminished by them, and they gave rise to diarrhœa and other signs of disordered digestion. Experiments on dogs did not reveal the presence of retained urea in the blood (*i.e.*, the blood during the use of glycerine is not abnormally rich in urea). No appreciable quantities of the drug can be detected in the blood, and the same is true of the sweat and fæces. The blood of dogs which have had large doses for a very long time appear to contain less than the normal quantity of glucose. As soon as the dose exceeds 20 grammes daily (in dogs), part of the glycerine passes into the urine about an hour after ingestion, and can be detected there for about four hours. Neither albumen nor sugar were ever present in the urine. The temperature of the animals rose from a few tenths of a degree to 1·5° Cent. In moderate doses, not exceeding 30 grammes per diem, which should be taken all as once, diluted with about *ten* times the quantity of water, Catillon affirms that glycerine improves the appetite and the digestion, and acts gently on the bowels. He does not recommend a larger dose, but we may mention that Harnack, in an article on the Treatment of Diabetes by Glycerine, published in 1874 (*Archiv f. Klin. Med.*), gave diabetic patients as much as 180 to 360 grammes daily, in association with animal food, and found a marked improvement in their general condition, and a reduction in the quantity of urine sugar, and urea excreted, the latter two results agreeing with those obtained by Catillon in his experiments on dogs and on himself. It is important to notice that glycerine is a poison in large doses. Fifteen grammes to each kilogramme of body-weight will kill a dog if administered in one dose. This subject has been more fully investigated by Drs. Dujardin-Beaumetz and Andijé (*Union Médicale*, 1876), and they found that subcutaneous injections of eight to ten grammes per kilogramme of body-weight would kill a dog in twenty-four hours. They were followed by hæmaturia and vomiting, and later on by dryness of the mucous membranes and severe thirst, by great muscular weakness, sopor, moderate depression of temperature, and death. Tetanic spasms occur after doses of fourteen grammes per kilogramme, and the temperature rises above the normal. Post-mortem examination showed marked hyperæmia of the liver, kidneys, lungs, and intestinal mucous membrane. How glycerine exerts its poisonous action is as yet unknown.

CHARGE OF AN ATTEMPT TO PROCURE ABORTION.

We are sorry to learn from a Manchester paper that Mr. J. C. White, Senior House-Surgeon to the Ardwick and Ancoats Dispensary, has been committed to take his trial at the next Manchester Assizes on a charge of attempting to procure abortion. It appeared, from the evidence given before the magistrates, that a domestic servant, twenty years of age, became pregnant by her master, a married man with several

children. Before it became necessary for her to leave her situation she had taken savin-tea, a morning draught of gin and Epsom salts, and other popular emmenagogues, supplied to her by her master. These measures failing of their intended effect, her master provided lodgings for her, and in three or four days after she had gone there to reside, he called to say he was going to bring a doctor who would make her all right in forty-eight hours. Accordingly, the same afternoon, he brought Mr. White to see her. Immediately on his arrival the girl was requested to go upstairs with the landlady and undress. She was then about four months pregnant. Mr. White introduced a "sponge," and said the girl was to lie in bed until his next visit. He also left a small bottle of medicine and a measure-glass, with instructions that sixty minims by measure were to be administered in water every four hours. During the next five weeks Mr. White called about a dozen times at varying intervals. On each occasion he passed either a "sponge" or a "little wooden tube." When these had not slipped out of themselves he removed them at his next visit. He also left fresh supplies of medicine from time to time. On December 10 some information was received at the detective office which led to the divisional police surgeon being requested to visit the girl and report upon her condition. This gentleman found the girl lying in bed. She was about six months pregnant of a living child. Four sea-tangle tents, each two inches and a half in length, were found tied together in a bundle, and lying loosely in the vagina. On a chair by the bedside were a two-ounce bottle, about one-third filled with a liquid preparation of ergot, and a minim measure-glass. A pair of forceps, shaped like a pair of large pliers, and an ordinary pocket midwifery case, were lying on the dressing-table. There were no signs of labour, and on the following day (December 11) the girl was able to attend at the magistrates' court and give evidence. The police-surgeon stated, in answer to a question from the Bench, that he saw nothing to justify the induction of premature labour; the girl was well-formed and in good health. On the application of the solicitor for the accused, who said there was a very good defence to the charge, the magistrate said he would accept bail, either in two sureties of £500, or in three of £350. The girl's master was afterwards arrested on a charge of aiding and abetting, and has since been committed for trial.

THE EFFECT OF ACIDS ON THE ANIMAL ORGANISM.

Experiments made by Fr. Walter, in Prof. Schmiedeberg's laboratory, show (*Archiv für Exp. Path.*, vii., 148) that the blood of rabbits is differently affected by the injection of considerable quantities of dilute acid (hydrochloric) from that of dogs. In rabbits the volume of carbonic acid dissolved in the blood is enormously diminished owing to the alkaline bases with which it was previously combined being appropriated by the stronger acid. In one case the volume of carbonic acid fell to 2·07 per cent., whereas the mean of four experiments on healthy animals was 25·81 per cent. The loss of so much carbonic acid was fatal to the rabbits—not, however, *per se*, but because of the abstraction of alkali from the blood by the stronger acid. This was proved by the negative results of the post-mortem examination of the dead rabbits, and by the fact that if acid were injected into a rabbit's stomach, and simultaneously a solution of carbonate of soda were injected under its skin, the animal remained completely uninjured; and further, by the possibility of restoring animals in the last agony, or even after apparent death, to life by the injection of the carbonate. The chief symptom of poisoning by acids is dyspnœa with deep and laboured inspirations. The blood pressure is not materially affected, except by the influence of the respiration on it. The respiratory centre appears to be first stimulated and then paralysed by an excess of acid, and the early restoration of the balance of alkaline power arrests the stage of paralysis at its commencement. In dogs, the amount of alkali which is withdrawn from the blood by combination with a stronger acid than the carbonic is very slight, and it appears that the greater part of the stronger acid serves either to increase the acidity of the urine, or to combine with organic bases and form salts, which can be excreted by the kidneys. The ammonia was found by Walter to be decidedly increased on those days on which acid was administered, an average of 3·671 grammes more than the normal amount being excreted on five consecutive days, or enough to saturate 72·2 per cent. of the acid injected. The reason of the different behaviour of rabbits and dogs, under the influence of acids, is still unexplained, but it is well to remember that the former animals are adapted for vegetable, and the latter for animal food, and it is possible that the excess of acid may, in the case of the dog, be primarily diverted to the gastric secretion, and so prevented from concentrating itself in the blood.

PATHOLOGICAL SOCIETY OF DUBLIN.

At the meeting of this Society held on Saturday, December 15, Dr. E. Hamilton, President, in the chair, Dr. J. W. Moore showed an example of white softening of the brain from embolism of the middle cerebral arteries. Ten weeks before death, the patient, a hitherto healthy woman aged fifty-four, was seized with an apoplectic attack followed by complete left hemiplegia. The heart-sounds were normal and free from murmur, but she had suffered from rheumatic fever twenty-seven years before. There was marked flushing of the left side of the face. No consecutive fever occurred, and for a time she progressed favourably. Symptoms of insanity set in, and she sank into an imbecile state which ended in death. Unfortunately the heart was not examined. The middle and posterior cerebral lobes on the right side, and the posterior cerebral lobe on the left side, were reduced to a pulpy consistence. The cerebral arteries were extensively atheromatous, and the right middle cerebral was plugged by an embolic mass or thrombus. Dr. Lyons made a preliminary communication on the disease termed "black quarter," in the calf. He promised to show at the next meeting the post-mortem appearances in a young bull calf which had died of the disease in the country the previous day after three hours' illness. He regarded the affection as probably dependent on some lesion of the lower part of the spinal cord. Dr. R. J. Harvey brought up a report on the pathological appearances in cases laid before the Society at recent meetings by Drs Banks and Lyons. In Dr. Banks' case, peculiar nodules on the surface and in the substance of the liver of a lad aged ten, the subject of ascites, were simply a caseous degeneration of previous tubercular deposits. Miliary tubercle was found near the caseous masses and in the healthy liver-tissue. In Dr. Lyons' case of "hydronephrosis," the affected kidney showed remains of healthy cortical substance, and lacunæ observed in the medullary portion proved to be dilated straight tubes. A connexion between the kidneys—horse-shoe kidney—consisted largely of true renal tissue, numerous Malpighian corpuscles being found in it. The other kidney was in a state of advanced fatty degeneration. The liver was for the most part quite healthy, although the patient had been very intemperate, and the subject of extreme ascites at one time. The spleen showed hyperplasia of its connective tissue.

PAYING WARDS TO PUBLIC HOSPITALS IN MELBOURNE.

The question of adding paying wards to public hospitals has been engaging the attention of the profession in Melbourne, and Dr. John Blair, F.R.C.S., Surgeon to the Alfred Hospital in that city, has drawn up a report on the subject, which has been published. He is decidedly in favour of setting apart a

special ward or wing of the Alfred Hospital for the reception of a class of patients who are able and willing to pay for their accommodation, who are not able to be nursed and attended to in their hotels and boarding-houses, but who are equally unable to apply to hospitals for gratuitous relief. Dr. Blair states that the Massachusetts Hospital at Boston is conducted on the principle of charging patients who are able to pay. It has four classes—(1) Free beds, but not many; (2) beds free in general, but on which certain persons who have given moneys have a claim for their friends; (3) the beds, constituting the great majority, for which a charge is made of one dollar a day, but part or all of which is sometimes remitted at the discretion of the governor, who is one of the acting medical officers. (No difference is made in the privileges of these three classes, nor is any asked for by the patients.) (4) Some private rooms at five or six dollars a day. Dr. Blair is of opinion that the introduction of such a system would tend to diminish the abuse of gratuitous relief, which is now largely practised by people well able to pay for medical assistance, and in this view he is, no doubt, correct; but in this country, up to the present time, the admixture of paying and non-paying patients in the same hospital has not been found to answer, and the scheme which is already afoot to open separate hospitals for the well-to-do, will, we think, prove the correct solution of the question. In all large cities there are numbers who can get along very well so long as they are in health, but who suffer from want of the commonest attention if sickness or disease attack them: for this numerous class a paying hospital would be an inestimable boon; and if in Melbourne they can add paying wards to the public hospitals without interfering with their utility, the introduction will, no doubt, be financially and philanthropically a great success.

SULPHOCYANIDES IN THE URINE.

According to the recent independent experiments of Gscheidlen and Munk, the urine of man and other mammals constantly contains sulphocyanic acid, which gives with ferric chloride, in urine previously acidified with hydrochloric acid, a reddish colouration. The precipitate which nitrate of silver throws down in ordinary urine is a mixture of chloride and sulphocyanide of silver, and if it be suspended in water decomposed with sulphuretted hydrogen, and filtered, the filtrate gives the ferric chloride reaction distinctly, even if only 200 cubic centimetres of urine be analysed. Human urine contains about 0·0225 sulphocyanic acid in 1000 cubic centimetres in the form of a sodium salt, and 0·0211 NaCNS was found in the same quantity of rabbit's urine (Gscheidlen). Munk estimates that one litre of human urine contains 0·11 NaCNS. The source of the sulphocyanide appears to be the saliva, which always contains sulphocyanide of potassium, and Gscheidlen could detect none in the urine of a dog whose salivary secretions had all been prevented from entering the digestive tract by means of external fistulæ. It is a remarkable fact, observed by Munk, that, in spite of the great solubility of the sulphocyanides, the urine contains sulphocyanic acid in abundance seven or eight days after a dose of sulphocyanide of ammonium. Dr. Thudichum has endeavoured to prove that Gscheidlen's method of extracting sulphocyanogen from the urine in combination with lead (*Pflüger's Archiv*, xiv., s. 401), is faulty; but it appears, from Gscheidlen's reply to his criticisms, that Thudichum did not observe the necessary caution in repeating the former's experiments, and that there is no reason to doubt their accuracy.

ROYAL COLLEGE OF PHYSICIANS.

At a meeting of the Royal College of Physicians of London, held on Monday last, the President informed the College that he had been in communication with a gentleman who wished to offer one hundred guineas for the best essay on rabies and hydrophobia, their etiology, and their treatment, preventive and curative; and this gentleman hoped the College of Physicians would undertake to regulate the conditions under which the prize should be offered, so as to make it most likely to be of real use, and that the College would also appoint three learned and discreet men to adjudge the prize. The College decided to accept the offer of the generous unknown, and referred the subject to the Council to consider the best mode of obtaining the benefits hoped for by the donor, and to report to the College thereon. The President of the College (Dr. Risdon Bennett) and the Treasurer (Dr. Pitman) were, on the nomination of the Council, elected the representatives of the College on the Committee of Reference, and it was resolved that each of the representatives should be paid five guineas for each sitting of the Committee. Dr. Barclay and Sir Alexander Armstrong were elected on the Council of the College, instead of Dr. Fincham and Dr. Barnes, who are now Censors. Twenty-four candidates had presented themselves for the final examination for the College licence, and twenty, whose names will be found elsewhere, had passed, and received their licences. Three candidates had undergone the primary examination, not one of whom was successful. Dr. Michael C. Grabham, residing in Madeira, was admitted a Fellow of the College *in absentiâ*. The President reported that Surgeon-Major J. R. Deane had presented a valuable collection of urinary calculi, with histories of the cases, to the Museum of the College. A report from the Council on the Recommendations of the General Medical Council was read; and the College agreed to act on the Recommendation that "any cases in which decided ignorance in the subjects of general education has been displayed by candidates" during the professional examination, "with the name of the board or boards before which the preliminary examinations have been passed," should be reported to the Registrar of the General Medical Council; it being understood that the names of such candidates are not to be given. With regard to the Recommendation "That it is desirable that the examination in general education be left to the Universities," etc., the Council directed that the attention of the General Medical Council be called to the fact that the College already fulfils the Recommendation; and as to Recommendation 27—"That there be in future three professional examinations"—the College agreed that the consideration of that might be left to the coming Conjoint Board. The College received, with great regret, the news of the death of Dr. Francis Hawkins, and directed that a letter should be written to his family, expressing the heartfelt sympathy of the College on the great loss they and the College had sustained.

ROYAL COLLEGE OF SURGEONS.

At the ordinary meeting of the Council of the Royal College of Surgeons of England, held on the 13th inst., all the members of the Board of Examiners, with the exception of Mr. Birkett (who had resigned), were re-elected; and Mr. W. W. Wagstaffe, of St. Thomas's Hospital, was elected in place of Mr. Birkett. Mr. Simon's motion, to rescind the regulation that all Examiners in Anatomy and Physiology shall be Fellows of the College, was rejected by a very large majority. The Dental Practitioners Bill, which provides for placing on a register, separate from the Medical Register, but by means of the machinery of the Medical Council, all dentists, irrespective of any qualification, with the exception of being engaged, *bonâ fide*, in the practice of dentistry before and when the Bill shall be passed, was approved after much discussion. The Bill takes much the same ground as to qualification, it will be observed, as was taken by the Apothecaries Act of 1815. A letter was received from Dr. Burder, the Secretary of the Faculty of the Bristol Medical School, explanatory of certain difficulties that had arisen in the way of the affiliation of the School with the Bristol University College; and the Council resolved that Dr. Burder

be informed that they adhered to their former resolution, though they regretted that "the 'amalgamation,' or rather 'affiliation,' of the Bristol Medical School with University College—as the latter now appears to be the more correct definition of the intention of the authorities of the Medical School—should be in any way delayed by their resolution of October 18 last, inasmuch as the Council hoped that the said 'affiliation' would bring about an improvement in the accommodation for teaching in the School, which the Faculty seem to admit is not now adequate to the just requirements of students." Mr. Hancock's motion for doing away with the students' registration at the College had to be postponed from want of time for its consideration: but we believe that there is little doubt that it will eventually be agreed to.

A SIMPLE PLAN OF EMPTYING THE PLEURAL CAVITY.

Simplicity is a merit even in surgery, and hence the method of evacuating pleuritic effusions recommended by Dr. Girgensohn, of Riga (*Berlin. Klin. Woch.*, No. 48, 1877), deserves notice. He taps the chest with an ordinary canula and trocar, withdraws the latter, and slips over the end of the canula a caoutchouc tube three to six feet long, and of a suitable diameter, closed at the lower end with a clip or a small stop-cock, and filled with a 1 to 2 per cent. solution of carbolic acid. The tap is then opened under the surface of a solution of carbolic acid in a large vessel placed at a lower level than the opening in the chest, so that the tube is converted into a syphon. A serous effusion of six to eight pounds weight can be in this way evacuated in a quarter of an hour. If the stream stops from any cause, the tube can be alternately compressed and allowed to expand, so us to exert a pumping action on the fluid higher up. Where it is absolutely essential to prevent air entering the chest, Girgensohn recommends the trocar to be passed through the wall of the caoutchouc tube, into the upper end of which the canula is tied; the tube is then filled with carbolic solution from a funnel inserted into the raised lower end, so as to completely expel all air. The trocar is inserted with the canula into the chest, and withdrawn gradually until the necessary communication between the chest and the tube is established, and then completely withdrawn, and the tube slipped forward over the canula and tied, so as to close any opening left by the trocar. The fluid is then drawn off siphon-fashion as before. The author claims for his method the advantages of simplicity, of avoiding the continued presence of a sharp instrument in the chest during the operation; of being uniform in its action and easily regulated; and, lastly, of permitting the whole apparatus used to be cleansed and kept in order without the slightest tronble.

THE PATHOLOGICAL SOCIETY.

Members of the Pathological Society will observe that the next meeting will be held on Friday, January 4, instead of on Tuesday, January 1. This change of arrangement was agreed to at the very full gathering on Tuesday evening, and was made on account of the small attendance on previous years when a meeting fell upon the first days of January.

ROYAL INSTITUTION OF GREAT BRITAIN.

A course of six lectures (adapted to a juvenile auditory), on Heat, Visible and Invisible, will be delivered by Professor Tyndall, D.C.L., LL.D., F.R.S., on the following days, at three o'clock:—Lecture 1, Thursday, December 27, 1877; 2, Saturday, 29th; 3, Tuesday, January 1, 1878; 4, Thursday, 3rd; 5, Saturday, 5th; 6, Tuesday, 8th. The following are the probable subjects of the course:—Heat produced by friction. Heat produced by combustion. Heat produced by electricity. Heat of rusting metals. Animal heat. Heat of the sun. Ice and water. Boiling and evaporation. Cold of liquefaction. Cold of vaporisation. Heat of solidification. Heat of condensation. Expansion of bodies by heat. The force of heat. The propagation of heat—*a*, by convection; *b*, by conduction; *c*, by radiation. The production of wind, rain, snow, dew, and hoar-frost, by heat and cold. Passage of heat through transparent and opaque bodies. Invisible heat. Ebullition, incandescence, and combustion at invisible focus. Invisible heat images. The condition of heat in stellar space. Inner meaning of heat.

MURDER OF A POLISH PROFESSOR OF SURGERY.

The town of Warsaw was thrown into great commotion on November 15, by the news of a murderous assault on Dr. Girsztowt, Professor of Surgery, and a man universally respected by all classes of society, He was the founder and editor of one of the Polish medical journals, and the publisher at a printing-office under his own management of a number of medical works in the Polish language. The jealousy of a journeyman printer in his employ led the latter to attack Dr. Girsztowt with a knife at the door of his consulting-room, and he inflicted a severe wound in his left thigh, dividing the profunda femoris, and giving rise to tremendous bleeding, which was with difficulty checked. The wounded man died of gangrene of the left leg on the eighth day. The general expression of grief and regret which his death has elicited shows clearly how great a loss medical science has sustained in Poland.

UNVEILING OF THE STATUE OF THE LATE DR. GRAVES AT THE COLLEGE OF PHYSICIANS, IRELAND.

Of this interesting event, which took place on the afternoon of last Wednesday, in the presence of his Grace the Lord Lieutenant and a large assemblage, we hope to give a detailed account next week.

For some time past a difficulty has been experienced by the Borough Coroner at Wolverhampton in holding inquests on persons who have died in the Wolverhampton Hospital, owing to the refusal of the Hospital authorities to direct their officials to attend as witnesses. Last week, in consequence of a similar refusal, the Deputy Coroner was compelled to issue summonses against the Matron, House-Surgeon, and one of the nurses, before he could secure their attendance.

Subcutaneous Injections of Chloroform.—In a note addressed to the Société de Thérapeutique (*Gaz. des Hôp.*, Dec. 14), M. E. Besnier details the results of numerous trials which he has made at the St. Louis, of the hypodermic injection of chloroform, first practised by Dr. Roberts Bartholow in 1874. There has been, he observed, but little published upon the subject, probably because these injections have been used only for a limited purpose (the treatment of neuralgia), instead of employing them for the relief of every kind of pain. Their great advantage, he considers, consists in the fact that they may be employed in this manner, and thus supersede morphia with its consequent inconveniences. No ill effect whatever, local or general, follows these injections, and yet they are efficacious. But the mode in which they are made is of importance, for, inefficiently performed (which is very commonly the case), they may give rise to local phlegmasia. They should always be practised in two stages, the needle being first separated and introduced alone, so that if it happen to penetrate a vein this may be made known by the issue of a droplet of blood. When the syringe has been reapplied, in order to prevent local irritation being caused, the injection should be propelled *into* the hypodermis (*i.e.*, the subcutaneous cellulo-adipose layer, which varies in thickness in different regions and individuals), which not only possesses a special tolerance and insensibility, but a very active absorbent power. If the point of the needle be very fine and sharp, it may be passed through the skin into this tissue without appreciable pain, which, however, will be felt if it be carried too far, so as to reach the muscles, etc. The needle is manœuvred with the greatest facility as soon as it has passed the dermis, its point being easily guided to any part of the hypoderm. This done, the syringe may be adapted, and the injection made with the greatest security.

THE SICK AND WOUNDED IN THE RUSSO-TURKISH WAR.

We have received from the Stafford House Committee the following abstracts of Reports from their Surgeons to Mr. Barrington Kennett, Special Commissioner to the Stafford House Committee. The demands on our space unfortunately make it impossible to publish the Reports more fully:—

Dr. Stiven (Rustchuk), November 10, 1877, writes:—"During this past week we have admitted into the hospital three other patients, thus bringing the total number of patients treated up to 151. From this number three patients have died, two of whom had perforating wounds of chest and lungs, and the third was wounded in the leg, but succumbed, not from his wound, but from a severe attack of typhoid fever. The patients discharged and fit for duty have been eight, thus leaving a total of 140 patients at present in hospital under treatment. A separate ward of ten beds is being prepared for the reception of officers, but the actual number of beds from 200 has not been increased. There not being sufficient room in the *fabrique* buildings for all the *infirmiers* to occupy one room and be always near the ward, I have formed a 'Zimlick,' or mud-house, for their accommodation. A second will also be formed for the cook and kitchen servants, as they at present occupy a tent, which will not be sufficient protection during the winter."

On November 18:—"The beginning of this week saw 140 wounded still under treatment in this hospital, and this number was not increased by any new arrivals. Twenty patients have been discharged to their battalions fit for service. We had three deaths this week—one a case of severe wound of the knee-joint; one a case where the ball entered the shoulder-joint, death being caused by an attack of acute bronchitis; and the third a case of wound in the leg, death being caused by pyæmia. Beyond these deaths everything continues satisfactory. The total number of patients under treatment is at present 117."

And on November 20:—"We are now as hard at work as we can possibly be. Our hospital contains 180 patients, and I expect the other empty beds to be filled to-morrow, as forty-four wounded are at present lying at Kadikeni, in the Turkish hospital, ready to be passed on to us. The cases we have received this time are serious, and require a great deal of attention to insure good results. Yesterday we had a grand battle in this neighbourhood, extending from Pyrgos to Popkoi. The firing was continuous, and lasted all day. The Russians got thrashed, as usual. Lake and I went out towards Pyrgos, but were too late to be of service there, so we went on to Kadikeni, where the fighting was recommencing. I left Dr. Lake there with the Turkish doctors to assist in dressing the wounded, and I returned to hospital to receive others there. I found Dr. Beresford with Mehemed Effendi, hard at work upon the wounded sent in from Pyrgos. We got them all safely into bed about 5.30 p.m.—sixty four in number, leaving only sixteen beds empty; and as two have died and two have been sent to their battalions, we have now twenty beds ready for new comers. I am making other ten beds for officers on account of this fighting, which will continue if this weather lasts, and they will not add much to the expense. Try and send us some good amputation cases: we want them more than ever."

Dr. Pinkerton (Erzeroum) writes thus on November 14:—"Denniston and I arrived here on Sunday, November 4, the day of the battle of Deve-Bouyonon. Next day we went to the hospital, and helped Fetherstonhaugh and Guppy to dress their cases; a number of new men had come in from the battle of the day before. We went on quietly dressing till Friday, when we were awakened about 4.30 a.m. by the sound of guns; the Russians had attacked Erzeroum. We got everything ready, and were at work dressing the wounded in the field at 7 a.m. We remained at this place till 1 a.m., and then, as the number of the wounded coming in had diminished very considerably, we elected to go right into the fortifications. Besides we four, there were two Turkish surgeons, and an English surgeon in the Turkish service. We calculate that we four passed pretty nearly 1000 wounded through our hands. At the fortifications we were directed to go to a barrack; there we saw about 150 more wounded, a few more cases were dressed in the trenches, and then about 3 p.m. we left, as there was no more work to do. The transport service from where the wounded were dressed was fairly well done, as they were dressed rapidly and roughly, taken to the different hospitals. Next we went to our hospital, when we found about 150 new cases, a great number of whom had to lie on the floor, as their number far exceeded that of our beds, but we did everything we could to make them comfortable, distributing blankets, tobacco, and water; besides, every new case had a hypodermic of morphia. We made inquiries also, and found that they had all had ood. Next morning we discharged every patient we could, to give us as much room as possible; we have discharged about seventy, about forty have died, and at present we have about 130 in the hospital. We have amputated three legs, four arms, and a large number of fingers, all the results of Friday's fighting; quite as many men remain to be done; and a number have died who refused to submit to operation. As the fighting was at very close quarters, most of the bullets went right through the part of the body struck; consequently, we have not extracted a great many. We have lately adopted a new plan in order to persuade men to submit to operation. A Kurd, whose arm Fetherstonhaugh amputated, is sent to any man who refuses to submit to operation; he argues the point with them, and in many cases is successful. On Monday night (November 12), about 8 p.m., the Russians attacked again, but we got no fresh cases; in fact, we have given notice that we can receive no fresh cases at present. Three days ago Mr. Zohrab sent a telegram for lint and guttapercha tissue; these are urgently needed. If you could also manage to send me by post a couple of pairs of artery forceps, I should be greatly obliged. Weiss has forgotten to put one in my amputating case, and the pair in my pocket-case I found broken when I opened it. Meantime Fetherstonhaugh has lent me a pair."

Dr. Fetherstonhaugh, writing also from Erzeroum on Nov. 14, says:—"I am sorry to have to acquaint you with the illness of Dr. Guppy. He was with us at the hospital on Monday morning, when he had to leave, and has been ever since feverish, with a severe headache, and very weak. We have had a busy time since last Friday, when at 4.30 a.m. the Russians attacked the eastern forts, got into one of them, but were driven out at the point of the bayonet, and finally repulsed. We were all at work by daylight at a bridge close to the town, over which most of the wounded should come. In a couple of hours we were joined by two Turkish surgeons, who worked well; and at about 11 a.m. by Dr. Hughes, T. O. Army, and Mr. Cole, American missionary. At 1 p.m., as we saw the wounded were not coming so thickly, we went up to the forts and dressed a number of cases which could not be moved till they were looked to. We had finished there by 3 p.m., when we went to our hospital and found the place crammed full, every available spot having a man in it. We distributed blankets, beef-tea, tobacco, and morphia injections, etc., and had the poor fellows fairly comfortable by 8.30, when, thoroughly worn out, we came home. At the bridge and forts nearly 1000 had their wounds attended to, and about 150 were admitted to our hospital; nineteen of those died during the night, some few others next day. On Saturday we discharged every case fit to be moved, and so made room for the new men, most of whose wounds were very severe. We have extracted a number of bullets, amputated three legs, four arms, and a number of fingers since, and have as many more to do. Drs. Pinkerton and Denniston arrived just at the right time, and without their aid I should never have been able to get on. Mr. Zohrab telegraphed to you for lint, charpie, and guttapercha tissue, as we are sure to have another attack soon, when the calls upon our stores will be very large. The latter, even the largest case, is nearly used up. On Saturday we were at work from before 9 a.m. till 7 p.m., on Sunday from 9 to 6.30, Monday from 9 to 5, yesterday from 8.30, and to-day from before 9 to 4.30. Nothing can exceed the gratefulness of the wounded, and numbers of the townspeople came to the hospital to have their wounds dressed, as they have lately been armed by the Government, and as soon as the firing began went out to fight. The transport from the bridge where the wounds were dressed was fairly good, a number of waggons being told off for the purpose. They were not comfortable, but got the men quickly to the different hospitals. Nothing has yet been heard of Drs. Casson and Buckby, but no doubt, if well, they are kept as busy as ourselves. Reginald Zohrab assists us at the hospital, and Mr. Zohrab is always ready to render us aid with his presence and advice, and every day sends us luncheon to the hospital."

Mr. Zohrab (Erzeroum), on November 18, says:—"I re-

quested Mr. Layard by telegraph yesterday to communicate to you the sad intelligence of Dr. Guppy's death. He was ill for five or six days, but till the night before last we did not think him in any danger. He had typhoid. Perforation of the bowel took place early in the morning yesterday, and he then sank rapidly, dying at 7.10 a.m. The very exceptional circumstances we are placed in obliged me to order the funeral for yesterday afternoon. It was attended by the medical body, and a guard of honour consisting of a company of infantry escorted the body to the grave, which is in the cemetery belonging to the American missionaries. This sad event has cast a deep gloom on our little circle. I received your telegram announcing the departure of surgeons and stores. I wait more detailed information to organise a second hospital, which the authorities here are very anxious to see opened. Mukhtar Pasha has, at my request, telegraphed to the Valy of Trebizond to send on the surgeons and stores with the least possible delay. I have written to Dr. Casson to try and return here with Dr. Buckby. My letter was sent by Mukhtar Pasha to the Russian lines. I hope to get an answer in a few days. We await with deep anxiety a development of the Russian plans. Since the 9th they have not moved, beyond throwing out vedettes in various directions. Whether we are to be bombarded, blockaded, or left alone, remains yet to be seen."

Dr. McIvor, Adrianople, reports, November 10:—"Patients admitted during the week, 134; in hospital beginning of week, 176—total, 310; discharged during week, cured, 97; died, 5—total, 102; remaining in hospital at end of week, 208."

Report for week ending November 17, 1877.

"Patients in hospital, November 10, 208; admitted during week, 49—total, 257; patients discharged during week, *nil;* died, 6; remaining in hospital, 251. I may again report that the wounded who arrived here from Sophia were in a most miserable condition, both as regards their clothing and the state of their wounds. Amongst them were several cases of erysipelas, and many of diarrhœa. I have also to report that during the past week we have increased the number of beds in one hospital by sixty-three. These also contain most severe cases. During the past week we have performed three capital operations. We also operated on a case of fistula in the person of an officer who had twice before been operated on by Turkish doctors, but without any beneficial effect, and during the past fortnight forty minor operations have been performed in our wards, which include incising abscesses, removing dead bone and parts of fingers and toes, and extraction of bullets."

And on November 24: "Patients remaining in hospital, November 17, 251; admitted during week, 3;—total, 254; died during week, 2; discharged, 18—total, 20; remaining in hospital, 234; number of empty beds, 40; major operations performed, 2; minor ditto, 10. Received stores, also an ambulance waggon fitted up with necessary appliances for the comfortable carriage of wounded."

Dr. Barker (Roumelian Railway Ambulance), reports for the week ending November 19:—"I left Stamboul by the post train with my waggon and two waggons with beds, and arrived the same evening (Monday, the 12th inst.) at Adrianople. On the road I met Dr. MacKellar, who informed me that there were no wounded ready for transport at Bazardjick or Philippopolis just then, so I stayed the three following days at Adrianople, in the hope of getting wounded from there, during which time I took the opportunity of having my stove put up, and the cupboards made more secure to the walls of the van. On Friday, the 16th inst., having learnt by telegram that there were 160 wounded to start from Philippopolis, the next evening I proceeded there, and found the men ready seated beside the line. I picked up the worst cases, and put them in the beds, many of them being in a very feeble state, the greater part of them being sick, and some seriously so. We were supposed to start in an hour's time after my arrival—viz., at 6 p.m.,—but, owing to some bridge requiring mending, we were kept at Philippopolis station till 1 o'clock a.m. At 4.30 a.m. we arrived at Tirnova-Semenly, where soup was ready, and awaiting our arrival. Each man also received bread and tobacco, for which they were extremely grateful. Between Tirnova and Adrianople, at which place we arrived at 11 a.m., I was able, with the assistance of a Turkish dresser, to attend to all the wounded. On arriving at Adrianople the wounded were placed in the Government barrack erected beside the line, where I was informed that each received a piece of bread. At 4 p.m. we left Adrianople with 465 wounded, etc. We travelled very slowly, only arriving at Tchorlou the following day at 4 a.m., where soup, tobacco, and bread was again served out. Two men, who were in a very exhausted state, died on the way, notwithstanding that every care was taken of them. A third, who was also very low, I succeeded in saving by the judicious administration of stimulants and food. At Kabadjia I was able, owing to a long stoppage, to dress many of the wounded, and during the day I managed to get all dressed by passing from carriage to carriage. In this I was assisted by some Turkish dressers who accompanied the wounded. These men were sick, not wounded, and, like many others, in my opinion ought not to have been moved from Philippopolis or Adrianople, as the case may be, being hardly able to crawl out of their carriages. With regard to the Stafford House soup kitchens at Tirnova and Tchorlou, I think it is one of the best undertakings we have, and that many Turkish soldiers could say, 'We owe our life to British generosity in feeding us during our return from the front'; those from Philippopolis only having received loaves of bread for rations from the Government during forty-eight hours. I would wish to ask the Committee, if possible, to obtain a change of the system of sending wounded by luggage trains in place of special ones, the former taking twice as much time as the latter to get over the same distance. I believe the railway company would be willing, and it would be an act of humanity to the men. I have to thank the railway officials for kind assistance as dragomans, etc."

ADDITIONAL NOTES ON PONGO'S POST-MORTEM.

The following lines supplement the brief account of Pongo's post-mortem which appeared in our issue of December 8. Before the body was opened, careful casts were taken of the head, trunk, and extremities, with a view to the reproduction of exact models of the external form of the gorilla. The brain, the muscles, and the vascular system were reserved for detailed and careful examination, at leisure, by Professor Hartmann. The interior of the skull, after removal of the brain, presented a remarkable resemblance to that of a child, except in greater depression of the ethmoid bone, and greater prominence of the roof of the orbit as seen from above.

On opening the abdomen, the very fat omentum was found adherent at several places to the anterior and lateral parts of the abdominal wall, evidently owing to slight former attacks of peritonitis. The most striking superficial difference from the abdominal cavity of a child was the greater space occupied by the large and small intestines, and the retraction of the liver and spleen. The signs of intestinal catarrh met with on opening the bowel were identical with those in an infant dying of catarrhal diarrhœa; the glove-button and the needle found in the cæcum had probably not the slightest share in exciting the fatal illness. The liver, spleen, and other abdominal organs, were perfectly healthy. The chest was opened through the diaphragm in the interest of comparative anatomy, and the lungs were found *absolutely healthy*. The pericardium was firmly adherent at certain places to the heart, and it seems probable that the inflammation which gave rise to the adhesions took place about two months after the gorilla was brought to Europe, when Dr. Falkenstein, his medical attendant, found him for a short time very scant of breath. The interesting point about Pongo's death is that he should not have been carried off by tuberculosis of the lungs, the ordinary disease of monkeys in Europe, but by the scourge of young children. Intestinal catarrh is, however, a recognised cause of death in these animals, and two other monkeys in the Berlin Aquarium have succumbed to the same disease. Dr. Boehr, in his article in the *Berlin. Klin. Wochenschrift*, No. 48, 1877, does not say whether Pongo suffered from diarrhœa. In a human infant intestinal catarrh would scarcely kill without giving sufficient external manifestation of its presence to admit of a diagnosis being arrived at; and if, as we infer from Dr. Boehr's remarks, the cause of death was only discovered in Pongo's case at the post-mortem, this would be an interesting proof of the greater susceptibility of his system generally to digestive disturbances.

FROM ABROAD.

Dr. Fordyce Barker on Tarnier's Forceps.

At a meeting of the New York Academy of Medicine (*New York Medical Record*, October 27), Dr. Barker gave a demonstration of the action of Tarnier's forceps, prefacing it with some observations on the changes of opinion which have taken place with respect to the employment of the forceps since the early part of the present century. Formerly, it was always taught that it should not be used except when delivery could not be accomplished without instrumental aid. The forceps, in fact, was regarded as a dangerous instrument to be used as seldom as possible. There were three reasons why the celebrated men who operated at the early part of this century regarded it with such horror:—1. They were entirely ignorant of the mechanism of labour. 2. While they greatly exaggerated the dangers, both to mother and child, from the use of the forceps, they did not recognise the danger which results to both from prolonged labour. 3. They confounded the difficulty and skill demanded in the use of the forceps in the comparatively few cases in which it was required, when the head of the child was at or above the superior strait, with the very many cases in which we now use it when the head is in the cavity or at the outlet of the pelvis.

The plain, practical question to be settled in every case, Dr. Barker remarked, is, which is safer for mother and child—to use the forceps, or permit further delay in the completion of labour. The danger in the use of the forceps may be considered—*first*, while the head is in the cavity or at the outlet. In the hands of an obstetrician who thoroughly understands the mechanism of labour, who has proper instruments, and who operates only in appropriate cases—when there is no disproportion between the fœtal head and the pelvis—there can be no danger in the use of the forceps. Danger can only arise when disproportion exists, requiring such compression to be used as may injure the fœtal cranium or the soft parts of the mother. A word may be said, however, on the delivery of the head, in order to prevent laceration of the perineum. In Dr. Barker's opinion, the forceps, when properly used, is more likely to prevent than to produce such laceration. His own practice is, when the vulva becomes fully dilated, to remove the forceps, and introduce the fingers into the rectum, pull the head forward, and deliver. He never completes delivery by rapid removal of the head through the outlet. During an experience of twenty-five years he has never had laceration occur to an extent calling for surgical interference. *Secondly*, as to danger when the head is above the superior strait, the question is, whether the safety of the mother and child is not greatly increased by early delivery, rather than by following the teaching of the older writers, who never used the long forceps, but always resorted to craniotomy. In these cases it is to be observed—1. The operator should thoroughly comprehend the cause rendering the operation necessary. 2. The mechanism overcoming that cause should also be thoroughly understood; and the relations of the diameters of the head and of the pelvis must be well known, so as to be able to adapt and change the direction of the traction. 3. The operation should be performed slowly, half an hour being the least time required for bringing the head down from the superior strait. 4. Very much depends upon the instrument employed. Dr. Barker ordinarily employs Simpson's. He rarely uses the short forceps. In cases in which simply a slight increase of force is required, the short forceps is sometimes used to save the woman two or three hours' suffering, and is applied without change of position, and often without the patient having been aware that it has been used.

Speaking of Tarnier's forceps, Dr. Barker observed that its inventor claimed for it—1. It enabled the operator always to make traction in the direction of the axes of the different straits. 2. It allowed the fœtal head such mobility that it might take the direction it would normally take in passing through the cavity. 3. It furnished a guide which showed the operator in what direction traction should be made to correspond to the axis of the pelvis. The theory of the instrument is as follows:—When the head of the child is at or above the superior strait, it is impossible to make traction with the forceps in ordinary use, in the exact axis of that strait, because of the resistance offered by the perineum. It is necessary to make traction in a line somewhat forward of the exact axis, and a certain amount of force is wasted against the posterior surface of the symphysis pubis. In Tarnier's instrument this is obviated by a curve in the handle, which permits traction to be effected without making undue pressure backwards on the soft parts. Traction is made by means of independent rods, which are attached to the posterior border of the blades, terminating in a cross-bar just beyond the handles. The instrument is adjusted in the ordinary manner, and the blades locked and fastened; and the handle contains a mechanical arrangement for regulating the amount of compression to be brought to bear on the head of the child. (To this Dr. Barker objected, believing that the degree of compression should always be under the immediate control of an intelligent hand.) When the instrument is applied, traction is first made backwards and downwards, but as the head approaches the cavity of the pelvis the handle of the forceps begins to rise, thus indicating in what direction traction should be made to correspond to the axis of the pelvis, through which the fœtal head is passing. As the handles rise, the tractor is brought up to them, forming thus an automatic indicator, which gives *direction* to the force of the operator. The instrument is strong—which is to be regarded as an argument in its favour, for it is claimed as an axiom that, in the obstetric forceps, power is safety, and feebleness is danger.

In the discussion which followed Dr. Barker's demonstration, Prof. White, of Buffalo, expressed his opinion that the reason why the forceps had been used less, and the perforator more, in the British dominions than on the Continent, is because the operators of the latter use the long double-curved instruments. He believes that it should be used much more frequently than it is, but only by those who were thoroughly familiar with the mechanism of labour, and had sufficient mechanical knowledge to handle it properly. He was unable to see the utility of Tarnier's instrument, and believed it to be a substitute of mechanical device for skill. He maintained that the perineum could be pushed back sufficiently far to allow traction to be mixed in the axis of the superior strait by means of instruments now employed, and that a finger, guided by intelligence, is a sufficient indication as to the direction in which traction should be made. If a thorough knowledge of the mechanism of labour taught the operator in what direction his traction should be made, why be troubled with a mechanical indicator? He predicted that twenty years hence Tarnier's forceps would be found among the obstetric curiosities. Professor Lusk was not prepared to accept Tarnier's instrument as being any more desirable, or even as desirable, as many forceps now in common use. The objection to the old instruments, because the operator was not able to make traction in the exact axis of the superior strait, he did not believe to be warranted, for there was no danger of inflicting injury upon the perineum by depressing the handles of the forceps, so as to make traction in the proper direction. When the head had been brought into the cavity of the pelvis it could be easily delivered with the ordinary forceps; and it was to be noted that, in so doing, as the traction intermitted, the handles would rise, and consequently there was no need whatever of an extra indicator. Again, the new instrument was objectionable when used at the upper strait, because in such cases there is very commonly contraction of the pelvis in its antero-posterior diameter. The consequence was that the head of the child did not engage in the oblique diameter nearly so often as in a somewhat transverse diameter. The result was that, when the forceps was applied, one blade rested over the occiput and the other over the frontal region; and although the tissues against the pubes might be saved from pressure by Tarnier's instrument, the operator ran the risk of injuring the tissues between the head of the child and the promontory of the sacrum. Prof. Lusk was in favour of the straight forceps used by Prof. Taylor when the head was at the superior strait; and after it had been brought into the cavity the main difficulty was overcome, because the double-curved forceps could be used with comparative ease. Prof. Isaac Taylor observed that the straight forceps which he used was Pitkin's instrument. He believed that by this new instrument we should set aside what nature taught us, and he was unable to see any advantage whatever that could be derived from its use.

REVIEWS.

Traité d'Hygiène Publique et Privée. Par A. Proust, Agrégé libre de la Faculté de Médecine de Paris, Médecin de l'Hôpital Lariboisière.

The comprehensive work on Hygiene by M. Proust which has recently appeared is one that is eminently calculated to increase the knowledge of the profession at large on this important subject, even though there may not be much fresh information of that detailed description requisite for an active medical officer of health. The book is well arranged, well written, and eminently readable, and, as such, we know of no work which would be of greater service to the average student or practitioner, who, without aiming at making a scientific study of hygiene, wishes to obtain a fair working knowledge of the subject for general use. The book contains throughout a vast number of most interesting facts, gathered from various countries and innumerable authorities, and in certain parts many new facts have been adduced by the author himself; but the very vastness of the ground which he has attempted to cover has prevented him from going very fully into detail in most of the subdivisions of his subject, and we observe that those parts of the science which he has chosen for more thorough treatment are such as have a clinical rather than a chemical or economic aspect: thus, the three subjects to which he has given proportionally the greatest space are—the diseases excited by mode of occupation; climatology, including the geographical distribution of disease; and the etiology and prophylaxis of the acute specific diseases.

By far the most remarkable of these is the division devoted to the Diseases arising from Occupation, which is very full and complete. He first describes the occupation—the different processes of manufacture, etc.—indicates wherein lies the unhealthy influence, gives an account of the clinical history and pathology of the induced affection, and finally refers to any measures which have been suggested or employed to lessen the tendency to the production of disease. His description of lung diseases and of the varieties of poisoning, lead or other, met with in workmen, is especially good; but one of the most interesting sections in this part of the work is that in which the author investigates the influence of close study upon the sight. He believes that myopia is produced artificially on an enormous scale in children at school, and he explains its occurrence in this way: the statistics of Erisman have shown that the vast majority of children under the age of seven are hypermetropic, and to see to read clearly at the usual distance they make great efforts of accommodation. The contraction of the ciliary muscle, thus produced, causes increase in the intra-ocular tension, and as this is kept up for long periods at a time, the coats of the eye eventually give way in the direction of least resistance, *i.e.*, posteriorly: the antero-posterior axis of the eyeball is lengthened, a posterior staphyloma produced, and myopia eventually results. The myopia is increased by the fact that the ciliary muscle being kept in a state of strong contraction for so long, at last becomes hypertrophied, and the curvature of the lens becomes permanently greater. The statistics of Cohn prove how frequently myopia is thus produced; for he found that in the first (or lowest) grade schools in Germany the proportion of myopic scholars was 6·7 per cent.; in the second grade schools it was 10·3 per cent.: in the third grade 19·7 per cent.; whilst in schools of the highest grade the proportion was as high as 26·2 per cent.; and in the top class of these schools more than half the students were myopic. M. Proust lays special stress upon the importance of plenty of open-air exercise as a preventive against this condition, the accommodation being then practically at rest. As myopia, when once established, is liable to become hereditary, it is of great importance that bodies which, like the School Board in England and the Ministry of Public Instruction in France, are undertaking the training of children by the hundred thousand, should pay special attention to this point, if the advance of education is not to be accompanied, *pari passu*, by increased impairment of sight in the race at large.

In that part of his work which deals with Climatology, M. Proust first gives a full account of the different elements which enter into the constitution of climates, and this is followed by a chapter treating shortly of the climates of the chief countries of the world, and of the diseases most prevalent in them; and the section is closed by a chapter of considerable length on acclimatisation.

In the section on the Cause and Prevention of Miasmatic and other Diseases the author gives a comprehensive summing up of all that is known on the subject, without adding much fresh information to aid in the settlement of the many vexed questions involved. In the case of typhoid fever M. Proust expresses an opinion in favour of its spontaneous origin, agreeing in this with Murchison, Trousseau, and Griesinger; but he admits that it is far more frequently transmitted from one patient to another by means of the stools, and therefore, in common with all other hygienists, gives careful instruction for disinfection in this disease.

This brings us to the subject of Sewers and Disposal of the Sewage, and here we find a great deficiency in M. Proust's account; he is much too brief in his description of the construction of sewers. In his recommendations as to the amount of fall necessary, as to ventilation, trapping, etc., he confines himself much too exclusively to generalities, and leaves almost untouched the details of inventions and processes employed for these purposes. He gives but little information which could help in the investigation of suspected defects in sewers, such as any medical man may be called upon to undertake when an outbreak of typhoid takes place in his neighbourhood. He is rather fuller in his account of the various systems of closets, and he condemns—much too strongly, as we think—the system of water-closets in England; whilst, on the contrary, he upholds the system of cesspools, so prevalent in Paris. Without wishing to attach too much importance to our own system, we think M. Proust has failed in mastering it sufficiently to allow him to form a trustworthy judgment on the question; and he scarcely mentions many of its really good points, which might with advantage be adopted in France. He gives but a few lines to the whole question of traps, upon which, since they are practically unknown in France, he ought, as a reforming hygienist, to have laid special stress. He blames—and justly—the pollution of our rivers with sewage, and our failure to apply it to agricultural purposes, but he is evidently not well acquainted with our present method of disposing of our metropolitan sewage; and, so far as the Paris system is concerned, he only succeeds in showing how difficult, and often dangerous, it is to carry out. It is, of course, impossible to lay down any absolute rule for all towns; and what might answer our purpose in London, with a tidal river at hand, obviously cannot be applied to Paris, hundreds of miles from the river's mouth: but at present Paris is suffering from the disagreeables of all the systems, for so much fæcal matter still finds its way into the sewers that the river is polluted by it. M. Proust himself complains that the cesspools have so much liquid thrown into them as seriously to interfere with the utility of their contents as manure, and the places where their contents are converted into a useful form are nuisances in the neighbourhoods where they are situated.

M. Proust devotes a long and very interesting chapter to the subject of Hospital Hygiene, but the interest is derived from the historical side, rather than from the consideration of details of construction, etc. M. Proust gives us the idea here, as in other parts of the book, that he is a clinician rather than a scientific hygienist; for after giving a long account of the Hôtel Dieu in past times, and after quoting many authorities to prove how bad has been the condition of Paris hitherto, when he comes to the practical point of giving advice for our future guidance, he confines himself to quoting a few general recommendations drawn up by the Société de Chirurgie of Paris, but which, though very well as general suggestions, would be of small service to anyone who had to plan out in detail sanitary works for a hospital. Referring to the maternity hospitals, the author quotes statistics, showing that the mortality in them in the last ten years has been about thirteen times greater than in the case of women confined at their own homes; and he describes an admirable system of isolation recently adopted at La Maternité, by which each woman has a separate room, and can be at any moment completely isolated from the others. The only difficulty will be to provide accommodation of this kind on a sufficiently large scale to make any perceptible difference in the mortality in a town where between 5000 and 6000 women annually are confined in hospitals.

In his section on Food, we find the same want of detailed instruction for the practical hygienist as in other parts of the book. Adulterating substances are often mentioned one after the other, without comment and without indications for distinguishing them from one another; and the instructions given for conducting the chemical analysis of water and other

substances are far from sufficient. In speaking of Liebig's extract of meat, M. Proust is unqualified in his condemnation, looking upon it as not only useless, but positively harmful. We think M. Proust does injustice to a substance which, though it may not quite take the place of meat, has, in our opinion, established its position as a valuable adjuvant in the sick-room.

Space will not allow us to speak with further detail of M. Proust's work. Notwithstanding the extensive research shown in it, and the large amount of information it contains, we consider it, as a whole, more adapted as a text-book for the student than as a book of reference for the professed hygienist; but in the former capacity it is perhaps the most interesting book we have yet met with on Hygiene. Each topic is treated historically as well as practically; the style is not too condensed, and facts are presented in a way which enables the reader to assimilate them easily. M. Proust has written a book which will unquestionably prove of great utility, and we heartily wish success to the work.

GENERAL CORRESPONDENCE.

THE PENGE CASE.

LETTER FROM DR. J. F. PAYNE.

[To the Editor of the Medical Times and Gazette.]

SIR,—As you have devoted so much space to Professor Virchow's article on the Penge case, I will ask you to allow me, though tardily, to make one or two brief remarks upon it.

I do not dwell upon Professor Virchow's strictures on the English methods of conducting post-mortem examinations for legal purposes, nor with those on the terminology and conclusions of the reporters of the post-mortem examination; all I wish to point out is, that his whole article proceeds upon a premise which was not in any way a part of the foundation upon which Dr. Greenfield and I based our arguments. The Professor seems to suppose that the two accounts of the post-mortem appearances of the brain, which he calls Dr. Longrigg's and Dr. Wilkinson's respectively, both formed part of the evidence given at the trial. These statements Professor Virchow very naturally characterises as "utterly irreconcileable"; and he also very reasonably urges that no medical expert ought to assert that he could form a judgment in a case where the evidence is so conflicting. With this, as a general principle, I at least entirely agree. From irreconcileable statements as to a matter of fact, where further research is impossible, no sound conclusion can be drawn, and even the value of the particulars in which two such accounts agree is impaired by their wide divergence on other points. But this divergence in evidence did not exist at the trial. The only notes of the autopsy furnished were those which Professor Virchow calls Mr. Longrigg's, and with that gentleman's evidence the other witnesses stated, in general terms, their concurrence. On the basis of Mr. Longrigg's account, Professor Virchow admits, if I understand rightly, the *possibility* that death may have taken place from tuberculosis of the meninges, but he asks, Can we decide whether Mr. Longrigg or Dr. Wilkinson was in the right? Most certainly we cannot decide, and, had such a decision been necessary, I do not think there would have been, even on this side of the Channel, any lack of that "wise reserve" which Professor Virchow desiderates. But neither Dr. Greenfield, Dr. Bristowe, nor I myself, ever saw Dr. Wilkinson's notes, or knew that such notes were in existence.

Now that the matter is entirely decided, and has been very fully discussed, it seems to me hardly worth while to consider what our opinion might have been had the premises been different.

One other point I must briefly notice. There seems to be a disposition in some quarters to quote Professor Virchow as supporting the opinion that the evidence proved that death took place from starvation. I cannot see that this is anywhere implied in his article; and one does not see why the Professor should not have expressed this opinion had he held it. What he says is, that it is not proved whether or not tubercular meningitis was the cause of death, that it is difficult to account for such extreme emaciation by tubercular disease alone; and there always remains the possibility that Mrs. Staunton was not supplied with food. No one can, I suppose, question this possibility, for of course a person afflicted with any disease whatever might be inadequately, or not at all, supplied with food. What was asserted for the prosecution was, that the post-mortem appearances proved starvation—which we deny. Further, we contend that the symptoms were such as simple inanition or privation of food could not have produced. These positions, which, as you know, sir, have received the assent of a very large proportion of the most competent members of the profession, I do not see that Professor Virchow in any way impugns. In fact, he does not refer to the symptoms at all.

It is not perfectly clear, when the Professor says the verdict should be "*non liquet*," whether he means that the diagnosis of death from tubercular meningitis was not proved, or whether that the charge of murder was not proved.

If the former, it is plain that this is a very different thing from saying that death must have been caused by starvation, and does not at all imply such a belief. If the latter, then it is equally clear that, had the court adopted Professor Virchow's view, the prisoners ought to have been acquitted. On either hypothesis there is little or nothing to support the view of the prosecution. It is the high respect and esteem—I might say the reverence, in which I hold Professor Virchow's utterances on any pathological subject, which alone leads me to make any reply to his observations; and I can only express the regret that the English colleague who invoked this distinguished authority did not more completely inform him with respect to the circumstances of the case.

I am, &c.,

78, Wimpole-street, December 18. J. F. PAYNE.

MR. WATHEN'S CASE OF EXTRA-UTERINE FŒTATION.

LETTER FROM MR. W. B. WALL.

To the Editor of the Medical Times and Gazette.]

SIR,—Being the medical man referred to by Mr. J. H. Wathen in the report of his case of extra-uterine fœtation in your paper of to-day, and as the history given is not quite correct, will you allow me to rectify it.

The woman had not one labour-pain on either of the occasions that I saw her. I gave an opiate to allay colic, and did not expect it "to hasten matters." The fœtal head was low down, with the anterior part of the cervix uteri over it. The os could be felt posteriorly. There was no complaint of pain on examination, or any "show."

My opinion, as expressed to the husband, was that she had not reached her full time, and might go on for another month. I had not the slightest doubt about the fœtus being in the uterus; and as it does not appear from report that the uterus was found to be distinct from the "sac," or that it was even examined, I do not see sufficient reason to alter my opinion.

I attended the woman in her previous labour, which was quite natural. I am, &c., WM. BARROW WALL.

Neyland, Pembrokeshire, December 15.

PRESERVATION OF VACCINE VIRUS.—Dr. Colinet, speaking from an experience of forty-five years, states that he has always been able to preserve this in an efficient state, not only for weeks and months, but for two or more years. The virus speedily undergoes change from contact with light or air, from cold, heat, humidity, or electricity, and the object is to guard against the action of such agents. His procedure is as follows:—He chooses some children of good constitution and healthy parentage (which is easy to do in a country practice where he knows everybody). These children, who have been vaccinated seven, or at most eight days before, assemble at his house early in the morning, before the light has become too vivid, he having prepared already very dry vaccine tubes, a lighted taper, some sealing-wax, and a test-tube of blue glass. The pustules are opened in the arm of one child at a time, and when the droplets of virus appear, quite free of blood, the tubes are *completely* filled, sealed, and placed in the test-tube, this last being hermetically closed, after a paper containing the name of the child and the date of the tubes has been put in. This is immediately placed in the darkest corner of the wine-cellar, where it remains exempt from the influences which damage the virus, that then retains its efficacy for weeks, months, or even a year or two.—*Union Méd.*, December 15.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, DECEMBER 11.

CHARLES WEST, M.D., President, in the Chair.

ON THE PATHOLOGY OF TETANUS AND HYDROPHOBIA.

Dr. JOSEPH COATS read a paper as above. The author first described the lesions met with. In *tetanus* the central nervous system showed hyperæmia, and certain appearances in the neighbourhood of the bloodvessels. In the cord and medulla oblongata, pons, corpora quadrigemina, and corpus striatum, but chiefly in the two first named, there was a granular material around the vessels, probably an exudation. In the medulla oblongata it was noted that a longitudinal vessel in the posterior parts was particularly affected, and that there, as well as in other parts, there were occasional hæmorrhages. In the convolutions there was an exudation of a yellow fluid outside the smaller vessels, the medium-sized ones (which are those affected in the cord and medulla oblongata) having mostly escaped. In *hydrophobia* there was in the central nervous system an aggregation of leucocytes around the bloodvessels. In the cord, medulla oblongata, pons, and corpora quadrigemina, it was the medium-sized vessels which were so affected; in the convolutions it was those of small or capillary size. The salivary glands were infiltrated with leucocytes, which have special relations with the bloodvessels. The mucous glands of the larynx were similarly affected, though much less intensely. The kidneys were hyperæmic, with aggregation of white blood-corpuscles within them. The pathology of these two diseases was then discussed, and it was pointed out that there is a great similarity in the distribution of the lesions in the central nervous system, as well as a certain analogy in the kind of lesion. The special distribution of the lesion was compared to the localisation of the tubercles in tubercular meningitis, and was ascribed to physiological and anatomical peculiarities of the circulation. Attention was also drawn to the fact that in hydrophobia the lesions are not confined to the central nervous system; while in tetanus facts are deficient in that regard, but a parenchymatous affection of the liver, kidney, etc., was asserted by one author. The special localisation of the symptoms in both diseases, in the tongue, throat, and neck, was associated with the special prevalence of the lesions in the medulla oblongata, and especially in the neighbourhood of the nuclei of the nerves in the floor of the fourth ventricle, etc., it being pointed out that the principal nutrient vessel of the medulla was specially related to these nuclei of grey matter. It was concluded that in tetanus and hydrophobia we seemed to have two different poisons, each of which, circulating in the blood, attacked the central nervous system. These agents irritated the nervous system, but, as they were different in nature, so the kind of irritation they produced was different. There was, however, a remarkable similarity in the localities affected by them, and these seemed to be specially the spinal cord, medulla oblongata, and corpora quadrigemina, and to a lesser degree the cerebral convolutions. The irritation seemed to centre in the medulla oblongata, and in a particular region of it, this localisation being probably determined by the anatomical and physiological relations of the nutrient vessels. The high temperature met with in hydrophobia, and sometimes in tetanus, was regarded by the author as not inconsistent with these views.

Dr. ALTHAUS thought it exceedingly interesting that pathological changes should have been found in the medulla oblongata, though they had not been discovered even by such an able observer as Dr. Lockhart Clarke. Were these changes, however, essential in their character? He also asked whether the cervical ganglia had been examined, as then, in all probability, changes would have been found. The third cervical ganglion had been found diseased, but this was before the days of exact microscopic research. On the whole, he did not think the appearances pathognomonic, for similar appearances had been found by Dr. Lockhart Clarke in paralysis as in tetanus, especially in the kind called ascending paralysis. He did not believe that there was a poison in tetanus; there could be no doubt of its existence in hydrophobia. He had seen actual experiments of inoculation from one animal to another; in some the poison did not take till after a time. There was no such transmission of tetanus. Though there might be much in common between tetanus and hydrophobia, there was no real identity; even the kind of spasm was different. Moreover, the one was only dangerous to the individual, the other to the community at large.

Dr. DICKINSON said he had seen Dr. Coats' preparations by daylight, and he would observe with regard to them that in many nerve diseases the first changes observable were alterations between the bloodvessels and nerve-substance. There were signs of hyperæmia, and escape of blood corpuscles from the vessels. There was really a great similarity in the morbid appearances of many of these diseases, and they must consequently look for something more. He was inclined to think both hydrophobia and tetanus were blood diseases, for in tetanus there was almost always an open wound, and a very definite period elapsed between the time of the wound and the appearance of the symptoms.

Dr. GOWERS thought both the preparations and the facts adduced constituted valuable additions to our knowledge, particularly as directing attention to other organs besides the nervous system, especially the salivary glands and kidneys. Again, they showed the similarity between the lesions in the dog and man, and moreover, that both tetanus and hydrophobia had characteristic lesions. In five out of six cases of hydrophobia he had examined, the lesions were so similar that they might have been called characteristic. In each of those five there was infiltration of leucocytes, especially in the tissues of the medulla oblongata. There was much less of this in the spinal cord. Some very small vessels were affected, but they having no distinct perivascular sheath, the changes were more diffuse. In tetanus the changes were similar, but less intense in the medulla. He thought that probably the paroxysms of arrested respiration had something to do with the escape from the vessels. The perivascular spaces were really the only vacant spaces where matter could aggregate outside the vessels. He did not think Dr. Coats' specimens inconsistent with ordinary views. There was really a local inflammation of nerve in many instances, but no poison was really necessary in the case of tetanus. Hydrophobia, the result of a special poison, might give rise to a more important vascular lesion.

Dr. TURNER said they might get grouping of leucocytes in the walls of the stomach as the result of an ordinary congestion. In a case of hydrophobia examined by him, leucocytes were found in all organs, but especially in the spinal cord. Vessels of all sizes were affected. The consistence of certain parts of the spinal cord was greatly altered. There was some hæmorrhage in the cervical portions of the cord, and there was also a good deal of granular matter to be seen. In the brain there was nothing particular. There were many leucocytes in the liver and kidneys, in the former especially round about the fœtal canals. In another case fewer leucocytes but more exudation material was to be found.

Sir J. FAYRER said he had come to the meeting in hopes of hearing something of the two diseases themselves; but though he had heard much that was interesting and instructive, there was nothing about the phenomena of the diseases, nor of what could be done for them. He had seen a good deal of both, and of hydrophobia his experience was unfavourable; that of tetanus was better. He was quite sure he had seen tetanus endemic where there was absolutely no wound to give rise to it. That form was amenable to treatment; probably the other was so also; but he would like to hear more on the subject.

Dr. BUZZARD remarked, with regard to the statement that arteries of various sizes were differently affected, that we had a similar affinity or selection-power in the case of many poisons. Perhaps more minute chemical examination was now wanted, rather than microscopical investigation.

Mr. CURLING thought the clinical history did not agree well with the alleged pathological facts. If there was so much change in the spinal cord as had been described, they would expect paralysis rather than spasm; but there was nothing of the kind in tetanus, even up to the turn of life. The patients seemed to die of exhaustion, or sudden cessation of respiration. It was difficult to explain the period of incubation: in tetanus it was a few days; in hydrophobia six weeks or two or three months. If tetanus was really a blood disease, why did section of the irritated nerve early in the malady arrest it?

Sir J. FAYRER said he had often seen tetanus thus arrested, even when the disease had been fully developed.

Mr. HOWSE thought that tetanus was most apt to occur in

the case of wounds where dirt had been so completely ground into the tissues that it could not be removed; and he narrated certain instances illustrative of this. He thought idiopathic tetanus quite a different thing from the traumatic disease, and suggested that in the latter case absorption might take place by the inflamed nerve.

A Gentleman present said that tetanus was not uncommon among horses, and that veterinary surgeons used for it successfully hypodermic injections of conia. This, however, had failed in the case of his own horse.

Dr. Greenfield thought Dr. Coats' researches tended to confirm former observations, though the changes in the cerebral convolutions were something new. Our views of the pathology of the disease were, he thought, biased. The changes seemed to be strangely variable in different cases. Were they not rather due to local irritation than to the disease itself? In reality, similar changes were found in diseases widely different—as in tetanus, hydrophobia, chorea, etc. It would be interesting to know how far they occurred in other diseases accompanied by high temperature. The changes in the glands and similar organs were surely due to irritation. On the whole, he thought that the changes were not due to the disease itself, but to over-vascularity.

Dr. J. Harley said it was an interesting fact that by means of aconite all the symptoms of tetanus could be produced.

Mr. Wood asked if the scar had been examined for any signs of irritation. This might throw light on the period of incubation.

The President drew attention to the form of tetanus occurring among new-born children, and how it had been got rid of by good sanitation. He remarked strongly on the tendency to abandon clinical investigation for purely pathological observation. Pathological facts were not more certain than those observed at the bedside. The vaunted accuracy of observation did not, he found, put a stop to the wildest theorising. It was just the same a hundred years ago, only men used what seemed to be a more scientific nomenclature nowadays. After all, their function was not so much to observe as to cure disease if possible.

Dr. Coats, in reply, said that had his paper been read in full many of the comments would have been rendered unnecessary. Above all, he did not assert that these lesions were the disease, but only the result of an irritant, probably a poison. What the poison may be we know not. The two diseases referred to were only analogous, not identical, but perhaps both were due to a morbid poison. As regards the leucocytes found in the walls of the stomach, they were a part of the normal texture. The lesions found were not so considerable as to produce paralysis. As regards the incubation of hydrophobia we had something similar in an infective tuberculosis from long-standing scrofulous glands. In one case he had found signs of irritation in the cicatrix after a long time had elapsed.

THE PATHOLOGICAL SOCIETY.

Tuesday, December 18.

Charles Murchison, M.D., LL.D., F.R.S., President, in the Chair.

Lactic Fermentation and its Bearings on Pathology.

Mr. Lister brought forward a communication upon this subject, and demonstrated his method of experimentation. He said that a few years ago it would have seemed improbable that the souring of milk should have any bearing upon human pathology. But there was evidence that the essential changes in fermentation occupied a foremost place in the mind of the pathologist of to-day. On reading the report of discussions on kindred subjects—*e.g.*, the discussion on Pyæmia at the Pathological Society—it had seemed to Mr. Lister that medical men had begun from a clinical rather than from a pathological point. It seemed to him that if sure steps were to be taken towards the knowledge of presumably fermentative diseases, it was necessary that we should have a clear knowledge of the simplest forms of fermentation, which could be investigated in the laboratory. Some might reply that Pasteur and other workers had done enough in this direction. But this opinion was not universal. There were still high authorities who said that though organisms were present in putrefaction, they were present merely accidentally. Some time ago, Mr. Lister continued, he had made an attempt by investigating the process of lactic acid fermentation to satisfy himself upon this point. And he had succeeded, and he thought that it might be interesting to the Pathological Society to see samples of the preparations on which his conclusions had been based. He would not have presumed to bring this subject forward if he had not had more to exhibit and tell than he had already shown. He would to-night bring forward some new points not yet published. And, first, he would speak of the *method* of experimentation. The method that he followed depended on the fact, which had been verified by experience, that if we have a glass, pure of anything living, covered by a pure glass cap, and both by a glass shade, the whole reposing on a plate of glass, any organic liquid contained in the apparatus, and free from organisms, will remain free from organisms. The cap and the shade might not fit accurately, the air might enter, yet the result would be the same, if the atmospheric dust were excluded; no organisms would occur in the liquid. The glasses were obtained pure by exposure to a temperature of 300° Fahr. for two hours. All life was then destroyed. The air that entered during the cooling of the glasses must also be filtered, and this was obtained by making the air pass through a layer of cotton-wool fastened between the door and the walls of the iron box in which the glasses were heated. The box was uniformly heated in every part by means of a simple arrangement. Into such a box a dozen of glasses were put, while a thermometer at the top of the box indicated the temperature. After two hours of 300°, the flame was extinguished, and the whole allowed to cool, and then the glasses were removed. The next point to consider was, how organic liquids should be introduced into such a glass. He had arranged a much simpler method of decantation than his previous method. A flask was provided with a neck large at its commencement and comparatively narrow at its termination. When a liquid was poured from such a flask, and the flask was then erected, the nozzle of the neck was valved by a drop of the liquid, and regurgitation of air never could occur through such a nozzle. The mouth of the flask was plugged with cotton-wool, and this filtered the air that entered above the fluid. The guarding drop in the nozzle preventing regurgitation of air for the moment, a piece of lint steeped in carbolic acid was then applied to the nozzle; the guarding drop of liquid was absorbed; and the cotton-wool, taking its place externally, was tied on as a permanent protection. Then came the question, how was the glass to be protected during charging? The carbolised cap was removed from the nozzle of the flask, and instantly replaced by a bit of india-rubber ball which had been impregnated with carbolic acid, and thus rendered thoroughly antiseptic. The glass cap upon the glass was now removed, and the indiarubber being held over the glass, the liquid was quickly poured from the flask; and the glass having been sufficiently charged, the glass cap was placed upon it. This method had been uniformly successful in Mr. Lister's hands. The next question came to be, how was the charging-flask to be obtained pure and filled with a pure liquid? The flask itself was purified by heat as before. A pure organic liquid was to be found in urine unboiled. The glans penis and meatus having been smeared with a solution of carbolic acid, the urine was passed into the opening of the flask, and the latter instantly plugged. Urine thus introduced might be kept pure, mucus and all, for any length of time, without a trace of the decomposition which was perhaps universally associated with standing urine! But if milk were to be used it must be purified by heat. In Edinburgh Mr. Lister had found that no organism resisted 210° for half an hour in the moist state. No liquid continued fertile after such treatment. He said 210°, and not 212°, because he immersed the flask in boiling water, and the temperature of the flask never reached the boiling-point. There was thus no frothing of the liquid, and this was a great convenience. What had to be done was to introduce the liquid into the bottom of the flask without touching the upper part, otherwise the heat would not reach it uniformly. Mr. Lister's plan was as follows:—A rag dipped in carbolic acid lotion was used to purify the outside of a funnel, and the funnel was then passed down into the flask to be charged. The fluid was then carefully poured in, and the mouth closed with cotton-wool, when the flask was ready for immersion in water in a saucepan for the purpose of heating. Success uniformly attended this method of proceeding when the fluid used was Pasteur's fluid or vegetable infusions; but with milk the method as uniformly failed. Some authorities would have concluded from this result that there were complex organic

molecules in milk, which developed into organisms; but Mr. Lister could not consent to this conclusion, and had been convinced that the result was due to faulty experimentation. It occurred to him that the air necessarily introduced through the funnel, and appearing as bubbles, carried dust with it; and milk was a pabulum that supported all bacteria, except, perhaps, one form; he therefore repeated the experiments, substituting a syphon for a funnel. The syphon was composed partly of glass tubing, and partly of indiarubber tubing, fitted with a stopcock; the lower end of one limb of the syphon was wrapped round with a carbolised rag, and through this rag it was passed into the flask; when sufficient milk had been admitted, the syphon was carefully withdrawn, and the mouth of the flask plugged. Since he had adopted this improved method, Mr. Lister had never failed with milk; and he was able to show a specimen of milk to the Society, which had kept without putrefaction from last August. He believed that this failure and correction of failure were most instructive, showing as they did how faults and defects in manipulation were sufficient to explain many appearances that would otherwise be misleading. Having concluded his description of the method pursued, Mr. Lister next passed on to an account of the *facts* that had been obtained by it. He had selected the lactic fermentation for special study for several reasons—namely, first, because the lactic fermentation was conspicuous by its souring effect and by its products; and, secondly, because the ferment was rare, so that any accidental defect in manipulation would not be so likely to allow of its introduction. He called the lactic acid ferment rare in the world generally, but it was very abundant in dairies. Now, if many glasses were charged with milk and exposed, there was sure to be a development of organisms in them, but not necessarily lactic fermentation nor its organism, the *Bacterium lactis* (Lister). The bacterium lactis was a motionless bacterium, usually found in pairs, or in threes or fours, as leptothrix-chains. If milk were taken, as Mr. Lister had taken it, fresh from a cow standing in an orchard near a dairy, and kept unboiled in purified glasses, every specimen would probably be found to contain organisms, as his specimens had been. In spite of great care, organisms had entered in these experiments,—but in not one was there lactic fermentation. Many of the organisms developed were of the most brilliant colours; but the bacterium lactis was never found. The experiment was therefore repeated, but with more rigorous care, and in the majority of the glasses no organism could be found. The conclusion was that pure milk from the cow contains no organism capable of causing the lactic fermentation. The next series of experiments consisted in boiling the milk and adding common water to the glasses. The water was admitted through a graduated pipette, by means of which one one-hundredth of a minim of water could be added at pleasure. When this was done to ten glasses of milk the result was that organisms appeared in some of the glasses, and also fermentation, but not the lactic fermentation. And, further, different ferments were found in different glasses, and some of the glasses escaped altogether. These results proved that the fermentative agency in water was not dissolved in the water, but consisted of suspended particles; otherwise every drop would have been infective. If the cream were thick on the surface of the milk, the spot of inoculation might be seen of various colours, and the colour on examination would prove to be due to innumerable bacteria. Still, various as the forms of fermentation were, the lactic fermentation was not among them. The conclusion was that the souring of milk, instead of being something inherent in the milk, required the introduction of something from without, and this something was scarce in water and in the air generally—except in dairies. And even in a dairy Mr. Lister had exposed a glass of milk for a quarter of an hour, and got no lactic fermentation—only the development of a filamentous fungus, and another bacterium. In this experiment he got a most remarkable viscidity in the milk, which could be drawn up on the end of a needle for thirty-eight inches; yet there was no lactic fermentation. All these results indicated that the lactic fermentation was a form of fermentation favourable for experiment. And now Mr. Lister said he had to make a confession. Next to the promulgation of new truth, he considered that the best thing was the recantation of published error. Some years ago he had published in the *Microscopical Journal* an account of the behaviour of the bacterium lactis in various liquids. In urine, for example, a very different organism had been developed when the urine was inoculated from milk. Instead of a bacterium of $\frac{1}{60000}$th of an inch in breadth, there appeared an organism comparatively large, spirilla-like, but still motionless. A second urine-glass gave the same result; Pasteur's fluid on inoculation produced a different bacterium, which was very active in its movements. From this product there were obtained, by secondary inoculation, coiled organisms; and from this third product the lactic ferment was derived. Mr. Lister believed at the time that he could trace all these stages into each other. Lately he had occasion to mention these results to an eminent authority, who had not previously agreed with his views, and this eminent authority had confessed that such results could not be accidental. But Mr. Lister had felt that he ought to confirm these results if possible. He therefore inoculated urine and Pasteur's fluid, as before, using great precaution. This time he obtained exactly the reverse result—the urine produced an active bacterium; while the Pasteur's fluid, either directly or indirectly inoculated, produced a motionless bacterium. He saw that he had been in error, and had contaminated his fluids. He set about to get rid of the sources of contamination; and in the following way:—He diluted milk with pure water to such a degree that only a single bacterium should be present in each drop of the inoculating mixture. As the bacterium lactis was proportionately the most abundant in milk, it was probable that the bacterium lactis alone would occur always after inoculation, and that the others would be excluded from some of the glasses. The bacteria were counted in a drop of souring milk; the milk was diluted one million times; and five glasses of pure milk were inoculated with the mixture. One of the five glasses produced bacteria. With this he inoculated urine, presumably pure; the bacterium grew, but was very scarce in some specimens, and very slow in development. He then inoculated Pasteur's solution, using in the manipulation a tube of peculiar design to insure a successful result. No change appeared, neither was there any change after direct inoculation of the Pasteur's fluid. The conclusion was that Pasteur's fluid will not grow the bacterium lactis, though it will not actually destroy it. Mr. Lister said that he must have been wrong, therefore, in his first experiments, the baeteria being accidental. The conclusion from all these results, Mr. Lister continued, was that a variety of organisms infest milk. Having obtained by the preceding method the pure bacterium lactis, he estimated the number of bacteria in a given amount of milk, calculated the amount of water that should be added in order that each drop of the fluid for inoculation should contain one bacterium, and inoculated ten glasses with the mixture. Some of the glasses only presented an effect, and, very curiously, exactly five out of ten. These experiments were performed months ago, and at this moment there were no bacteria in any of the five glasses named. A pure white was visible, but no other alteration, such as penicillium, or the butyric acid fermentation. The sour odour of souring milk occurred under the influence of a pure bacterium, and the question was, What was the cause of the odour? Lactic acid was absolutely odourless. The common sour odour of souring milk was butyric. What was the cause of the odour in pure lactic fermentation? Mr. Lister had distilled the products, and obtained a pure liquid with a more pungent odour, but destitute both of acid taste and acid reaction with litmus. Probably, though a sour-smelling substance, it was not an acid, but an ether. With respect to the nature of the lactic ferment, its particles were in suspension in water, and not in solution, as was proved by the previous experiments, for of glasses inoculated with equal drops of fluid, only one-half of the number were affected. What were these particles? Let it be granted, for the sake of argument, that they were mere chemical particles destitute of life, and that could not be observed undergoing subdivision. Suppose these particles capable of developing by self-multiplication. It would be perfectly inconceivable that, if the bacteria were merely accidental in the fermentation process, they should be present in the drops where fermentation occurred, and not in the others, and that the two influences should go in pairs. But whenever the fermentation occurred, there the organisms were found. The conclusion was that this particular bacterium was indispensable to the lactic fermentation. Turning next to the consideration of the characters of the bacterium lactis, Mr. Lister said that the particles were near the *minimum visib le*. The circumstances of their appearance and their grouping had to be considered in recognising them. The *torula cerevisiæ* was enormous compared with the bacterium lactis, the

granules contained in the torula being themselves larger than the whole bacterium lactis. Let but other organisms be conceived, as much smaller than the bacterium lactis as the bacterium lactis was smaller than the torula, and we might thus reach ultra-microscopic structures, which might occur in erysipelas and similar diseases. When milk was diluted 1200 times with water, a puny progeny of bacteria was produced in three days. This result confirmed a previous experiment of Mr. Lister's. He introduced tap-water into a purified flask, and at the end of forty-eight hours he could just discern a bluish-white film by examining the flask with a light in a darkened room. This film consisted of many minute motionless bacteria. How many more must there be in running water! And so, on subdividing water into one one-hundredths of a minim, and examining such a quantity microscopically, one would search for days in vain, and not find the bacterium on the slide. All this showed how vain it was to conclude that there were no bacteria in given fluids, because none could be seen. It had been asserted that *germs* of bacteria had been seen. But there was no evidence that there were germs of bacteria beyond microscopic power. Bacteria were mere reproductive bodies. Their scarcity and their minuteness were alone sufficient to account for their not being seen, without speculating on germs. The needless mystery of germs might therefore be set aside.

At the conclusion of his address it was announced that Mr. Lister had been unanimously elected a member of the Pathological Society.

The PRESIDENT, in making this announcement, said that in some societies it was the custom for new Fellows to deposit with the Society a specimen of their art. Mr. Lister had that evening deposited in their annals, on the occasion of his election, a memorial of his work which was truly worthy of his name. He invited discussion on the subject of the address.

Dr. BASTIAN, after expressing his thanks to Mr. Lister for his communication, said that he had himself no similar experiments to record. But in the main the experiments dealt with fluids preserved from contamination, and the assumption underlay them that in the body there were no such organisms. Now, there were several facts bearing on this that ought to be stated. The subject of fermentation and putrefaction was broad, and the results seemed wholly discordant. Mr. Lister's experiments seemed to be quite convincing, and a flaw was difficult to find in his conclusions. But the question remained, whether observations made under other conditions would give the same results. There were two or three points to be noticed. The first of these was the fact that if we took a healthy animal and suddenly killed it, and allowed it to remain, in summer weather putrefaction would occur. Organisms occurred in abundance in the alimentary canal, and some authorities believed that contamination took place from this source. But the circulation had ceased, the movement of the particles was not progressive, and organs at a distance were infected. Even in the interior of the brain, swarms of organisms were found. To Dr. Bastian this seemed a fact worthy of attention. Again, organisms might be made to appear at will in any organ of an animal. Dr. Sanderson had said that boiled caustic ammonia, introduced with every precaution into the subcutaneous tissues or peritoneal cavity of a rabbit, led to the appearance of swarms of bacteria in the parts. There was another way of producing the same result. Lewis and Cunningham had caused artificial failure of nutrition locally; they tied one renal artery in a dog, and killed the animal in twenty-four hours. The corresponding kidney contained swarms of organisms; and he had himself made an approximation to a verification of this result. Last September a boy died in University College Hospital of disease of the heart and kidneys, with multiple embolism. Examination a few hours after death revealed embolic patches in the spleen and kidneys, of all ages; blood was carefully taken from the right ventricle and from the freshly-cut surface of the lung, and urine from the bladder, but no organisms were found; but the embolic patches contained long vibrionic organisms, distinctly visible, while none could be found in the parts at a distance. Dr. Bastian would, therefore, hesitate before drawing conclusions from Mr. Lister's facts, until they had been compared with others obtained under different circumstances.

Dr. BURDON-SANDERSON expressed his agreement with the conclusions at which Mr. Lister had arrived. He said he was gratified to find that Mr. Lister was in agreement with himself respecting the absence of morphological proof of the existence of germs of bacteria. Professor Tyndall had defined a germ as anything that germinates, without reference to visibility or anatomical characters. He had himself thought that, putting aside the question of possession of structure or not, we might call this a germ; but this did not prejudice the question as to the existence of germs as seeds of bacteria. The facts of splenic fever seemed opposed to this view, but the spores of the organisms in splenic fever were larger than any of the organisms that had been described to-night.

A vote of thanks was then passed to Mr. Lister with acclamation.

OBITUARY.

JAMES FURNESS MARSON, F.R.C.S.

WE are indebted for the following notice of the late Mr. Marson to an account of him given at the meeting of the North London Medical Society, held December 11.

Dr. Kesteven, referring to the loss that the Society had sustained by the death of the late J. F. Marson, took occasion to dwell upon the obligations under which Mr. Marson had laid the profession at large by his exact statistics of the cases admitted into the London Small-pox Hospital while under his charge, extending, it should be stated, over a period of forty-one years. To his industry we owe the history of several epidemics of small-pox in London. The logical conclusions deduced, and closely reasoned out, from the data of admissions, and published in the thirtieth and thirty-sixth volumes of the *Medico-Chirurgical Transactions*, have formed the basis of subsequent legislation upon public vaccination, as well as of our clearer views of the protective powers of vaccination, and still more so of revaccination; while, at the same time, the sources of failure in protection were so distinctly pointed out that the rules of practice thence inferred have not since been successfully disputed. In those papers, and in the essay on Small-pox in Dr. Russell Reynolds' "System of Medicine," Mr. Marson performed good solid work, and has left a model of precise and logical observation after the true Jennerian type.

For several years past the deceased had held the appointment of Examiner in and Teacher of Vaccination under the Privy Council. From its first formation Mr. Marson was also one of the active members of the Epidemiological Society; he was also a member of other medical societies, and an honorary member of the Metropolitan Association of Medical Officers of Health. Mr. Marson received his medical education at St. Bartholomew's Hospital, became a Member of the Royal College of Surgeons in 1834, and Fellow in 1862. For the last few years of his life he had suffered from stone in the bladder, with chronic cystitis, under the effects of which he succumbed at Worthing on November 15, a few months only after his failing health had compelled the resignation of his appointments. It may with truth be affirmed of Mr. Marson, that in the discharge of the duties of his office he had rendered a strict account of his stewardship; and that of the vast amount of material furnished by a large metropolitan hospital, little indeed was allowed by him to run to waste, but, on the contrary, much was, at his hands, laid up in the common store-house of medical science.

FRANCIS HAWKINS, M.D. OXON.

WE regret to have to record the death of Dr. Francis Hawkins, one of the oldest Fellows of the Royal College of Physicians of London, who died at his residence, Ashley-place, Victoria-street, on the 13th inst., in his eighty-fourth year.

Dr. Hawkins came of a family of whom he might well be proud, and whose fair fame he well maintained; his father, the Rev. Edward Hawkins, was the youngest son of Sir Cæsar Hawkins, Serjeant-Surgeon to the Sovereign, and Surgeon to St. George's Hospital. Dr. Hawkins went to St. John's College, Oxford, from Merchant Taylors' School in 1812—an institution at which many distinguished members of the learned professions have been educated. In 1813 young Hawkins carried off the "Newdigate Prize"; and took honours in both the schools, being in the second class both in classics and mathematics. After this successful "preliminary education," he entered on the study of the medical profession at St. George's Hospital, and graduated M.D. Oxon. in 1823. The following year he was admitted a Fellow

of the Royal College of Physicians of London, soon after which he was elected Physician to the Middlesex Hospital, in the vacancy occasioned by the migration of Dr. Peter Mere Latham to St. Bartholomew's Hospital; his great-uncle, Mr. Pennell Hawkins, another Serjeant-Surgeon, had previously been Surgeon to the Middlesex Hospital. In 1829 he was appointed Registrar of the Royal College of Physicians, which office he held until the establishment of the General Medical Council in 1858, when he was happily selected to be Registrar to that body—an office which he retained till the end of 1876. He was also one of the "Elects" of the Royal College of Physicians—the body who formerly elected the President of the College. He delivered the Lumleian and Croonian Lectures, and the Harveian Oration, and served the office of Censor. As Censor he was, we believe, a Trustee of the Hunterian Collection of the sister College, in which he always took a deep interest.

When King's College was established he received the appointment of Professor of Principles and Practice of Medicine in that institution, which he held until 1836, and on his resignation was succeeded by Sir Thomas Watson, Bart. As he was the first to hold that chair, so of all who have held it he is the first to die. He was Physician to the Household of William IV. and of her present Majesty, and as physician to the late Duke of Cambridge and the Duchess of Gloucester he was much and deservedly appreciated by their Royal Highnesses. He was an excellent classical scholar, as his admirable Harveian Oration testified. He had not contributed much to the advancement of medical science; a volume on Rheumatism and Diseases of the Heart, published in 1826, was well received. He was well known in our profession, and highly appreciated for the high tone of thought and feeling that marked every part of his life. In all the affairs of the College of Physicians he took an active and most useful part.

Dr. Hawkins married a daughter of Sir John Vaughan (a brother of Sir Henry Halford, so long the President of the College of Physicians), and leaves three sons—one an eminent member of the Chancery Bar, and two who are clergymen. His surviving brothers are the Provost of Oriel College, Oxford, and Mr. Cæsar H. Hawkins, the Senior Serjeant-Surgeon to the Queen, and twice President of the Royal College of Surgeons.

JOSEPH ROBERT BAYLIS, M.R.C.S. Eng., L.S.A.

We regret to announce the death, aged eighty-four, of Mr. Joseph Robert Baylis, which occurred after a short illness, at the residence of his son, Mr. T. Whitmore Baylis, F.R.S.L., the Waterfall House, Lower Tooting, Surrey, on November 25. The late Mr. Baylis was one of the few remaining veteran members of our profession, and we observe his diplomas for the College and Hall bear date as long back as 1819 and 1825. He formerly practised in the City of Gloucester, but retired comparatively early in life from the profession. Mr. Baylis was a pupil of the great Abernethy with the late Mr. F. C. Skey, F.R.S. The late Mr. Baylis, when studying for his degree in a Gloucestershire village, was a successor of Dr. Jenner, who had once resided there as a pupil, and whose rooms he occupied for several years. Mr. Baylis was an only brother of Mr. Thomas Baylis, F.S.A., the well-known antiquarian, also a member of our profession, who died about two years since, some of whose works of art have now places in our Royal and National collections.

King and Queen's College of Physicians in Ireland.—The arrangements for the second annual course of scientific lectures, to be delivered in February and March, 1878, were completed at the last monthly meeting of the College. The names of the lecturers, and the subjects upon which they will lecture, are as follows:—Dr. T. W. Grimshaw, two lectures on the "Present State of our Knowledge of the Intimate Pathology of Contagion, and its Relation to the Prevention and Treatment of Zymotic Diseases"; Dr. Walter G. Smith, two lectures on the "Principles of Electro-Therapeutics"; and Dr. J. M. Purser, King's Professor of Institutes of Medicine, two lectures on "Some of the Physiological Bases for Diagnosis in Spinal Disease." Dr. Grimshaw is to lecture early in February, Dr. Smith in the second half of that month, and Dr. Purser in March.

MEDICAL NEWS.

University of London.—The following gentleman has passed the examination in subjects relating to Public Health:—

Taaffe, Richard P. Burke, M.D., M.S., student of St. Bartholomew's Hospital.

University of Dublin.—School of Physic in Ireland.—At the Michaelmas Term examination for the degree of Bachelor of Medicine, held on Monday and Tuesday, December 3 and 4, the successful candidates passed in the following order of merit:—

Doodroffe, John F.	Thompson, R. Norman.
Powell, Blacker C.	Fogarty, Thomas F.
White, Edward W. W.	McCullagh, James A.
Casement, Brabazon.	Galbraith, John.
O'Donnell, Joseph F.	Taylor, Rogers.

Cox, Henry L.

At the examination for the degree of Bachelor in Surgery, held on Monday and Tuesday, December 10 and 11, the following was the order of merit in which the successful candidates passed:—

Doodroffe, John F.	O'Donnell, Joseph F.
Hurford, Cedric H.	Manning, George H.

Arthur Annesley West, M.D. Univ. Dub., also obtained the degree of Master of Surgery at this examination. At the examination for the diploma in State Medicine, held on Thursday, December 13, and following days, the qualification was granted to—

Goode, William Henry, M.D. Univ. Dub.

Royal College of Physicians of London.—The following gentlemen were admitted Licentiates on December 17:—

Ashworth, John Wallwork, Heaton Moor, Stockport.
Blake, William Farewell, 25, Grafton-street East, W.C.
Cones, George Augustus, 6, Devonshire-terrace, Kensington, W.
Cressey, George Henry, St. Bartholomew's Hospital, E.C.
Cripps, Edward Charles, 39, Charlwood-street, S.W.
Davies, Francis Joseph, 190, Stanhope-street, N.W.
Deane, John Richard, 9, St. Mary's-road, W.
Dingle, William Alfred, Millbrook, Southampton.
Flint, Arthur, Park-hill, Croydon.
Hayman, Sidney Arthur, Epping.
Husband, Walter Edward, St. Bartholomew's Hospital, E.C.
Judson, Thomas Robert, 16, Wynell-road, S.E.
Meek, John William, 70, Stockwell-park-road, S.E.
O'Grady, William Fitzwilliam, Workhouse Hospital, Manchester.
Pain, Alfred, Coultings, Bridgwater.
Parker, George Roger, 35, Granville-square, W.C.
Poynder, John Leopold, St. Luke's Hospital, E.C.
Proffitt, William John Walthew, Burton-on-Trent.
Smith, Ferdinand Clarence, 18, Albert-street, N.W.
Sworder, Horace, Luton.
Wise, Alfred Thomas Tucker, M.D. Brus., 82, Sutherland-gardens, W.

The following gentleman at the same time was admitted a Fellow:—

Grabham, Michael Comport, M.D. Aberd., Madeira.

King and Queen's College of Physicians in Ireland.—At the ordinary monthly examination meetings of the College, held on Tuesday, Wednesday, and Thursday, December 11, 12, and 13, the following candidates were successful:—

For the licence to practise Medicine—

Previous Examination.
Mahony, John Dennis.

Final Examination.

Dodd, Henry Francis.	Marques, Laurenço Pereira.
Drury, Maurice O'Connor.	O'Sullivan, Daniel.
Flanagan, John Wm. Henry.	White, Thomas George.

For the licence to practise Midwifery—

Dodd, Henry Francis.	Marques, Laurenço Pereira.
Drury, Maurice O'Connor.	MacNeece, James Gaussen.
Flanagan, John Wm. Henry.	O'Sullivan, Daniel.

White, Thomas George.

For the licence as a Midwife and Nursetender—

Parkinson, Ellen.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, December 13:—

Allinson, Henry Calthrop, Lynn, Norfolk.
Brown, John Alexander, 61, Lyndhurst-road.

Candler, William John, Harleston, Norfolk.
Clitherow, Robert Edward, Horncastle.
Damania, Phirozsha Jamsetjee, Bombay.
Reynolds, Lewis William, Park-villas, Poplar, E.
Small, Morton Alfred, 165, Edgware-road.
Thorpe, Henry Stanley, Hertford.
Wilson, Joseph Henry, Oundle.

The following gentleman also on the same day passed his Primary Professional Examination:—

Brookes, Frederick, Charing-cross Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Browne, Lennox, F.R.C.S. Edin.—Honorary Surgeon to the National Training School for Music.

Hemming, W. Douglas, M.R.C.S.—Assistant-Surgeon to the Central London Throat and Ear Hospital.

Murray, James, L.K.Q.C.P.I., M.R.C.S.—Chloroformist to the Central London Throat and Ear Hospital.

Steele, George R., M.R.C.S., L.S.A.—Assistant-Surgeon to the Central London Throat and Ear Hospital.

NAVAL, MILITARY, &c., APPOINTMENTS.

Royal Dublin City Militia.—Surgeon George William Owens resigns his commission.

War Office.—Surgeon-Major Thomas George Fitzgerald retires on half-pay with the honorary rank of Deputy Surgeon-General; Surgeon-Major Charles Henry Leete, half-pay, resigns his commission; Surgeon-Major Curtiss Martin, from half-pay to be Surgeon Major; Surgeon-Major Walter Crisp, from half-pay to be Surgeon-Major.

BIRTHS.

Murray.—On December 14, at Meadowside, Upper Richmond-road, Putney, the wife of G. Stanley Murray, M.D., of a son.

Roberts.—On December 14, at 24, Upper Rathmines, Dublin, the wife of Browne Roberts, L.K.Q.C.P.I., of a son.

Will.—On December 5, at 40, George-street, Portman-square, the wife of George Elmsby Will, L.R.C.P. Edin., Surgeon-Major Army Medical Department, prematurely, of a son.

MARRIAGES.

Lucey—Harding.—On December 18, at St. Stephen's Church, Kirkstall, William Cubitt Lucey, M.D., of Ben-Rhydding, Wharfedale, to Eleonor Anne, second daughter of T. R. Harding, Esq., J.P., of St. Ann's Tower, Headingley, Leeds.

Tomkins—Tomkins.—On November 22, at the British Consulate, Santos, Brazil, Charles Capper, second son of Charles Joseph Tomkins, M.R.C.S., of Teddington, to Mary Ann Amelia, fifth daughter of Frederick James Tomkins, M.A., D.C.L., barrister-at-law, of Lincoln's-inn.

DEATHS.

Hawkins, Francis, M.D., Physician to her Majesty's Household, at 16, Ashley-place, on December 13, in his 84th year.

Hyde, Rachel, wife of Edward Hyde, M.R.C.S. Eng., at Bloxam, Oxon, on December 16, aged 69.

Macartney, John Park, M.D., late of Mexico, at Pelham-crescent, South Kensington, on December 12, aged 70.

Simpson, Alexander Rudolf Virchow, son of Alex. Russell Simpson, M.D., F.R.C.P. Edin., etc., at 52, Queen-street, Edinburgh, on December 13, aged 5 months.

Whitchurch, Nathaniel, M.R.C.S. Eng., of Melton Mowbray, at Great Barford, Beds, on December 12.

Williamson, George, M.D., Surgeon-Major Madras Native Infantry, at 30, Cambridge-gardens, Notting-hill, on December 16, of aneurism.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

The Guest Hospital, Dudley.—Resident Medical Officer. Candidates must be unmarried, and Fellows or Members of the Royal College of Surgeons of England, Edinburgh, or Dublin, and possess a registered qualification in medicine. Applications, with testimonials and certificate of registration, to the Secretary, on or before January 1.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Melksham Union.—Mr. Lewis Miller has resigned the First District; area 1970; population 6256; salary £55 per annum.

Thingoe Union.—The Eighth District is vacant; area 2390; population 578; salary £18 per annum.

Warminster Union.—Mr. Robert L. Willcox has resigned the Longbridge Deverill District; area 13,420; population 3681; salary £98 per annum.

APPOINTMENTS.

Beaminster Union.—Arthur Butler, L.R.C.S. Ire., L.K.& Q.C.P. Ire., to the Evershot District.

Clitheroe Union.—Joseph J. Smithies, L.F.P. & S. Glasg., L.R.C.P. Edin., to the Clitheroe District.

Rochford Union.—Wm. A. Raper, M.D. Lond., M.R.C.S., L.S.A., to the Great Wakering District.

The Library of the Royal Medical and Chirurgical Society will be closed on Monday, Tuesday, and Wednesday, December 24-26.

St. Mark's Ophthalmic Hospital, Dublin.—At a meeting of the governors of this institution, held on Monday, December 17, Dr. John Benjamin Story was elected Junior Surgeon, in the room of Dr. Rainsford, chosen Senior Surgeon after the lamented death of Mr. Henry Wilson in June last. Dr. Story is a distinguished graduate of medicine of the University of Dublin. He took his degrees in 1876, and has since then studied on the Continent and in St. Mark's Hospital.

Treatment of Epistaxis.—Dr. Blondeau relates a case of epistaxis in which a large quantity of blood had been lost, and which, not yielding to other means, he succeeded in rapidly arresting by the application of a tape tightly around the middle part of the thigh. As the bleeding did not recur, this was removed next day, when the hæmorrhage reappeared soon after. A new application of the ligature was made, and was again promptly successful, the bleeding again returning, when it was removed. At last, after a series of these alternations, the hæmorrhage ceased entirely.—*Union Méd.*, Dec. 8.

Ergot in Hæmorrhoids.—Dr. Lansing states that he has found this very useful in four cases. He employed four grains of ergotine as a suppository, night and morning at first, and then only at night. The first effect was the production of pain for half an hour or more. After the use of three or four doses, neither this or other unpleasant effect occurred, the hæmorrhage ceasing, and the congested state of the parts disappearing—the slight tumefaction remaining suggesting interstitial fibrinous exudation, or cellular hyperplasia.—*Philadelphia Med. Times*, October 13.

The Journey to the South of France.—Since December 1 the Mann boudoir sleeping cars, which are identical with the well-known Pullman's cars, run over the whole distance between Paris and Mentone, on the Paris, Lyon, and Méditerranée Railway. The extra cost of a place beyond the price of a first-class ticket is forty-six francs to Mentone, or thirty-six francs to Marseilles, and ten francs on. Tickets can be also taken to the intermediate stations of Cannes, Nice, Antibes, etc. To secure places early application is necessary, as their number is limited, and only eight places can be guaranteed between Marseilles and Mentone. The cars are attached to the 7.15 p.m. express from Paris, and to the return train leaving Mentone at 9 a.m.

Discharge of Ascarides through the Abdomen.—Dr. Anrep relates the case of a robust soldier, aged twenty-eight, in whom appeared, amidst symptoms of partial peritonitis, an abscess the size of a goose's egg in the right inguinal region. This opened spontaneously, discharging a considerable quantity of greenish-yellow pus, accompanied by a yellow stinking fluid containing particles of fæces and two large ascarides. During the next two days two other worms were also discharged. The finger could be passed considerably upwards without inducing pain, and the wound healed speedily. On account of the slight degree of peritonitis, and the small amount of fæcal matters discharged, the author believes that the processus vermiformis was perforated, the ascarides having been accidentally detained therein.—*St. Petersburg Med. Woch.*, December 1.

Death of Dr. Elie Gintrac.—This veteran of medical science has just been carried off by a sudden stroke of apoplexy, in the eighty-fourth year of his age. Associate of the Academy of Medicine, and Honorary Director of the Bordeaux School of Medicine, "M. Gintrac," M. Dechambre observes (*Gazette Hebdomadaire*, December 14), "was beyond contradiction, by his talent, his constant ardour for work, and the dignity of his character, one of the most remarkable figures of the contemporary medical body. He commenced his career with remarkable effect, for his inaugural thesis of 1814 became the point of departure of all that has been since written upon a pathological condition that the works of Sénac, Corvisart, and Caillot had made only imperfectly known—we speak of cyanosis. This thesis became in the hands of its author a true monograph on that affection in 1824. We owe to him also a considerable number of memoirs relating to affections of the chest, various observations in clinical medicine and pathological anatomy, on heredity, and on the treatment of various diseases. But M. Gintrac's great title to renown is his "Cours Théorique et Clinique de Pathologie Interne et de Thérapie

Médicale," which has reached its ninth volume, and the termination of which it is to be feared and regretted will now never be seen. It is one of those works teeming with erudition, good sense, and clinical wealth, which it is rare to find springing up in the departmental schools, even those of the first rank. In fact, if the Bordeaux Ecole de Médecine occupies the high position we see it in, and which has rendered it worthy of being promoted to the rank of a Faculty, it owes this in great part to M. Gintrac, who, by his enlightened direction, and still more by the noble example which he himself offered to emulation, was enabled to increase, fortify, and stimulate this scientific centre, once so languishing. It suffices to say that during his period of office the number of pupils increased gradually from about forty to more than 400."

INCREASED FREQUENCY OF RESPIRATION IN PHTHISIS AND BRONCHITIS.—It is an important clinical fact that frequency of respiration bears no such relation to bronchitis as it does to phthisis. A great amount of bronchitis may be present, and yet not be accompanied by any increased frequency of respiration. A greater length of time is required for the air to make its entrance and exit in bronchitis than in phthisis, because of the want of elasticity in the expiration, and usually there is more or less obstruction to inspiration; the patient perhaps labours for breath. Increased frequency of respiration is to be regarded as one of the earliest symptoms of phthisis—the disease, although limited in extent, giving rise to more frequent respiration than is seen in a bronchitic patient, with lungs over which all kinds of auscultatory signs can be heard.—*New York Med. Record*, October 27.

JUVENILE DEPRAVITY.—It would appear that at least some of the public-houses in Poplar require strict police watching, if such assemblies of drunken boys and girls as that recently discovered at the house of William Miller, a publican in that district, are to be stopped. A police-sergeant, at eleven o'clock on a Saturday night, found in the "club-room" of Miller's house about forty boys and girls, of ages ranging between fourteen and twenty years. The girls had neither bonnets nor shawls on, and were very disorderly and uproarious in their conduct. Miller told the sergeant "it was a juvenile lead—he couldn't help it." One of the girls was lying on the seat drunk, and apparently in a fit. The sergeant tried to rouse her, when she opened her eyes, and exclaimed: "This girl is drunk!" Two boys, about sixteen years old, were sitting on a table with a pot of beer between them. Miller was summoned before the magistrate for permitting drunkenness on his premises, and fined £5, the conviction being ordered to be endorsed on his licence.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Dr. West.—We cannot say, but believe that Dr. William Farr, F.R.S., has been connected with the General Register Office as Superintendent of Statistics since its establishment. The salary which he ably and fully earns appears as £1100 per annum.

Dr. Campbell.—Unable to answer your inquiry last week; cannot find that a photograph has been published of Mr. Prescott Hewett. Perhaps when his portrait, which is now being painted by Mr. Owless, for exhibition at the Royal Academy, is finished, the subscribers may be presented with an engraving, as in the case of the late Sir William Fergusson.

Anatomist, Exeter.—The widow of Sir Charles Bell died in November, 1876, aged ninety years.

Mr. Williams.—The late Sir William Fergusson was created a baronet in 1866; Sir James Paget in 1871.

Mr. Cooper.—Mr. F. T. Buckland, the Government Inspector of Salmon Fisheries in England and Wales, is a member of our profession, his diploma of Membership of the College of Surgeons bearing date 1851. The salary attached to the above office is £700 per annum.

Geologist, Falmouth.—Professor Huxley holds other appointments besides that of Naturalist in the "Geological Survey of the United Kingdom," the salary of which appears as £600 per annum. As Professor in the Royal School of Mines he receives £200 per annum. He is a Member of the Royal College of Surgeons.

Sanitary Work.—The inquiry was held at Croydon last week by Lieutenant-Colonel Ponsonby Cox, one of the inspectors of the Local Government, as to the application of the Rural Sanitary Authority of that Union to borrow £77,070 for works of sewerage and sewage-disposal for Beddington, Merton, Mitcham, Morden, and Wallington.

Charity.—The Hospital Sunday collection made at Melbourne this year amounted to £3371.

Cato.—According to a report presented to the Parliament of Queensland, and published under authority, the birth-rate for the year 1876 was 3·74 and the mortality 1·88 per cent. of the population.

Reading Hard.—No; what Miss Fenwick Miller said, when lecturing on the human brain and its functions, was, that a full amount of sleep was a *necessity*; and her conviction was, "that the idea of 'saving time' by taking an extremely short allowance of sleep was a dangerous physiological delusion."

Scrutator.—The German Universities receive about £500,000 a year from the Imperial Government. This sum was considerably exceeded in 1875, when Strasburg alone was apportioned nearly £200,000. There are other German Universities, situated beyond the confines of the Empire; and altogether there are twenty-eight of them in Europe. The number of professors paid by the German Empire is 1300, and that of the *Privat-docenten* 1050. The Medical Faculty is the only one in which it is imperative on the student to take the degree of doctor. In the other faculties, admission to the privileges and honours of a profession is obtained solely by passing the so-called State or Government examination.

Naval Pension.—The Greenwich Hospital pension of £50 a year, vacated by the death of Staff-Surgeon Tarn, has been awarded to James Vaughan, Deputy Inspector of Hospitals and Fleets.

Sybil.—Yes; we understand a number of chemists have organised an association under the title of "The Institute of Chemistry of Great Britain and Ireland." It is stated that its objects are the promotion and encouragement of a thorough study of chemistry and the allied branches of science, and for the purpose also of taking necessary steps for the maintenance of the dignity of the chemical profession. 2. The students of Owens College, Manchester, have formed the Owens College Chemical Society.

A Surgeon, Yorkshire.—The paper about which you inquire was communicated by Mr. Galton to the Statistical Society in 1873. He stated he had carefully analysed and discussed the census returns of 1000 families of factory operatives in Coventry, and of the same number of agricultural labourers in the neighbouring small rural parishes of Warwickshire, and found that the former had little more than half as many adult grandchildren as the latter. They had fewer offspring, and of these few a smaller proportion reach adult life, while the two classes marry with about equal frequency, and at about the same ages.

JOHN HUNTER, F.R.S.

We are again indebted to Mr. Stone, of the College of Surgeons, for permission to publish the following very interesting document, described on the envelope by Jenner, to whom it is directed, as a "Letter of Importance from the late John Hunter":—

"Dear Jenner,—I thank you for your last letter. I want you to pursue the enquiry considerably further; and to give you an idea of what I mean, I'll first premise that there are in Nature but three Colours—viz., Red, Blue, and Yellow, all the others being combinations of these three.

"First present him with these colours singly, and see what he calls them; then altogether (not mixed), and see how far they correspond with his first ideas of them. When that is ascertained, then begin to mix them; for instance, a Blue and Yellow (which makes a Green)—see what he calls that; then a Yellow and Red (which makes a Scarlet); next a Blue and Red (which makes a Purple).

"Now to explain the intention of these experiments:—Suppose he has a perfect idea only of one colour; and although you mix that colour ever so much, yet he sees none of the other, but only that colour in the mixture. Suppose all three colours, when seen singly or unmixed (with Him), are Blue; mix Blue with Red (making a Purple), he will only see the Blue, the Red not being visible to him; and so on of the others, according as he sees them. Suppose that a simple colour makes no impression, but a compound does—viz., Green (which is composed of Blue and Yellow); then mix Blue and Red in all proportions to see what the colour is; then mix Yellow and Red in all proportions and see what colour these are; if he sees no green in any of them, then mix all the three colours in various proportions, and see what colours those make. When all the Colours are mixed in various proportions, and the whole is a Green, perhaps of different shades, according to the quantity of blue and yellow, then you may fairly conclude that it is the mixture of the Blue and the Yellow which produces it, the Red never making any impression. If there is any other simple compound that he sees, as *Scarlet*, which is Yellow, and the *Modena* Red, or a Purple, which is Blue and Red, see if, when those two are predominant in the mixture (although there are all the three colours in the Mixture), that the compound becomes the visible colour.

"The drawing of the scull has been made ever since you desired it, but I had forgot it. I have a cast for you of the aneurismal varix described by Dr. Hunter. How shall I send both? Let me know.

"Ever your much obliged JOHN HUNTER."

There is no date to this letter. It was written probably in November, 1783 (he died 1793), the date of the following letter (also from the same collection), relating incidentally to the same subject:—

"Dear Jenner,—I received yours with the experiments on Heat and Colours, but have not had time to pay sufficient attention to the colours. I also received your little publication with the Tart. Emet. I have a great deal to say about it. First, do you have to take out a Patent? Do you have to advertise it? Or do you have to let it takes its chance? I aprove (*sic*) of it much, and will do all in my power to promote the sale; but I would advise you to give it new a name expressive either of the composition or of its virtues in the body—viz., sal. antim., or sal. sudorif., or sal. antim. sudorif. I would also desire you to burn your Book, for you will have all the world making it. Let me have your answer to all this.

"Ever yours, JOHN HUNTER."

PARISH RELIEF.

The Conference of Poor-law Guardians last week resulted in a resolution to request the Central Committee to take such steps as they may deem expedient to urge on boards of guardians generally the adoption of the principle that outdoor relief should be the exception, and indoor the rule.

HEROIC.

Mr. Blackburn, a practitioner in Barnsley, at great personal risk captured a dangerous lunatic named Birkinshaw, who was at large a few days ago. The latter had pursued several children with a carving-knife, and, advancing towards Mr. Blackburn, threatened him with death, presenting a revolver, which the doctor fortunately sharply knocked out of the lunatic's hand, and then seized him. He was subsequently lodged in the padded room of the workhouse.

COMMUNICATIONS have been received from—

Mr. J. KNOWSLEY THORNTON, London; Mr. BACOT, Seaton; THE SECRETARY OF THE OBSTETRICAL SOCIETY, London; Mr. SPENCER WATSON, London; Mr. HENRY WRIGHT, London; Dr. E. SPARKS, Mentone; Mr. W. M. BYWATER, London; Dr. J. W. MOORE, Dublin; Mr. JONATHAN HUTCHINSON, London; Dr. CARTER, Melbourne; Dr. HUSSEY, Oxford; Dr. KESTEVEN, London; THE REGISTRAR OF THE APOTHECARIES' HALL, London; THE REGISTRAR OF THE UNIVERSITY, London; Dr. W. L. LINDSAY, Perth; Mr. J. C. CULLINGWORTH, Manchester; THE REGISTRAR OF THE ROYAL COLLEGE OF PHYSICIANS, London; Dr. HANDFIELD JONES, London; Mr. A. MALLETT, London; Mr. INGPEN, London; Mr. W. B. WALL, Neyland; THE STAFFORD HOUSE COMMITTEE, London; Mr. T. WHITMORE BAYLIS, London; THE SECRETARY OF THE CRYSTAL PALACE COMPANY, Sydenham; Dr. J. M. BRUCE, London; Mr. JOHN CHATTO, London; Dr. THOMAS BARLOW, London; Mr. B. R. WHEATLEY, London; Mr. T. M. STONE, London; Dr. STURGE, London; Dr. JAMES ROSS, Manchester; Dr. BYROM BRAMWELL, Newcastle-on-Tyne; Sir JOSEPH FAYRER, London; Dr. JAMES RUSSELL, Birmingham; Dr. GRAILY HEWITT, London; Dr. J. F. PAYNE, London.

BOOKS AND PAMPHLETS RECEIVED—

Early Closing Association, Annual Report, 1876-77—Transactions of the Pathological Society of London, vol. xxviii.—Richard Neale, M.D. Lond., The Medical Digest—Frederic Bateman, M.D., Darwinism Tested by Language—Samuel S. Mander, Our Opium Trade with China—James Jamieson, M.D., Experiments on the Comparative Power of some Disinfectants—Dr. Jules Godard, Du Bégaiement et de son Traitement Physiologique—E. Frankland, Ph.D., D.C.L., F.R.S., Experimental Researches in Pure, Applied, and Physical Chemistry—Octavius Sturges, M.D., Chorea and Whooping-Cough; five lectures—Dr. Paul Topinard, Anthropology—Dr. Charles Letourneau, Biology, translated by William Maccall—Francis E. Anstie, M.D., F.R.C.P., On the Uses of Wines in Health and Disease.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal—Wiener Medizinische Wochenschrift—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Cincinnati Clinic—Monthly Microscopical Journal—Indian Medical Gazette—Queensland Government Gazette—La Province Médicale—Boston Journal of Chemistry—Chicago Medical Journal and Examiner—New York Medical Journal—Medical Enquirer—Canada Lancet—Canada Medical and Surgical Journal.

APPOINTMENTS FOR THE WEEK.

December 22. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 1½ p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

24. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

25. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

26. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex; 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 1½ p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.; St. Peter's Hospital for Stone, 2 p.m.

27. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

28. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.; Guy's, 1½ p.m.

QUEKETT MICROSCOPICAL CLUB, 8 p.m. Mr. Marcus M. Hartog, "On the Investigation of Floral Development."

VITAL STATISTICS OF LONDON.

Week ending Saturday, December 15, 1877.

BIRTHS.

Births of Boys, 1293; Girls, 1249; Total, 2542.
Average of 10 corresponding years 1867-76, 2272·6.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	800	813	1613
Average of the ten years 1867-76	858·6	820·6	1679·2
Average corrected to increased population ...	...	...	1797
Deaths of people aged 80 and upwards ...	...	...	61

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	1	7	2	...	2	1	1	...	...
North	751729	14	19	17	5	11	1	8	1	3
Central ...	334369	...	8	9	...	4	...	3	1	1
East	639111	6	20	16	2	3	...	3	...	2
South	967692	10	38	10	3	5	1	5	1	4
Total	3254260	31	92	54	10	25	3	20	3	10

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·933 in.
Mean temperature	39·0°
Highest point of thermometer	51·1°
Lowest point of thermometer	28·9°
Mean dew-point temperature	35·5°
General direction of wind	S.W.
Whole amount of rain in the week	0·18 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, December 15, 1877, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1877.*	Persons to an Acre. (1877.)	Births Registered during the week ending Dec. 15.	Deaths Registered during the week ending Dec. 15.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3533484	46·9	2542	1613	51·1	28·9	39·0	3·89	0·18	0·46
Brighton	102264	43·4	78	40	49·1	30·0	39·9	4·39	0·37	0·94
Portsmouth ...	127144	28·3	79	41	50·5	30·5	42·3	5·73	0·28	0·71
Norwich	84023	11·2	52	39	50·5	32·8	39·2	4·00	0·25	0·63
Plymouth	72911	52·3	37	35	53·5	31·0	42·5	5·84	0·49	1·24
Bristol	202950	45·6	131	85	51·4	28·2	40·8	4·89	0·50	1·27
Wolverhampton ...	73389	21·6	57	36	50·0	28·8	38·0	3·33	0·14	0·36
Birmingham ...	377436	44·9	310	168	...	...	...	...	...	...
Leicester	117461	36·7	119	38	50·2	30·2	38·9	3·83	0·08	0·20
Nottingham ...	95025	47·6	52	48	51·5	29·1	38·9	3·83	0·22	0·56
Liverpool	527083	101·2	403	273	53·0	37·3	42·3	5·73	0·81	2·06
Manchester ...	359213	83·7	290	199	...	...	...	...	...	...
Salford	162978	31·5	127	75	50·5	30·0	40·0	4·44	0·70	1·78
Oldham	89796	19·2	69	41	...	...	...	...	...	...
Bradford	179315	24·8	120	73	50·6	34·6	40·6	4·78	0·51	1·30
Leeds	298189	13·8	240	141	53·0	35·0	41·3	5·17	0·37	0·94
Sheffield	282130	14·4	202	137	51·0	33·0	40·4	4·66	0·31	0·79
Hull	140002	38·5	93	47	49·0	31·0	38·6	3·67	0·53	1·35
Sunderland ...	110382	33·4	81	54	49·0	32·0	41·0	5·00	0·24	0·61
Newcastle-on-Tyne	142231	26·5	104	66	...	...	...	...	...	...
Edinburgh	218729	52·2	151	118	52·0	32·3	41·4	5·22	0·46	1·17
Glasgow	555933	92·1	371	262	51·5	35·0	42·5	5·84	1·67	4·24
Dublin	314666	31·3	174	199	54·3	28·8	41·9	5·50	0·54	1·37
Total of 23 Towns in United Kingdm	8166734	38·4	5982	3828	54·3	28·2	40·5	4·72	0·46	1·17

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·93 in. The lowest reading was 29·57 in. on Wednesday morning, and the highest 30·31 in. on Saturday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1877 by the addition of six years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. Salford, however, forms an exception to this rule, as the estimate is based upon the rate of increase of inhabited houses within the borough during the six years ending July 1, 1877. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

IS HEBRA'S PRURIGO MET WITH IN ENGLISH PRACTICE?

By JONATHAN HUTCHINSON, F.R.C.S.,
Senior Surgeon to the London Hospital and to the Hospital for Diseases of the Skin, and Surgeon to the Moorfields Ophthalmic Hospital.

(*Concluded from page* 666.)

The following may, perhaps, be found a fairly accurate grouping of the cases of prurigo as met with in English practice. Of course I put wholly aside the numerous cases in which the irritation of the skin is due directly to the presence of parasites—scabies, and morbus pediculosus. Although I have little doubt that attacks of these maladies do sometimes lay the foundation of chronic and persistent prurigo—of cutaneous irritability which may persist for years after the cause has been removed—and which may then deserve a change of name and take position under that of the disease which we are investigating; yet it would be extremely inconvenient to confuse them so long as their phenomena are in direct relation with a special cause of this nature. After, however, we have relegated all forms of pedicularia (comprising almost all that were formerly known as *Prurigo senilis*) to their proper position, there will still remain a considerable number of cases of prurigo proper, or prurigo without parasitic cause, and these I would propose to group as follows:—

Group I. *Cases in Young Children or Infants which have resulted from Varicella, Vaccinia, or Measles.*—These cases are tolerably common, and are severe. They may be diagnosed by their history, and by the existence of small bullæ and pus-crusts and the formation of vesicles on the palms and soles. They are very intractable, but get well in the end.

Group II. *Cases of Severely Pruriginous Lichen in Infants and Young Children.*—These are yet more common than the preceding, and every out-patient clinic affords abundant examples of children covered over back and loins, and often on extremities also, with itching lichen-spots which have been scratched and abraded. These also are difficult of cure, but are usually very much benefited by treatment. They are almost always worse during summer (the flea season), and there is often reason to suspect that the eruption is, in large part, due to the bites of insects—fleas, bugs, or gnats. These cases might be supposed to supply examples of Hebra's prurigo in its earliest stage, but we have no reason to believe that any considerable proportion of them are protracted into adult life.

Leaving the period of childhood, we find that young adolescents are liable to a peculiar form of prurigo, which in some features resembles acne, and which is almost invariably liable to exacerbation in summer; of these cases we constitute—

Group III. *Prurigo of Adolescents and Adults, Relapsing in Summer.*—This eruption affects the face and arms, and although it may extend over the whole surface of the limbs and trunk, it is always most severe on face, arms, and shoulders. Its pimples are but slightly developed, and erythematous congestion of the skin is always conspicuous. It does not usually itch excessively, but it is always more or less scratched, and always leaves scars. Although more common about the period of puberty, it may begin in childhood or in adult age. Some of these cases approach very closely to Hebra's type, but the summer aggravation, the severity with which the face is affected, and the seldomness with which it begins in infancy, are important differences.

Next we have, as constituting—

Group IV. *Winter Prurigo*, comprising cases in which the skin is made pruriginous by cold. These patients are always well in summer; they are usually thin and of feeble circulation and very prone to cutis anserina on exposure. The eruption never affects the face, and almost always begins on the lower extremities. It is seldom or never seen in the very young.

Very closely allied to the winter prurigo group we have another, which may be suitably known as the—

Group V. *Persistent Prurigo of Adults and Aged.*—This differs in nothing from Hebra's type excepting in that it is rarely a very severe malady, and that it does not begin until past middle life. It is for the most part a disease of the aged. The following case may be cited to illustrate this form:—

The Rev. C. M. consulted me because I had been fortunate enough to cure of a most troublesome prurigo an elderly lady with whom he was acquainted. His case, although by no means a severe one, presents some interesting features. He is about sixty years of age, an inheritor of gout, from which he has suffered mildly; thin, and of rather feeble circulation. When a boy he had eczema intertrigo behind the knees, and a troublesome itching rash on the shins, but it got well, and he did not again suffer until three years ago. He once had something like nettle rash from drinking beer, but is not liable to much irritation from the bites of fleas. His present inconvenience consists in a general irritability of skin, which is worst on his legs. There are no spots, but he says that when he begins to scratch he always succeeds in finding little itching points which afterwards develope into papules. These often bleed from his scratching. He insists after deliberate argument that the scratching really gives him great relief, and that it would be useless to attempt to abstain. The prurigo is not very severe, and it never keeps him awake at night. He has not observed that articles of diet influence it, or that fire-heat makes it worse. It has persisted now for three years, being worst in winter, but by no means absent in summer. There is some irritation of the scrotum, but no actual eczema.

I may observe that in several other cases of this type I have obtained the history of eczema of the popliteal spaces in childhood, and in some of more or less of skin irritation generally, thus more nearly completing the picture which Hebra has given. In none, however, had the symptoms in childhood been in any degree severe, and in all they had been soon cured, and a long interval had occurred before the senile attack.

In the case of an officer in the army, who was sent to me by Dr. Meadows, the prurigo was rather severe, and had lasted several years, but there was no history whatever of symptoms in boyhood.

In the following we seem to have a connecting link between constitutional or dartrous eczema and Hebra's prurigo:—

Sarah H., aged forty-nine, was admitted in April, 1869, and gave the history of having suffered from itching eczema in the flexures in childhood. At the age of fifteen she got rid of it, and had no skin disease until her present trouble began three years ago. On the backs of her hands, and on both legs just above the ankles, and thence upwards to the thighs, were patches of eczema, which itched excessively. Between the patches the skin was harsh and pigmented. The nails were roughened. Boils had occurred and had left scars. She had sometimes been confined to bed by it, and during the whole three years it had never been quite well. The case is, perhaps, rather pruriginous eczema than prurigo proper, but it is interesting to note that it affects the prurigo positions rather than those usually attacked in eczema.

The following case—one of the very few in which, with a history extending over many years, lice were discovered—may suitably raise the question whether the parasites ought to be considered as more than an accidental complication. It will be seen that the eruption occurred on the face, and to some extent on the arms—parts which do not usually suffer from the irritation of lice. Yet it is quite possible that in some cases a general pruriginous state of skin may be set up by their presence, which may involve parts not actually infested. This theory is, I think, by no means improbable as the true explanation of a certain number of the cases of relapsing prurigo.

Hannah C., aged eighteen, admitted July, 1872. Had been liable to relapsing prurigo since the age of two years. It had been very changeable, but never got quite well. It affected the extensor surfaces of the upper and lower extremities, and the face and back; a few spots occurred on the fingers. Lice were found on her head and in her clothes.

Richard M., aged twelve, has been liable to prurigo every summer for four years. It is slight on the body, and worst on the arms and legs. It was a mixed papular and pustular eruption, and very much scratched. It was stated to have begun between the fingers. The skin of the outer surfaces of his thighs and arms was thickened and dry. There were lice in abundance on the head, but none were found on the clothest The suggestion made in the preceding case as to persisten. irritation from lice may here possibly apply to that of scabies

Thus, then, under one or other of these five headings—(1) Varicella prurigo; (2) lichen-prurigo of infants; (3) relapsing or summer prurigo of young persons; (4) winter prurigo; (5)

persistent prurigo of adults—I think we should be able to group pretty easily all the cases occurring in English practice in which prurigo is a disease of the cutaneous surface generally. I have left aside for the present those in which it is a local malady, as, for instance, the prurigo pudendi and prurigo of the anus. Although, put together, we have in these several groups of cases all the features which Hebra enumerates, yet I must protest that they are clinically very different from each other, and that we do not observe any in which they are combined in the same patient.

Before concluding, I have to remark that although these groups include, I think, the chief maladies which deserve the distinctive epithet of prurigo, yet that a pruriginous element must be expected in many other maladies which do not obtain or deserve that name. Eczema-lichen, lichen ruber, acne, and even psoriasis itself, may be each in turn more or less pruriginous. When they are so, the primary eruption at once receives important modifications, and special measures of treatment are required. I have recently had under care a most terrible case of pruriginous eczema, in which it would be hardly too much to assert that the man scratched himself to death. He used to tear his skin incessantly, and had produced by doing so lines of scar and great indurated wheals of an almost keloid character. Yet his skin was also universally eczematous, and he had been seen by almost every dermatologist in London with that diagnosis. The disease had begun rather suddenly in middle life, and had been attended by intense prurigo from the first, which lasted without abatement till the time of his death, three or four years later. His sister, older than himself, suffered also from winter prurigo, and was constantly scratching, but had no eczema. In many cases of eczema in children the itching which attends the eruption becomes an important cause of its aggravation.

I have lastly to express a hope that I shall not be considered to have indulged unduly, in the present lecture, a controversial spirit. No one admires more than I do the vigorous powers of observation and zest for the discovery of truth which are displayed in the writings of Professor Hebra. If I have seemed to address myself to an attempt to rectify his descriptions, it has been chiefly because I found his graphic chapter on prurigo a very convenient text from which to start. I cannot, however, conceal my belief—indeed, I have already expressed it—that the chapter in question is not applicable to English experience. Instead of admitting that there exists a causeless and incurable malady, to be known as PRURIGO, which is for the most part unconnected with other skin diseases, my endeavour has been to show that there are certain definite causes of skin irritation to which these maladies are attributable, and that it is more consistent with clinical truth to break up the group of maladies described under this name into several smaller ones, each associated with something peculiar as regards cause or concomitant conditions. How far I have succeeded in my attempt I must leave to you to judge. The classification at which I have arrived is, it must be asserted, by no means unimportant in practice, for the different groups of cases require very different methods of treatment. Nor is prurigo, although fortunately in its severe forms a rare disease, in any degree to be regarded as unworthy of detailed study. It may easily spoil the happiness and mar the usefulness of a large part of a life, and if we can succeed in any degree in increasing our knowledge of its causes and the modes of its prevention, neither our time nor our trouble ought to be grudged.

ORIGINAL COMMUNICATIONS.

NOTES OF A CASE OF

DISSEMINATED SCLEROSIS OF THE BRAIN AND SPINAL CORD IN A CHILD.

By E. I. SPARKS, M.A., M.B. Oxon., M.R.C.P. Lond.,
Late Physician to the Skin Department of the Charing-cross Hospital, etc.

THE publication of a case of cerebro-spinal sclerosis in a young child, by my friend Dr. Humphreys, of Manchester, in the *Medical Times and Gazette* of November 3, page 491, induces me to send the following, I fear imperfect, account of a parallel case which has been under my own observation for now more than four years. It will be noticed that the child was about three months older than Dr. Humphrey's patient when the disease is supposed to have commenced:—

J. C., aged three years and four months, came under my care at the North-West London Dispensary for Sick Children, at which I was one of the physicians, on April 28, 1873, for an attack of whooping-cough, and was treated with ipecacuanha mixture for a few days, and afterwards with vin. ferri ʒij. and oleum morrhuæ ʒij. t. d. s. during the greater part of May, with considerable improvement of his general health. On May 29 it was first noticed that there was marked external squint and dilated pupil in the left eye, which his mother stated to date from May 23. There was also slight paralysis of the inferior rectus. At the same time attention was first called to the condition of other parts of the body, and to the fact that the child could not stand or walk without help, but staggered about like an ataxic patient when put on his legs. He could raise both arms above his head; but if made to hold any object he could not raise them so far as when empty-handed, and the left arm was involuntarily shaken about in an irregular and convulsive manner.

These symptoms led to an inquiry into the child's earlier history, the details of which, though they scarcely throw much light on the case, are as follows:—

J. C. was much weakened by hæmorrhage from the navel soon after birth; but he was fairly healthy until February, 1873, when he had an attack of shingles (herpes zoster) on the left side of the head and neck, extending up behind the ear. From this illness, which left him very weak, his mother dates the beginning of the motor disturbances and loss of power in the legs; for previously he could walk well for a child of his age, and he had been able to attend the infant-school in the summer of 1872. The child had never had a fit, a blow on the head, or a severe fall, and had never suffered from otorrhœa or worms. He used to lie and beat his head at one time, probably in consequence of headache. The family history also fails to elucidate the case. The father and mother are healthy and strong, and no relatives have ever been similarly affected. The mother had scarlet fever at the time of the boy's birth, and her confinement is said to have been brought on by it. Later on she was laid up with rheumatic fever. J. C. was her fourth child. The eldest is alive and well; the second and third died of bronchitis. None of the children, including J. C., ever had sores on them; and the mother never had sore throat except at the time of the scarlet fever. Since J. C., three children have been born, viz., a boy in 1873—a fine healthy child according to the most recent accounts (November, 1877); a girl in 1875, "a small but very healthy child"; and a boy in February, 1877, which lived four months and a half, and died of hydrocephalus. The mother writes that she was told that if the last baby had lived it must have grown up an idiot.

On June 12 my friend Dr. Gowers saw J. C. with me, and kindly examined his eyes with the ophthalmoscope, and reported that "he has no optic neuritis; the edge of the disc is clear; the veins are a little larger than normal; there is slight redness of the disc, but no swelling; sight is good." The following note was also taken:—"There is no marked alteration in the sensibility of the legs; there is no facial paralysis; the tongue is protruded straight. He has ptosis to-day, but not complete. He eats pretty well, and can talk when at home. He can hear well, and has no headache. Both legs are rather inclined to waste. Ordered—℞. Potass. iodidi gr. iij, syrupi ferri iodidi ℥xv. t. d. s., hydrarg. c. cretâ gr. ¾, nocte maneque sum."

June 28.—"Complains of much headache in the last few days, and has asked his mother to hold his head. The appearance of the optic discs is the same (Dr. Gowers); the ptosis of left eyelid is, if anything, more marked. The unsteadiness of the left arm and ataxy of the legs is unimproved; in fact, his mother thinks he shakes more than he did. He cannot walk without support, and if held and made to walk, swings his right leg down, instead of bending it in the ordinary way."

July 7.—"He is in much the same condition as before; if anything, he walks worse, throwing the legs outwards and jerking them down. He eats very greedily, his mother says."

12th.—"His whooping-cough, which still continues, is very troublesome, and he has from twenty to thirty paroxysms in the twenty-four hours. He perspires very much about the head; has no headache now. Dr. Gowers again saw him, and reported 'a small patch of atrophy in the right eye.'"

He was not now seen again until October 25, when it was noted that "the child walks, when slightly supported, like a blind man groping his way; he sways the body, and puts the legs out far and very deliberately. There seems to be slight paralysis of the superior rectus muscle of the *right* eye. The

squint and dilated pupil on the left side are no better. The child generally looks to the right. There is rather less shaking of the left arm, but the right is a little affected now, and there is some incoördination of the jaw and the tongue. There is no complaint of pain in the body or limbs, but he occasionally suffers from headache. He is cleanly in his habits, and passes his water well. He has a good appetite, and is fatter than he was in June. He has lost his cough, and has gained colour." Just before this note was taken the child was an in-patient at the Great Ormond-street Hospital for three weeks, as his mother was expecting her confinement. He did not attend as an out-patient, and his mother does not know what medicine he took while in the hospital. After this he was lost sight of until August 30, 1875, when Dr. Gowers again saw him with me. We then noted that "the left arm and hand shake even when no voluntary movement is attempted. If he tries to grasp something held before him—*e.g.*, a stethoscope,—he takes several seconds with outstretched palm and extended fingers to seize it. The jactitation is thus much worse than it was. The left pupil is dilated out of proportion to the paralysis of rectus, but there is considerable divergence of the eye outwards. There is no nystagmus. The right hand is almost quite steady. The child cannot walk at all without support. He can stand alone, but shakes from side to side. He can also stand with the eyes shut. He has been treated with an orthopædic apparatus for the last four months, but cannot walk any better for it, and it merely supports him. He shakes about very much when the irons are taken off. He has a good memory, but cannot read or spell. His speech is slow and syllabic. He can count numbers up to twelve, but omits a figure occasionally. His general health is good, and he sleeps well. He is remarkably fat for his age."

Since 1875 I have not, unfortunately, had an opportunity of seeing the boy myself, but, in answer to my inquiries, his mother, who is a very intelligent woman, has sent me the following particulars, with the date November 7, 1877. She says—"I am happy to say he enjoys most excellent health; his appetite is good, and he sleeps well, but the shaking is just the same, and mostly on the left side as it always was. He never uses his left hand. He can (now) manage to walk across the room *without* support, but very slowly indeed, as the shaking seems worse then, and makes him fall very much (? often), but we hope that he will be able soon to use a crutch. His hearing and sight are quite good. The pupil of the left eye is just the same as when you saw him. He has never had any fit, nor yet a day's illness since August, 1875. He does not wear any supports (orthopædic irons) now, nor has he done so for eighteen months, as they appeared to be useless after a year and a half's trial. I think, if anything, his speech is a little better, and he has a wonderful memory. He never complains of pain in the head or elsewhere. He has never taken any medicine since you saw him, and, in fact, I think I may say that he is in just the same state as he was then. The only improvement I notice is in his speech, and that is very slight."

On November 16 she wrote that "J. C. is suffering from rather a sharp attack of bronchitis, which seems to affect every nerve, but I hope that he will soon recover with care."

Remarks.—In this case there is clear evidence of pathological lesions in the brain and spinal cord, affecting the co-ordination of various muscles, and paralysing the functions of the third nerve on the left side, and possibly to a slight extent on the right. These facts, and the co-existence of tremor on voluntary movement, point almost certainly to cerebro-spinal sclerosis as their cause, and the case is interesting from the early age at which the disease commenced—viz., three years and six months. Syphilis could be excluded with considerable certainty, and treatment directed against its possible presence was without appreciable effect. Tubercle also was scarcely to be thought of, considering the symptoms, the family history, and the state of the child's nutrition throughout. None of the ordinary supposed exciting causes of cerebro-spinal sclerosis were present in this case. The scarlet fever from which the mother suffered at the child's birth is scarcely likely to have affected him; and whooping-cough attacks thousands of children without any nervous sequelæ like the above; moreover, the greater part of the motor incoördination seems to have preceded the whooping-cough, though the paralysis of the third nerve certainly arose during the course of that disease. That there was some connexion between the attack of herpes, from which the nervous symptoms are alleged to date, is more probable, though I should regard the herpes rather as an effect of the incipient sclerosis than as its cause. I have seen herpes of the ilio-inguinal nerve associated with "infantile" paralysis of the opposite leg. Treatment had no appreciable effect in improving the symptoms; whether it helped to arrest the progress of the sclerosis is an open question. Iodide of potassium and grey powder were given for several weeks while the child was under my care, and he was also treated with cod-liver oil and iron; but as his general health was latterly excellent, there was no special indication for the continuance of these remedies after the subsidence of the whooping-cough for which he first attended. I rather regret that chloride of barium, as recommended by Hammond, was not tried at the onset of the sclerosis.

The disease appears to be for the present arrested, but there can be no hope of a cure of the existing symptoms, and the child is, and must always remain, a cripple.

Mentone, France.

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Medical Times and Gazette.

SATURDAY, DECEMBER 29, 1877.

ANNUS MEDICUS 1877.

Notwithstanding the epidemic of small-pox, which had gradually increased in severity till it attained to a very grave magnitude and character, the state of the public health in 1877 was generally satisfactory, the death-rate having been throughout the year, in London and in the country, very low.

The fatal cases of small-pox registered in London had been 97 and 75 in the last two weeks of 1876, but rose to 116 in the week ending January 6, 1877, the highest weekly number that had been registered during the epidemic. During the same week, small-pox caused 22 deaths in Liverpool, and 8 in Manchester and Salford, but none in any of the sixteen other largest towns. After this the epidemic gradually declined much in severity during some weeks, and then increased again, till, in the week ending March 17, the deaths from small-pox in London had risen to 100. They then declined, till, in the week ending June 23, they were only 44, the lowest number returned in any week since November, 1876. After this date the deaths continued to decrease in number, and, in the first week of September, were reduced to 8 only. Towards the end of the year small-pox again became more prevalent in London, in the four weeks of November the deaths registered as occurring from the disease being 25, 14, 27, and 31

respectively; but it remained unusually quiescent in all the others of the twenty largest towns, during the last fourteen days of November only 2 fatal cases of it being registered in the nineteen provincial towns, namely, one in Liverpool, and one in Birmingham.

The number of cases of small-pox admitted into the Metropolitan Asylums Board Hospital during the year ending in October, 1877, was 7333.

Hydrophobia has occurred during the year with very remarkable and, happily, unusual frequency; but no advance was made in our scientific knowledge of the disease or of its treatment, and all the cases in England died. Three or four cases have, however, been reported from Germany and America, in which patients who were believed by qualified and skilled medical men to be labouring under genuine hydrophobia were cured by, or recovered under, treatment by the hypodermic exhibition of curare. It may, of course, be questioned, or very greatly doubted, if the cases were correctly diagnosed; but, at any rate, the special power that the drug is known to possess over the muscular system renders its remedial action in hydrophobia not incredible, and it must therefore be scientifically and carefully tried.

The two Houses of Legislature met for business on February 8, and the session was again opened by her gracious Majesty in person. But this happy act was the only feature of the opening of the session of the Parliament of the fortieth year of Queen Victoria that gave any special satisfaction to the medical profession; for her Majesty's Speech—or, to use a more strictly accurate phrase, the Speech from the Throne,—though long, contained no reference whatever to any sanitary measure, or to any measure having even a distant connexion with sanitary legislation. The profession is very far from wishing for anything like fussy, meddlesome, incessant legislation on matters relating to the public health, but several subjects of very grave and pressing interest demanded the attention of the Legislature, as the provision of an abundant and pure water supply, the reform of the coroner's court, and the state of the lunacy laws; and faith had not yet been lost in the Prime Minister who had more than once declared that the health of the people ought to be the first and the greatest object of a statesman's care and attention. And this year the disappointment caused by the conspicuous absence of the mention of public health measures from the Speech from the Throne was not lessened, as it was in 1876, by any allusion to such subjects in the speeches on the Address to her Majesty. Some private members of the House of Commons indeed endeavoured to make up in some degree for the neglect of the Government. Sir Trevor Lawrence asked the President of the Local Government Board whether, having regard to the severity of the existing epidemic of small-pox, the urgent necessity of more perfectly universal and efficient vaccination, and the prejudices prevailing in some minds against the use of humanised lymph, he would take steps to provide a supply of vaccine lymph from the calf. But the reply was most unsatisfactory, and nothing has been done by Government to meet in this way either any occasion of extraordinary demand for vaccine lymph, or the not altogether unfounded scruples of those who, dreading the danger that may possibly attend arm-to-arm vaccination, openly resist, or evade the vaccination laws. The subject was again, late in the session, brought before the House by a motion made by Earl Percy for a Committee to inquire into the working of the vaccination laws. The motion was unsuccessful, and rightly so, for the appointment of such a Committee would, in all probability, lead many people to suppose that there is some real doubt as to the value of vaccination. But the subject will, unquestionably, turn up again; and when it does, it will be the duty of Government to be prepared on three points, viz., the animal-lymph alternative, the advisability of providing for the compulsory vaccination of infants and children when their parents obstinately refuse to have them vaccinated, and the question of revaccination. Mr. Dillwyn called the attention of the Government to the lunacy laws, and obtained the appointment of a Select Committee to inquire into its operation as regards the security afforded against the violation of personal liberty. At the end of the session a Parliamentary Blue-book of nearly 600 folio pages was issued, containing the evidence given before the Committee, but no report; the Committee stating only that they had resolved "to report the evidence to the House, and to express an opinion that the Committee should be re-appointed next session for the purpose of agreeing upon a report to be presented to the House." Considering what a voluminous mass of evidence—much of it of the most contradictory character—was taken, no one can wonder that the Committee felt quite unable to digest it, so as to form any clear judgment upon it, without a large extension of time. Their report next year will be looked for with much interest, and more curiosity, for some of the evidence given is so crotchety and one-sided that the Committee cannot but feel considerable difficulty in estimating its value. We may try to hope, but can hardly expect, that solid benefit will be gained by the inquiry. Several important measures relating to public health were indeed introduced during the session, but all but one were, at the end, among the "massacred." Of these were—the Factory Acts Bill, a consolidation measure; the Sale of Food and Drugs Act Amendment Bill; the Habitual Drunkards Bill; three Medical Acts Amendment Bills; the Public Health (Metropolis) Bill; and the Public Health (Ireland) Bill. The Bill to consolidate and amend the law relating to Public Health in the Metropolis, which was introduced on June 4 by the President and the Parliamentary Secretary of the Local Government Board, was not generally thought to be a satisfactory and well-considered measure, either as to the consolidation clauses or the amendments proposed to be made; and it was regarded with much disfavour both by the Metropolitan Local Authorities and by the Metropolitan Asylums Board. It was withdrawn in the end by Mr. Sclater-Booth, who intimated that he should introduce, in a future session, a stronger and more comprehensive measure. The Bill to consolidate and amend the Acts relating to Public Health in Ireland, introduced by the Chief Secretary (Sir Michael Hicks Beach) and the Attorney-General for Ireland, passed through a Select Committee, receiving there several important amendments, chiefly owing to representations and exertions made by the King and Queen's College of Physicians, and the Royal College of Surgeons of Ireland, and by the Irish Medical Association; but it failed, through the opposition of the Irish obstructives, to get into Committee of the House of Commons. It will appear again, when we hope it will be still further improved, and meet with a happier fate. The one sanitary measure which did become law was the "Canal-Boats Act, 1877." It is a short Act of seventeen sections, and provides for the registration and sanitary regulation of all canal-boats used as dwellings; and its most important sections are those which give powers to sanitary authorities for the inspection of canal-boats, and for the prevention of the spread of infectious diseases by them. The Bill contains also provisions as to education; a child living in a canal-boat, barge, or flat being made subject to the compulsory clauses of the Education Act in force at the place which the boat is registered as belonging to. The Act comes into operation on January 1, but will not be enforced till before January, 1879. It is not in any way a strong measure, but probably a stronger one would not have been passed, and this one gives powers for good if wisely and well carried out. Some provisional orders were made and confirmed in connexion with the operations of the Artisans'

Dwellings Act; and a local Act, the Bolton Improvement Bill, was passed, which contains important provisions for the compulsory registration of all cases of infectious sickness occurring within the borough. An Act, which may prove a very useful one, was also passed, giving to landowners of limited interests, in England, Wales, and Ireland, powers to charge their estates with the expense of constructing reservoirs for the storage of water. It recites that in many places it would conduce greatly to the establishment of a plentiful supply of pure water to the inhabitants of villages and towns, and for the industrial requirements of localities, if facilities were given to landowners of limited interests to charge their estates, subject to the Inclosure Commissioners, with sums expended by them in constructing reservoirs and other works for the supply of water; and the sections of the Act provide for the way of carrying its object. The Act is 40 and 41 Victoria, c. 31. The total result of the labours of Parliament, as regards matters of special interest to the medical profession, was therefore painfully meagre; but we cannot complain very much of this, for the session was singularly remarkable for barrenness in legislation of any kind, owing, in at least a very large measure, to the tactics of the Irish obstructives; and the session of Parliament of 1877 will be most memorable for the unprecedentedly long continuous sitting of twenty-six hours, by which Government at last met and overcome, though all too late for any legislative purposes, the persistent and reckless opposition offered to all progress by a very small band of Irish Home Rulers.

The General Council of Medical Education and Registration met for the session of 1877 on Thursday, May 10, when the President, Dr. Acland, delivered the usual address, reporting to the members the business of any special importance that had been before the Executive Committee during the recess, and telling them of the various subjects which they would have to consider during the session. The debating power and the weight and influence of the Council had been strengthened by the election of Sir James Paget as the representative of the Royal College of Surgeons of England; but, on the other hand, the President had to inform the members that they were to lose the valuable services of Dr. Stokes, who had been the Crown nominee for Ireland ever since the Council was first formed. The Council sat for thirteen days, the longest session on record. We wish we could add that the real work done—the gain to the great object of the establishment of the system of medical education—was at all proportionate to the length of the session; but it is simply impossible to deny that time was woefully wasted in discussions on verbal amendments, and on matters of very secondary importance. Three resolutions of importance, respecting changes in the system of education of students, and of value, supposing them to be acted on by the licensing bodies, were passed. A "recommendation" that there shall be an examination at the end of the first year, was agreed to; and this, with the very laudable and necessary object of stimulating and testing both teachers and students, of preventing idleness during the first year of study, and so of lessening the proportion of rejections at the first professional examination. The Council also recommended that students shall be required to produce evidence of having had six months' experience in the charge and treatment of patients in a hospital, dispensary, or elsewhere; and that no student shall be required to attend more than one course of lectures on the same subject. The first of these two recommendations ought to bear good fruit in increasing the clinical, practical knowledge of students, and may supply in some measure the loss suffered by the abolition of the old system of apprenticeship; while the second may excite teachers to greater efforts to make their lectures instructive and interesting, for students will always be willing to attend lectures which they find really helpful. Some other "recommendations," having also for their object the improvement of medical education, were agreed to, as, on the order and sequence of examinations, and of subjects in each examination, and for the limitation of the area examined on in some subjects. These few resolutions cannot be looked upon as a satisfactory result of a large expenditure of work-time, but they are the only real outcome of days of discussion; and they are only "recommendations." But, as our readers will remember, time was wasted day after day on minute verbal criticism of sentences in the "recommendations," amendments were proposed in such profusion and fought over with such persistence that it might have been thought that the real object was *not* to agree to anything, and on several occasions a resolution was passed, was reversed, and was passed again—sometimes, but not always, on one and the same day. A very large amount of time was given by the Council to the consideration of the Report of the Medical Acts Amendment Committee, and it was agreed to recommend that medical qualifications granted under legal authority in any part of her Majesty's dominions outside the United Kingdom shall be registrable under the Medical Act, but "in a separate alphabetically arranged section of the Register"; and, further, that the Council shall have authority to establish in the Register a distinct alphabetical section for "foreigners practising in the United Kingdom, with qualifications granted in foreign countries, and entitling to practise in those countries respectively," when the qualifications are judged by the Council to be sufficient guarantee of the possession of the requisite knowledge and skill for the efficient practice of the profession. The Council disapproved of the penal clause in the Medical Acts Amendment Bill of the East London Medical Defence Association, and recommended that the introduction of more stringent penal clauses into the Medical Acts be postponed "till such time as these Acts shall have received all legislative amendments in the provisions relating to the profession itself"—a "good time," which we fear will be very long in coming. The Council declined to institute a visitation of the medical schools; they expressed their regret at the way in which the Cruelty to Animals Act (1876) had been administered, and authorised the Executive Committee to remonstrate with the Home Secretary on the subject, should they think fit to do so; they erased two names from the Medical Register, re-admitted three names, and declined to admit other two; and they discussed for a long time a communication from the Queen's University in Ireland respecting the non-registration of honorary degrees in medicine granted by that University—a question involving the whole subject of the registration or non-registration of honorary degrees,—and at last discovered that it was a question for high legal opinion, and resolved to take it. The opinion of the law officers of the Crown for England was taken, and, as it supported that of the Irish law officers of the Crown, the degrees in question have been registered. The Council could not afford time for the discussion of one of the most important sections of the Medical Act Committee, that regarding the education and examination of midwives, but resolved "That means under legal sanction should be provided for giving credentials of qualification to competent midwives," and "that the lives of women in labour should, so far as practicable, be protected from the incompetent," and directed that these resolutions should be communicated to the Lord President of her Majesty's Privy Council. The great questions of the efficiency of the present methods of professional teaching, and of the causes of the great number of rejections at the professional examinations, were not gone into, nor were the opinions obtained from the licensing bodies on the latter subject considered. After various changes of opinion and prolonged discussion, the Council agreed that "it is desirable that the examination in general education be left to the universities, and such other bodies engaged in general education and

examination as may from time to time be approved by this Council," and that the Executive Committee should communicate with the licensing bodies on the subject. It may be mentioned also that the Council received from the Registrar-General the assurance that if a clear case should be reported to him "of an unqualified medical man forging for his own purpose the name of a qualified registered medical practitioner," in hope of obtaining a conviction he would take the opinion of the legal authorities serving under the Lords of the Treasury whether legal proceedings should not be instituted; and it will be seen elsewhere that a man has been successfully proceeded against for this offence.

One of the most, if not *the* most, memorable events of the medical year 1877 is the final settlement of a Scheme for a Conjoint Examining Board for England. It may be remembered that at the close of 1876 two of the co-operating medical authorities still objected to the amended scheme then before them. The Royal College of Pnysicians, London, had approved of the Scheme, "provided that the original principle of each body abstaining from the exercise of its independent privilege of giving admission to the Medical Register be adhered to"; this proviso being added because the first clause of the Scheme had been altered after naming the co-operating bodies, and reserving to them liberty to confer, as they think fit, their honorary distinctions and degrees, so as to run thus—"Each of them will abstain, *so far as allowed by law*, from the exercise of its independent privilege," etc. The words we have italicised, and to which the College of Physicians objected, had been inserted to meet a difficulty felt by the Royal College of Surgeons with regard to the admission of women, and especially with regard to its midwifery licence; and this difficulty, it was believed, could only be removed by a legislative measure. It was more than doubtful whether such a measure could be obtained, and the College of Physicians did not, in the end, insist upon its objection. The University of Cambridge proposed two changes in and one addition to the Scheme, viz.—"That the Committee of Reference consist of two representatives from each of the medical corporations and universities," instead of requiring each of the universities to send one representative of medicine and one of surgery, while each of the corporations sent simply "two representatives"; that "on each occasion double the number," instead of "not less than twice the number," of examiners to be appointed be nominated by the Committee of Reference; and that the following new clause be added:—"That the Scheme of Conjoint Examinations terminate at the end of ten years from the date of its sanction by the General Medical Council, and do then cease unless renewed." At first the University proposed that the Scheme should terminate at the end of *five* years unless renewed, but after a time consented to enlarge the time to ten years; and in this form the proposed new clause, as well as the alterations, was accepted by the Conference, and the re-amended Scheme was sent in March to the co-operating authorities for consideration. The proposed alterations were accepted, and the new clause rejected by the threo medical corporations and by the Universities of Oxford, Durham, and London. The University of Cambridge then withdrew its opposition, and the Scheme as finally amended was presented to the General Medical Council on May 24, and received their sanction. Thus, seven ycars after the Council had sent to all the licensing bodies in the United Kingdom a message strongly pressing on their notice the desirability of a Conjoint Examining Board for cach division of the kingdom, a perfected Scheme for England was presented; and since the meeting of the Council the co-operating authorities havc severally elected their representatives on the Committee of Reference. The experiment of one Conjoint Examining Board will therefore be tried in England; and its success is endangered by the fact that it is to be tried in that division only of the kingdom, all attempts at forming a Scheme for Scotland or Ireland having totally failed hitherto. But unless the English Board proves to be a failure, a like Board will undoubtedly be formed, voluntarily or under compulsion, in the other divisions.

A very serious dispute has arisen, unhappily, between the Senate of the University of London and Convocation. In February tho Senate decided by, it was said, a majority of fourteen votes to seven, to take advantage of Mr. Russell Gurney's Act, 1876, and admit women to examination for its medical degrees. This had been done without any communication to or consultation with Convocation. And it appeared afterwards that the resolution had been brought forward in the Senate also without any previous notice of motion, and that those members of the Senate who were opposed to such a resolution were taken by surprise. Such a mode of proceeding was not illegal, for, strangely enough, no regulation to the contrary existed in the University; but the Senate expressed as strongly as possible its disapproval of the course, by passing, on March 28, a resolution preventing the possibility of such a thing happening again. A Committee appointed by the Senate, to consider the regulations for carrying out the resolution for the admission of women, presented their report on March 28, and recommended that women-candidates should have gone through the same course of study and should pass the same examinations as men—the examinations being separately conducted; but they also recommended that women who had begun or finished their medical studies should be exempted from passing the matriculation examination, and that foreign certificates of study should be received as well as, or in place of, English. Meanwhile the medical graduates of the University presented to the Senate a memorial, bearing over 230 signatures, praying them to "reconsider their decision," and the Senate, recognising the weight of the memorial, consented to suspend further action in the matter for the present. Soon afterwards a "whip" for the approaching meeting of Convocation was sent out in the shape of a circular signed by three members of the *Senate* (not by members only of Convocation) stating that a notice of motion had been given in the Senate to rescind the resolution of February 28, and urging all graduates who approved of the policy adopted by the majority of the Senate to attend the meeting of Convocation, at which a resolution would be proposed thanking the Senate for their resolution of February 28. The meeting of Convocation, held on May 8, was a very large one. Two leading members of the Faculty of Arts brought forward the motion—"That Convocation thanks the Senate for their resolution to admit women to degrees in medicine," which, on the proposal of Dr. Buchanan, they amended by the insertion of the words "desiring that women should be admitted to degrees in all the faculties" after the word "Convocation." Mr. Savory, in a very eloquent speech, then moved the following amendment:—"That this House is of opinion that it is undesirable for this University to admit women to degrees in medicine before it shall have considered the advisability of admitting women to degrees in all the faculties." This was ably seconded and supported by Drs. Barnes, Quain, Wilks, Wilson Fox, and Sir William Jenner, while not one medical graduate spoke in support of the original motion. On division, 142 voted for the amendment, and 129 against it; and when the amendment was then put as a substantive motion, it was carried by 144 to 116. On June 23 the Senate of the University met, and by a vote of 16 to 11 decided to pursue the course they had determined upon in February; thus disregarding the memorial of the medical graduates and the clearly expressed opinion of Convocation. This decision was received by the medical graduates with very great regret, for, as it would have been impossible for the Senate to make the change determined on without consulting Convocation and obtaining an amendment of the charter, had it not been for Mr. Russell Gurney's Permissive

Act, it was felt that they ought to have given special weight to so decisively expressed an opinion on the subject as was the resolution passed in Convocation. The situation was further aggravated by its becoming known that, at the same meeting of the Senate, Sir James Paget asserted that it would be impossible to examine women in the same way as men for the degree in medicine; it was known also that more than one of the examiners for the medical degrees of the University had stated that they would not, and could not, examine a female candidate on the same range of subjects as male candidates had to submit to: though on Presentation-day the Chancellor of the University and Mr. Lowe had declared that no modification of the examinations was intended. Thus, it appeared, the University was threatened with a loss of some of its most distinguished examiners, and a deterioration in the value of its medical degrees, should the Senate carry out their determination. The next step in the dispute was that the Annual Committee of Convocation decided, in July, to test the question whether or not the privileges of Convocation had been infringed by the action of the Senate; and they requested the chairman to summon an extraordinary meeting of Convocation, "with a view of considering how far the constitutional privileges of Convocation had been superseded by the Senate in adopting a permissive Act of Parliament, by which the constitution of the University would be materially altered, without consultation with Convocation." Thus the original question in dispute between the Senate and Convocation—the question of the admission of women to degrees—was merged in the larger and much more important question of the privileges of Convocation; and the step now taken marked as strongly as possible the gravity of the difference between the Senate and Convocation, for it was the first time since its creation, more than twenty years previously, that Convocation had been summoned to meet upon special and urgent business. The meeting was held on July 27; and the result was a complete triumph for the cause of constitutional freedom. In a house of 225 members, and after an exhaustive discussion, Convocation by a large majority condemned the adoption by the Senate of a permissive Act of Parliament without reference to Convocation. The chief resolution—"That this house, regrets that the Senate has, by adopting a permissive Act of Parliament (Act 39 and 40 Vic., cap. 41), without reference to or consultation with Convocation, materially altered the constitution of the University, and has thus practically superseded the privileges of Convocation"—was moved, in an able, eloquent, and temperate speech, by Dr. Tilbury Fox. One of his most effective points was a legal opinion given by Mr. Farrer Herschell, Q.C., who was unavoidably absent. Mr. Herschell, who had gone fully into the case, had shown that the Senate had changed the constitution of the University contrary to the spirit of the charter; and, further, that, contrary to the opinion of the Senate, women, if admitted to degrees in medicine by Russell Gurney's Act, could claim by their degree a right to sit in Convocation. With regard to the latter point, Dr. Fox showed that the law officers of the Crown had, indeed, said that "women admitted to degrees in medicine or surgery would become members of Convocation in the same way as men, but under the proviso contained in section 1 of 39 and 40 Vict., cap. 41, they would be under a special statutory disability, which would prevent them from taking any part in the government, management, or proceedings of the University"; but they added, "the proviso just referred to enacts that 'no person, who but for this Act would not have been entitled to be registered, shall by reason of such registration be entitled to take any part in the government,'" etc. And they continued, "it is obvious there has been a slip in the words of the proviso. It ought, we think, to be construed as if the words 'qualification for such registration' had been used, instead of the words 'such registration.'" And Dr. Fox then stated that he had written to Mr. Russell Gurney on this point, and Mr. Russell Gurney had replied that the proviso had been given to him as the condition on which the Bill would be allowed to pass; and had added, "I wish it had been worded differently." Dr. Fox admitted that the Senate had a *legal* right to admit women to medical degrees under the permissive Act of Mr. Russell Gurney, without reference to Convocation; but proved that in so doing they had done that which was *morally* and *equitably* wrong. Dr. Fox was ably seconded by Dr. Curnow; and the view that the Senate had acted unconstitutionally, and that *morally* they were in the wrong, was supported by some of the graduates in the Faculties of Law and of Arts. In the end Dr. Fox's resolution was carried by 114 votes to 71—that is, by a majority of 43; and a second resolution, empowering the Annual Committee to confer with the Senate on the subject, and to ask them not to take any further action under Mr. Russell Gurney's Act, was also carried by 88 votes to 52—majority, 36. On October 12 the Annual Committee resolved to request the Senate to grant an audience to a deputation from the Committee upon the subject of the resolution of Convocation; and the Senate, on November 14, received this deputation, who laid before them a memorandum containing the gist of the arguments advanced at the extraordinary meeting of Convocation against the action of the Senate: to the memorandum an appendix being added, containing the opinions given by Mr. Farrer Herschell, Q.C., M.P., and by Mr. Montague Cookson, Q.C. The Chancellor of the University returned a reply which had been previously approved of by the Senate, stating that the Senate was willing to apply for a supplemental charter, which should admit women to degrees in all faculties; and hoping that this proposal would meet the wishes of Convocation, and that Convocation would co-operate with the Senate in carrying the proposal into effect The deputation replied that they had no power and no right to pledge Convocation to any particular line of action—which fact the Senate at once admitted; and then the deputation withdrew.

We pointed out at the time that the reply contained no expression of regret that the Senate had forgotten or disregarded the constitution of the University, and had set at nought the expressed wish of Convocation on the subject of the admission of women to degrees in medicine; and that no definite promise had been given to abstain from proceeding under Russell Gurney's Act; but when the Annual Committee of Convocation met, on November 16, they accepted the reply as a satisfactory one, considering that the Senate had, in giving it, virtually abandoned their resolution to proceed under the permissive Act; and the Committee expressed their willingness to co-operate with the Senate in procuring a supplemental charter. We expressed our fear that the Annual Committee had taken too sanguine a view of matters, but, hoping that they rather than we ourselves were right, we rejoiced over the prospect of a restoration of that harmony of feeling and action between the Senate and Convocation which is so absolutely necessary for the well working and prosperity of the University. This dream of settled difficulties was, however, soon rudely dispelled. When the Senate met, on December 7, a message was received from the Annual Committee of Convocation, thanking the Senate "for acceding to the request of Convocation by abandoning their proposed action under the Russell Gurney Act, and by submitting the intended important change in the constitution of the University to the judgment of Convocation by a new charter, which will apply to all the faculties." To which the Senate replied that they received with pleasure the expression of the opinion of the Annual Committee "that the objects desired in common by the Senate and by Convocation may be obtained in a manner to which

neither party objects, by a new supplemental charter in place of the existing one for the admission of women to all degrees, with the requisite limitation in regard to the admission of women to Convocation; but at the same time feel it necessary to point out that they have not taken any resolution as to their future course." The Annual Committee, generously perhaps, but not wisely, assumed that the Senate had abandoned action under the Russell Gurney Act, and the Senate of course declined being thanked for what they had not done; but they, in their reply, assumed much more than the Annual Committee had done. The Annual Committee had sent a simple message, expressing no opinion, and the Senate should have made a simple reply, but neither on this occasion, nor when they received the deputation, have they spoken generously or frankly. At the next meeting of the Senate the Chairman of Convocation drew attention to the wording of the above reply, and pointed out that neither directly nor indirectly had he expressed himself in the sense assumed; and the Senate, recognising their mistake, amended their reply, so as to thank the Annual Committee for their "courteous expression," and to express their trust "that the objects desired in common by the Senate and by Convocation may be obtained in a manner to which neither party objects"; but stating again that they "had not pledged themselves to any future course of action."

The Royal College of Physicians, London, again elected Dr. Risdon Bennett to be their President for the ensuing year. The College, having been asked by the General Medical Council whether and under what conditions they would be disposed to admit foreign graduates to examination, passed the following new by-law:—"That any candidate for the College licence who shall have obtained a degree in medicine or surgery at a British, colonial, or foreign university recognised by the College, after a course of study and an examination satisfactory to the College, shall be exempt from re-examination on such subjects as shall in each case be considered unnecessary." The Baly Medal of the College was awarded, on the recommendation of the Council, to Professor Carl Ludwig, M.D. A new edition of the Roll of the College is to be prepared by Dr. Munk, the learned editor of the former edition. The new edition will be in three, instead of two, volumes, and will bring the Roll of the Fellows down to 1824. A new and revised edition of the "Nomenclature of Diseases" is also to be prepared, and a Committee has been appointed for that purpose. The first edition occupied twelve years in its preparation, and but few copies of it remain unsold. During the year the College received, from the Colonial Office and the India Office, several important communications on leprosy, which were severally reported on by the Leprosy Committee. In one of their reports the Committee expressed the opinion that "in many cases in which medicines have been used with *apparent* good effect, the favourable result has really been due in great measure, if not entirely, to the improved general hygienic conditions in which the lepers had been placed"; and the Committee recommended that the College should strongly urge that the attention of the Government should be especially directed to this consideration; and "decidedly recommend that lepers should be placed under the immediate charge of the Government in hospitals or asylums properly provided for that purpose," where every attention to hygienic conditions should be observed, and where "the real value of any system of treatment might be submitted to careful investigation under the observance of competent medical men." The reports were forwarded by the College to the Colonial Office and the India Office. At their last meeting, the College resolved to accept and carry out the recommendation of the General Medical Council, that any cases in which decided ignorance in the subjects of general education has been displayed by candidates at the professional examinations, with the name of the board or boards before which the preliminary examinations have been passed, shall be reported to the Registrar of the Medical Council.

One of the most noteworthy events in the year's history of the Royal College of Surgeons of England was the remarkable and eloquent Hunterian Oration which was delivered by Sir James Paget. It was in every way worthy of the orator, and was a most interesting and able study of the life and character of Hunter, the greatest physiologist, pathologist, anatomist, and surgeon of his day, and the founder of comparative anatomy. The Oration was graced by the presence of the Prince of Wales, and the College afterwards entertained his Royal Highness at a banquet in their library. The Council at their quarterly meeting, on January 11, formally adopted some alterations in the regulations relating to the education and examination of candidates for the Fellowship, which had for a very long time been under consideration. But as the proposed alterations became known they excited great dissatisfaction, and in March, before the resolution of the Council was confirmed, a strongly worded memorial, signed by 300 Fellows, was presented to the Council, objecting especially to the section of the new regulations relating to "candidates, members of the College of not less than ten years' standing," and pointing out that the alteration proposed by that section would materially impair the value of the Fellowship diploma, and would be an act of injustice to a large number of existing Fellows; and that there was no adequate ground for it. This memorial was read at the meeting of the Council on March 8, when the resolution to adopt the formulæ for altering the Fellowship regulations came on for confirmation, and after a lengthened discussion, an extraordinary meeting of the Council was ordered for the reconsideration of the subject. This meeting was held on March 22, and resulted in a resolution to annul Section 6 of the new regulatitns, and to alter Section 5 in conformity therewith. The proposod alterations in the by-laws relating to the Fellowship were published at the time in our columns, and it will be recollected that other of the proposed changes besides those contained in Section 6 were very objectionable, but after the decision of the Council at their extraordinary meeting the matter need not be more fully spoken of here. The Jacksonian Prize of the College was awarded to Mr. Harrison Cripps, one of the surgeons of the Great Northern Hospital, for the best essay "On the Treatment of Cancer of the Rectum, particularly as regards the possibility of curing or relieving the patient by excision of the part affected." On the proposal of Mr. Marshall, the Council agreed to give effect to Section 5 of the Charter, 15th Vict., with respect to the election each year of two members, of twenty years' standing, to the fellowship, subject to certain conditions. At the annual election of Fellows into the Council of the College, three vacancies had to be filled up, created by the death of Sir William Fergusson and by the retirement, in the prescribed order, of Messrs. John Gay and J. E. Erichsen. Mr. Gay and Mr. Erichsen presented themselves for re-election, and Messrs. William Adams, W. S. Savory, and Timothy Holmes were also candidates. The choice of the Fellows fell on Messrs. Erichsen, Savory, and Holmes.

On October 18 the Council of the College had under consideration the condition of the Bristol Medical School, incited thereto by a communication from some of the staff of the Bristol Royal Infirmary, and by the very large proportion of the students from that School that have of late been rejected at the College examinations. The Council resolved—"That, in consideration of the transitional state in which the Bristol School of Medicine has recently been, owing to its proposed amalgamation with the University College, Bristol, it is not expedient that at present any action should be taken with a view to inspecting the School in the manner suggested by the Faculty of the Bristol Royal Infirmary," but that at the end

of the present winter session the Faculty of the School should report very fully to the Council on the condition of the School and on all the arrangements made for teaching and examining the students; and the Council would then determine "whether or not to take further steps in the matter, and as to the future recognition or non-recognition of the School." Later in the year the Council received from the Secretary of the Faculty of the School a communication as to certain difficulties that had arisen in carrying out the "affiliation" of the School with the Bristol University College; but the Council, while regretting that their use of the expression "amalgamation" instead of "affiliation" appeared to have had something to do with the reported difficulty, decided to adhere to their former resolution, and to wait for the returns they had required before taking any further steps in the matter.

The Council had before them for a long time the consideration of what qualification should be required to be held by lecturers and teachers in dentistry. One body of dentists—the Association of Surgeons Practising Dental Surgery—petitioned the Council to refuse to receive certificates of attendance on lectures and dental hospital practice respectively, from any lecturer on dental physiology, dental anatomy, or dental surgery, or from any surgeon to a dental hospital or the dental department of a recognised hospital, who does not hold a registrable qualification in surgery, such as that of Member or Fellow of the Royal College of Surgeons; and this recommendation, with the additional requirement that the lecturer or teacher should possess also the College licence in dental surgery, was approved of by the Dental Board of the College. Another party among the dentists insisted, on the contrary, that the dental licence of the College ought to be held to be sufficient, and should be required. The Council appointed a committee to consider "certain questions relating to the diploma in dental surgery"; and this Committee recommended that the dental diploma should, in itself, be sufficient to enable the holder of it to undertake the appointments above mentioned; that the dental diploma should be required to be held by the lecturers and teachers in addition to any other qualification they might possess; and that the Dental Board should gradually increase the severity of the examination for the dental diploma, so as to give it greater value and importance. This view of the whole question was eventually adopted by the Council, and, on the whole, we think rightly adopted. The Council did not, we believe, take the opportunity thus offered of reconsidering the advisability of granting a dental diploma at all, which is very doubtful, unless indeed as supplemental to the membership of the College—and the propriety of that, even, might be questioned; but so long as the College does confer a licence in dental surgery, to be obtained after a curriculum not greatly differing from the curriculum for the membership, and a special examination, we do not see how it is to be declared that the licence is not sufficient to qualify its holder to teach dental surgery—unless, indeed, the Council admit that the examination for the licence is a pretentious sham.

The various Medical Societies of the metropolis have, as usual, been active, and have, one and all, done good work for the advancement of the science and art of medicine. One of the most interesting discussions at the Royal Medical and Chirurgical Society was that on the pathology of tetanus and hydrophobia, but it was not productive of any real addition to our knowledge. No really new pathological appearances were described, and of those described we do not *know* that any are peculiar to either hydrophobia or tetanus; nor whether or not any or all of them are results or causes of disease.

At the Pathological Society the chief subject taken up was the pathology of visceral syphilis; and here the boundaries of our knowledge were decidedly enlarged, much new and important information being given as to the morbid changes caused by the syphilitic infection, whether congenital or acquired. For a summary of the discussion we must refer to our pages, as we have not space at our command to give here the pathological gains of the year in this or in other directions. For the same reason we must be content to refer to our reports of the Clinical Society, and to various scientific editorial articles, for the principal therapeutical results of the year.

Women can now obtain a full medical education in England, and can obtain a registrable diploma in Great Britain, entitling them to practise the medical profession. Mr. Russell Gurney's Act of 1876, permitting any licensing body to admit to examination for its degrees or diplomas any persons, without regard to sex, was, early in this year, accepted and acted on by the King and Queen's College of Physicians in Ireland, and several female candidates have since passed the examination of that body. The Senate of the University of London also decided to admit women to examination for its medical degrees, though, as we have elsewhere recorded, difficulties of a very serious nature have as yet prevented that decision from being carried into effect. But there remained for a time the grave obstacle that female medical students could not anywhere in Great Britain or Ireland obtain the hospital practice required by our licensing bodies. This last remaining difficulty also has been overcome. The Royal Free Hospital has been affiliated to the London School of Medicine for Women as a clinical school for female students; and at the beginning of the present winter session its wards were formally opened to the students of the School of Medicine for Women, with the object of providing them with the necessary hospital practice and clinical instruction. Women have thus, with great energy and perseverance, triumphed over all the difficulties that beset their determination to enter and practise the medical profession; and it remains to be seen whether their determination will be justified, or whether the profession were not right in holding that they were making a great and grievous mistake.

When we wrote at the end of last year, the profession and the public at large had been greatly moved by the fact that the Arctic Expedition had been obliged to return to England without attaining the great object of the Expedition; that their return had been caused by a severe and disastrous outbreak of scurvy among the sledging parties; and that the sledging parties had been sent out practically without lime-juice; and when we wrote, no explanation of this had been given by the Admiralty. Early in the present year an Admiralty Committee was appointed to inquire into the cause of the outbreak of scurvy, into the adequacy of the provision made in the way of food and medicine, and into the propriety of the orders for provisioning the sledge parties. At the end of February the Admiralty received from the Committee a preliminary report, the substance of which was made known to the public; and in May the full report was published. The Committee took the evidence of the Commander of the Expedition, Sir George Nares, of the principal officers, and certain of the inferior officers and men, of officers and men who had taken part in previous Arctic voyages, and of the Director-General of the Navy; and, after communication with the Royal Colleges of Physicians and Surgeons, they took also the evidence of the most eminent medical authorities of the day on the subject of scurvy. The inquiry was thus a very exhaustive one, and it is to be noted that the First Lord of the Admiralty stated in the House of Commons that the Committee was a "judicial one." The judgment delivered was full and decided. The Committee stated—"We attribute the early outbreak of scurvy in the spring sledging parties to the absence of lime-juice from the sledge dietaries," though they considered that the long winter, extending over 142 days, and the confinement to a comparatively vitiated and somewhat damp atmosphere, with exposure to changes of temperature and the

deprivation of fresh meat, had predisposed the officers and men to scurvy; they found that "the provision made in the way of food, medicine, and medical comforts" was in every respect adequate, and "more complete than that made for any previous expedition which had proceeded on Arctic service"; and they found that "the orders of the Commander of the Expedition for provisioning the three extended and principal spring sledge parties did not include lime-juice"; that this was a deviation from the memorandum of recommendations and suggestions furnished for his information by the Medical Director-General, and that "the reasons assigned for this deviation being insufficient, the said orders were not proper." The report is a very valuable one, affording a complete vindication of the scientific opinion regarding scurvy, and the value of lime-juice as a trustworthy preventive of that disease. The evidence taken clearly confirmed "the fully established value of lime-juice, and that the conveniences attending its use render it greatly superior to all other suggested antiscorbutic remedies." It was also shown that the remedy was not injured by being frozen; and in a "Paper on Scurvy," written by the medical members of the Committee, which was spoken of in the highest terms by the First Lord of the Admiralty, it was recommended that a thorough and careful trial should be made of certain concentrated preparations of lime-juice suggested by some of the witnesses. After the close of the Admiralty inquiry, Fleet-Surgeon Thomas Colan, M.D., the Senior Medical Officer of the Expedition, was promoted to the rank of Deputy Inspector-General of Hospitals and Fleets, for his services in connexion with it. It was officially stated that the delay in promoting him had not been due to any want of recognition of his services, but only to the fact that there was no vacancy in the superior grade at an earlier date. He might, however, have been at once made a Supernumerary Deputy Inspector; and no delay had been allowed before bestowing promotion and honours on the Commander of the Expedition. It may be added, the Admiralty Committee fully exonerated Dr. Colan from any responsibility in the non-issue of lime-juice to the sledge parties.

During the year some very important and praiseworthy reforms have been made in the Army Medical Department. A long-standing grievance has been removed by the publication of a General Order providing that army medical officers doing duty with regiments shall not in future be called upon to contribute to mess and band funds. A new Army Hospital Corps Warrant was issued, providing, for the first time in this country, a full and carefully considered organisation for field medical service, and placing the Army Hospital Corps directly under the command and control of medical officers. The Director-General is to have administrative charge of the Army Hospital Corps, and is to be assisted by a staff officer, a member of the corps, who will be appointed on his recommendation. The officers of the Army Medical Department will, subject to the local military commanding officer, exercise command over the medical officers, all ranks of the Hospital Army Medical Corps, all patients in hospital, and all such non-commissioned officers and men as may be attached thereto, without their own officers, for duty. The principal medical officer, subject to the general officer commanding the district, will have supreme authority in all matters of discipline affecting the Army Medical Department, including the Army Hospital Corps in his district. The medical officer in charge of each general, station, and field hospital will have disciplinary control over the medical officers, the Army Hospital Corps, and all soldiers in or attached to the hospital; but is to refer to the local military authority such cases as require to be dealt with by court-martial. The officers and non-commissioned officers of the Army Hospital Corps will, under the medical officers, command the men of their own corps, the patients in hospital, and all non-commissioned officers and men attached, without their own officers, for hospital duty. And on active service the "bearer companies" will be under the command of the senior medical officer present with each; the officer of orderlies under him only taking command of the company in his absence. The officers of the Army Hospital Corps will perform such pay and clothing duties as are performed by captains in line regiments; and the duties connected with the equipment and dieting of hospitals, and all duties formerly performed by the Purveyor's Department, are in future to be carried out by the officers of the Army Hospital Corps, under the supervision of the medical officers. The Warrant effects a vast improvement in the field medical service, and makes a most important change in the position of army medical officers, investing them with disciplinary power over all persons connected with military hospitals and with medical service in the field, and with real and complete authority in their own department; and it relieves them from the pressure of some administrative details.

Such reforms as these, provided men can feel tolerably sure that a newer Warrant may not soon nullify them, will go some way towards making the service again an attractive one, which Mr. Hardy's short-service Warrant has certainly not done. He is, as our readers know, a very courageous and very sanguine Minister. He had, or he took, occasion three or four times during the late session of Parliament to defend the condition of the Army Medical Department, and always spoke of it in the most cheery and hopeful manner. Mr. Dunbar drew attention to the very small number of candidates for commissions in the service. Dr. Lush on one occasion pointed out the disabilities under which the officers of the Army Medical Department labour as to leave of absence, as to allowances for forage, as to the right of exchanging, and as to compensation for any grievances of which they might think themselves entitled to complain; and Colonel North declared that while in his day the medical officers were always treated with attention and respect, and were the friends of the officers and the men, there are now "no medical officers who do not find fault with the treatment of the Department by the War Office." But Mr. Hardy said that everything had been done that was possible to make the Medical Department a happy and contented one, and made out that the state of things in general was very satisfactory. At the examination for entrance into the service in February, however, only twenty-three candidates presented themselves to "compete for fifty appointments; and of the twenty-three only seventeen were successful. At the examination held in August things were a little better, as thirty-three candidates came forward for the fifty vacancies then again advertised, and thirty were accepted. But while the vacancies in the Department thus always exceed in number even the candidates, it is easy to understand why Mr. Hardy "does not see how it is possible to meet the demand for exchanges." The Indian Medical Service continues to be popular. At the examination in February forty-six candidates competed for twenty-seven commissions in it, and all were reported as qualified for the service; and at the August examination twenty-five candidates appeared for nineteen vacancies. That service, however, has a "reform" hanging over it, and its popularity may therefore quickly be stamped out.

Some new Regulations have been issued for the medical officers of the Auxiliary Forces. They are published on page 550 of our current volume. Officers now holding appointments as assistant-surgeons and acting assistant-surgeons in the Auxiliary Forces are in future to be styled surgeons and acting surgeons respectively. A "Volunteer Sick-Bearers' Association" has been formed, under the sanction of the War Office, with the object of providing for the reserve forces a medical or ambulance department of their own, and for regularly training

and instructing the medical officers and two or three men per company in the duties of attending to the sick and wounded during active service.

The forty-fifth annual meeting of the British Medical Association was held in Manchester, and was in every way a very successful one. Some 1300 members inscribed their names in the roll of the members present at it; Dr. Eason Wilkinson, the Senior Physician to the Manchester Royal Infirmary, was the President; the three addresses-in-chief were delivered by Dr. William Roberts, of Manchester, and Mr. Spencer Wells and Dr. Robert Barnes, of London; and the five sections were presided over by Sir William Jenner, Mr. E. Lund, Dr. Priestley, Surgeon-Major F. S. B. De Chaumont, M.D., Dr. Arthur Gamgee, and Dr. J. C. Bucknill. The President, in his address, spoke chiefly on the question of hospital defects and their remedies, and on the subject of hospitals and their connexion with medical education, taking as his texts the history of the Manchester Royal Infirmary and the history of the Manchester School of Medicine. As is well known, and has been fully noticed in our pages, Manchester has been much agitated on the question of rebuilding the Infirmary on its present site, or on a new site, larger and more open, removed from the noise, bustle, dirt, and smoke of the city, and more convenient for the students of the School. About the necessity of rebuilding there can be no doubt, as the present structure has been thoroughly condemned in a very able report by Mr. Netten Radcliffe, of the Local Government Board, and Mr. Field, an engineer of acknowledged eminence in sanitary matters, as well as by the prevalence of erysipelas and other diseases of blood-poisoning among the patients, in spite of all medical care. But the removal of the Infirmary is still a vexed question, and one which has to be regarded from many points of view; and at present, as Dr. Wilkinson observed, the hope of removal has been checked, "while means are being taken to patch up still further the building already patched to death." The School of Medicine is now a department of Owens College, and is the best appointed and most important medical school in the provinces. Dr. W. Roberts, who gave the Address in Medicine, selected as his subject one of the foremost questions of the day—"The Doctrine of Contagium Vivum, and its Applications to Medicine." He devoted himself chiefly to the consideration of the nature of the means or the mechanism by which infective fevers are produced. He claimed to prove the experiments and arguments which he brought forward—(1.) "That organic matter has no inherent power of generating bacteria, and no inherent power of passing into decomposition;" (2.) "That bacteria are the actual agents of decomposition;" and (3.) "That the organisms which appear as if spontaneously in decomposing fluids owe their origin exclusively to parent germs derived from the surrounding media;" and he adduced some new and forcible arguments in support of these propositions. As we pointed out at the time, we cannot hold that the last word has yet been said on these points; but no one will fail to appreciate the masterly manner in which Dr. Roberts dealt with his subject. His address was singularly lucid and able, and well merited the praise given it by Sir William Jenner when he stated he believed it would form a new starting-point for advances in our knowledge of certain classes of diseases. The Address in Surgery, by Mr. Spencer Wells, was on "The Past, Present, and Future of Scientific Surgery," and was, as was to be expected, very able and interesting. He spoke of surgery as it was in the days of Queen Elizabeth, and as it is in the days of Queen Victoria, and pointed out how enormously it has advanced as a science and art during the life of the British Medical Association. He spoke of anæsthesia and anæsthetics, of the radical cure of hernia, of electricity as a therapeutical agent, of bloodless surgery, and with honest pride of ovariotomy; and he well declared that those who are to become the conservative surgeons of the future "must not be content with saving limbs only; it is life that must be saved." Dr. Barnes, in the Address on Obstetric Medicine, took for his theme the scientific and political relations of obstetrics to medical science and the organisation of the profession. He protested against "the rapidly growing tendency to split up the study of the healing art into sections," tending "to the study of medicine in disjointed bits, to the neglect of those grander lights which can only be caught by a well-balanced study of all in their mutual relations"; and the principle so stated he forcibly illustrated from his own speciality, summing up his argument in the proposition—"As pregnancy is the test of soundness in the individual, it may be of all her blood relations too, so is pregnancy often a crucial test of the soundness of pathological doctrines." And from this he passed to his political corollary—viz., "A philosophic comprehensive science of medicine or surgery cannot be built up without an earnest study of obstetrics." He attacked the Royal College of Surgeons for licensing men to practice who have, so far as they know, no knowledge of obstetrics, and for their proposal to licence, to practise upon women, persons whose knowledge in the larger branches had not been tested; and the Senate of the University of London for entertaining the proposal to demand from women-practitioners a lower standard of acquirements than they demand from men. The drift of the address was contained in one sentence at the end:—"The political error which mars the usefulness of some of our medical institutions flows from the scientific fault—a want of due appreciation of the place which obstetric science and practice should hold." The Addresses by the Presidents of Sections were also very good, and especially noteworthy were Sir William Jenner's Address on "The Objects and Uses of Association in the Medical Profession"—a model of wisdom and brevity; Mr. Lund's, on "The After-History of Surgical Cases"; that of Dr. De Chaumont on "Scientific Research in relation to Sanitary Progress"; and that of Dr. Arthur Gamgee on "Recent Advances in Physiology." In the sections there was an ample abundance of papers, and good discussions, and, in most, special subjects were selected for discussion, one of which at least—that on "The Treatment of Pleuritic Effusion"—was separately noticed in our pages at the time. Altogether the meeting was, as we have already said, a very good one; and the Association may be congratulated on their increasing prosperity and success.

The British Association for the Advancement of Science met in Plymouth on August 15, and will be remembered especially for the valuable address delivered by the President, Dr. Allen Thomson, one of the most distinguished of living embryologists. He took embryology as the subject of his address, and it must suffice here to say that he stated his conviction that the investigations of the last seven years have been unfavourable to the doctrine of spontaneous generation; and he declared, though with some caution of phrase, his belief in the evolution theory. With regard to the former of the two subjects, he observed that "no development of organism, even of the most simple kind, has been satisfactorily observed to occur in circumstances which entirely excluded the possibility of their being descended from germs or equivalent formative particles belonging to pre-existing bodies of a similar kind"; and with reference to the latter he said, "I consider it impossible, therefore, for anyone to be a faithful student of embryology in the present state of science, without at the same time becoming an evolutionist. . . . There can be little doubt remaining in the mind of any unprejudiced student of embryology that it is only by the employment of such an hypothesis as that of evolution that further investigation in these several departments will be promoted, so as to bring us to a fuller comprehension of the most general law which regulates the adaptation of structure to function in the universe." During the meeting, two important papers, which we may name without

inferring in any way that other valuable papers were not also produced, were read, in the section of Economic Science and Vital Statistics, bearing on public health—viz., one by Dr. William Farr, "On Certain Laws of Population," arguing against the doctrines of Malthus and others, teaching the necessity of limiting the great increase of the population, and one by Mr. Bramwell, on "The Water-Supply of London," giving an account of the scheme of Sir Joseph Bazalgette, Mr. Easton, and himself, for improving and increasing the water-supply of the metropolis.

The Annual Congress of the National Association for the Promotion of Social Science was held in Aberdeen, and was opened on September 19 by an address from Lord Aberdeen, who had very fittingly been elected the President for the year. The Department of Public Health was still more appropriately presided over by Mr. Edwin Chadwick, C.B., who delivered an instructive, interesting, and able, but soberly-toned address on Public Health, which, he said, was about to emerge from the empirical into the scientific stage. In this department or section papers were read, and discussions held, on several of the vexed questions of the day. Dr. William Hardwicke read a paper on "What is the Best Method of providing Suitable Accommodation for the Labouring Classes, and of utilising Open Spaces in Towns?" Dr. Stevenson Macadam, of Edinburgh, dealt with the Air-Spaces, Water-Supply, and Drainage that ought to be provided in cottages, and with the Ventilation of Drains and Sewers; Mr. E. J. Watherston, of London, read a paper "On the Laundry as a Centre of Contagion," in which he dwelt on the mischief that arises from washing being done in dirty and unhealthy places, and suggested the establishment of proper washing establishments, and that it should be made a punishable offence for householders or occupiers to send washing to any washerwoman or laundry without previous notice, in the case of there being illness in the house; and Dr. Cornelius Fox contributed a paper "On the Mode of Registering Sickness," in which he argued that no reason existed for the continuance of the present system, and that an efficient system will never become *un fait accompli* in this country until the people demand it of the Legislature. On the latter point we are disposed to agree with Dr. Fox, but we may say that we were not aware that anything that can be called *a system* of registering sickness exists already in England.

The Sanitary Institute of Great Britain commenced its first provincial meeting at Leamington, on October 4, under the Presidency of Dr. B. W. Richardson, who opened the proceedings by an address, which, whatever may be thought of it, was certainly anything but commonplace. He is an entire disbeliever in the evil agency of germs, if he believes in their existence at all; and in the place of the so-called "germ theory" he proposed, for a second time, and much more fully than before, a "glandular theory" of contagia, and, further, a theory of the nervous origin of contagious diseases, and a third, of their heredity; and his address may at least be called "highly suggestive." On the second day of the meeting, Dr. George Wilson, Medical Officer of Health for Mid-Warwickshire, gave a very instructive and encouraging address on "The Past History and Future Prospects of Sanitary Science." He described the "insanitary" mode of living of our forefathers, and pointed out how, as a better condition of life had obtained, and cleanliness of the person and in the house had been more and more generally adopted, the death-rate for England and Wales had improved; and, taking the death-rate in London as an illustration, he showed that it had decreased from 80 per 1000 in the seventeenth century to 24 per 1000 in the present day, and might and ought to be lower still. For, he said, "if the death-rate of the whole country were reduced to the low average death-rate of a town like Leamington, 17 per 1000,—and such a reduction was quite within the possibilities of sanitary science—then, as the Registrar-General's returns proved, there would be an annual saving of 115,000 human lives in England and Wales." On the third day, Mr. R. Brudenell Carter delivered an eloquent speech on the "Present Possibilities of Sanitary Legislation," or on the inquiry, "What amendments of the law, in the interests of public health, are practicable in the existing state of enlightenment and of opinion?" He began with the postulate that a law to be useful must command the willing assent of the majority of those who live under its provisions; but that, also, legislation may with propriety be a little in advance of prevailing practice, so as to exert, in some measure, an educational influence. He considered why it is that laws in the interests of public health are required at all, and what purpose they are intended to fulfil, illustrating his teaching in the most forcible manner by a description of the ravages committed by filth-diseases; and in speaking of these he justified the use, for the present, of the word "zymotic," and objected to the present employment of the word "germ," as tending to impose a hypothesis upon us for a truth. He dwelt upon the ways in which the Legislature or the local government may, and ought now, to protect and help and teach the public; and the way and degree in which they fail to do so; and he concluded his most brilliant speech by expressing in a few eloquent words the wish that, "if such a transformation is possible, some professional politician of the day may undergo development into a statesman, and may thus become able to perceive the opportunity for the highest statesmanship which would invite him to enter upon a comparatively untrodden career." Many papers of considerable interest and value were read during the Congress, of which we must be content to mention here one by Archdeacon Dennison, on the "Supply and Storage of Water at East Brent"; one by Dr. J. Sinclair Holden, on "The Law of Caprice in Contagion"; one by Dr. Horace Sweete, the borough analyst, on "The New Artesian Water-Supply of Leamington"; and one by Surgeon-Major De Chaumont, on "The Effects of Climate on Health," of which it may be noted that the first of the conclusions stated was, "that with proper hygienic precautions there is hardly a place on earth where man may not enjoy good health," and that "where this is not found possible it is from the existence of malaria."

The case of Tebbs *v.* Jones, tried in November in the Queen's Bench Division of the High Court of Justice, before the Lord Chief Justice and Mr. Justice Mellor, is of importance as recording, a second time, the very clear and decided opinion of the Court, that if an order for the vaccination of a child is disobeyed, the offending party may be proceeded against again and again: "It was evidently intended that the penalties should be inflicted as often as the offence was committed—that was, as often as there was a refusal to have the child vaccinated."

Several trials of importance to medical jurists, or in some way of special interest to the profession, have occurred during the year, some of which may be mentioned here. A man named Treadaway was tried for and convicted of murder. He was an epileptic, and a plea of epileptic insanity was suggested in his defence, but broke down, and the convict was sentenced to death. But the judge who tried the case expressed an opinion that the murderer, being an epileptic, might be supposed to possess less power of resisting an impulse to crime than a healthy criminal, and was in favour of a merciful consideration of the case; and strong remonstrances were addressed to the Home Secretary against the carrying out of the sentence. Mr. Cross consulted, of course, the judge, but he also called to his aid the President of the Royal College of Physicians, Dr. Risdon Bennett, a representative of general medicine; and Dr. Crichton Browne, an alienist physician, and one of the Lord Chancellor's Visitors of Lunatics—whom he appointed to

examine and report upon the mental condition of the condemned man. The report of the physicians was not made public, but in the end the sentence was commuted from death to penal servitude. Mr. Cross, in answer to a question put to him in the House of Commons, stated that the mercy thus shown was not extended to the criminal on the ground of "insanity"; and it may be supposed that, looking at the condition of the murderer, and all the circumstances of the case, it was considered to be one of "murder, with extenuating circumstances."

On April 27 a case of great interest and importance to the public, from the sanitary point of view, was tried in the Exchequer Division of the High Court of Justice, before the Lord Chief Baron and Barons Pollock and Huddleston. Lady Winchelsea had taken a furnished house in the West-end of London for three months, but when she came to take possession the house smelt so strongly throughout of sewer gases that she declined to inhabit it. It was also inspected by Dr. Corfield, Professor of Hygiene, University College, and pronounced uninhabitable. On examination an old cesspool was discovered near the kitchen, and the drain was found to be an old brick one, and in a very foul state. The lessee directed repairs, which were completed in about nineteen days; but Lady Winchelsea still declined to complete the bargain, and an action was brought against her to recover the rent. The case was first tried in March, 1876, before the late Mr. Justice Quain, and the jury having found that the house was not in a habitable condition, on account of the drains having been out of order when the defendant came to take possession, the judge directed a verdict to be entered for the defendant, leave being reserved to the plaintiff to appeal. In May, 1876, the case was argued before Barons Bramwell and Cleasby, but a rehearing before these judges was ordered, and hence the trial of which we now speak. The three judges decided unanimously in favour of the defendant. They held that there was a condition precedent implied, that a house so let for immediate occupation should be reasonably fit for such occupation. This condition had wholly failed here, and the defendant, had she entered, would not have really got what she bargained for, and what it was clearly the intention of the parties should be given and paid for. The contract was for use and occupation of a reasonably comfortable house; and the ruling of the judge at the first trial was correct—the defendant was not compellable to enter.

The case of Carpenter *v.* Hamilton, also tried in the Exchequer Division, before Baron Cleasby and Mr. Justice Hawkins, is of importance to the profession and the public. The case was an appeal from the decision of Mr. Knox, the police magistrate, who had declined to convict the defendant under Section 40 of the Medical Act, 1858, for wilfully and falsely pretending to be, or taking or using the name or title of a physician, doctor of medicine, etc. The defendant exhibited in his shop, in Oxford-street, a large diploma, purporting to be of the Metropolitan Medical College of New York, bearing date 1862, but of the validity of which, beyond the production, he gave no proof. He styled himself also to a witness, and substantially to the public at large, as Dr. John Hamilton, Doctor of Medicine of the aforesaid Medical College. His name did not appear on the Medical Register. It was contended that no person can practise in this country unless he is registered, and that by using the above title the respondent falsely pretended that his name was on the Register. On the part of the respondent it was argued that the section of the Medical Act quoted was not prohibitory of practice, but only imposed disabilities in the shape of non-recovery of fees. Some practitioners voluntarily refused to be registered, and these could not recover their fees; and some could not be registered—those, namely, who possessed only foreign qualifications, and had not been in practice in England before 1858. And thus it was a question of fact for the magistrate, whose decision should not be disturbed. The Court held that the decision of the magistrate was conclusive on the question of fact, and dismissed the appeal. It may be added, however, that Mr. Justice Hawkins desired to express no opinion as to what might happen if a fresh summons were taken out.

At the end of July, William M'Irvine, an unqualified practitioner, was successfully prosecuted, at the Leeds Assizes, for having wilfully made and forged a certificate, purporting to be the certificate of one John Shearwood Roberts, as to the cause of death of one Harriet Haigh, contrary to the Births and Deaths Registration Act. Two other charges of a like nature were made, and twenty-three other certificates put in by the prosecution. M'Irvine was a medical student, who had been assistant to a qualified practitioner in Sheffield; and on leaving him had applied to Dr. J. S. Roberts for employment. Dr. Roberts altogether declined his services; but he nevertheless proceeded to practise, and filled up in Dr. Roberts's name death certificates, which the Registrar thought were the certificates of Dr. Roberts. The accused was found guilty, and sentenced to one year's imprisonment with hard labour, the judge justly observing that the offence committed was a most serious one, and unattended with any mitigating circumstances. The case is one of special importance, because the prosecution was conducted by the Treasury at the instance of the Registrar-General.

The "Bradlaugh Trial" does not call for much notice here, as it did not concern the medical profession especially, excepting through the fact that the accused put forward several medical works as a part of their defence. Mr. Bradlaugh and Mrs. Annie Besant were convicted, after a trial which lasted rather more than three days, of publishing a pamphlet "calculated to deprave public morals." The work in question was entitled "Fruits of Philosophy: an Essay on the Population Question," and advocated the prevention of over-population by the use of "scientific checks to conception." It taught and advocated openly the indulgence of the sexual passion, with a "scientific" safeguard against the natural consequences. We need not add that no support of such teaching could be found in medical works.

The Medical Defence Association did good service to the public in obtaining a warrant to search the house of a man named Matthew Allison Orr, who sold (claiming that he did so as the agent of a "Dr. Bruce") a work recommending the employment of a "pessary," intended to prevent the natural result of the intercourse of the sexes. On search being made, 1700 copies of a pamphlet on over-population, one hundredweight of a pamphlet entitled "England to the Rescue," and 750 copies of a book giving instructions for the use of the preventive pessary, were seized; and, on application to one of the police magistrates, the whole of the works were condemned to be destroyed, as being obscene.

The Penge case will be remembered, not only for the particularly revolting circumstances connected with and surrounding the crime of which the accused four prisoners were found guilty, and for which sentence of death was passed upon them, but also on account of the very imperfect and incomplete character of the medical evidence brought forward by the prosecution. It is unnecessary to go into details in this record, for the case is perfectly well known and has been largely commented on: a bare outline of the medical points will be sufficient. The deceased woman, Harriet Staunton, who had always been a person of weak mind, had, not very long after her marriage to Louis Staunton, been placed by him under the care of his brother and sister-in-law, Patrick and Elizabeth Staunton, while her place in her husband's house and bed had been taken by Alice Rhodes, the sister of Elizabeth Staunton. Harriet Staunton was kept under restraint, and after some months was suddenly removed in a

state of great weakness to Penge. There medical aid was, for the first time, provided for her. Mr. Longrigg had been engaged to attend her, but though she became rapidly worse on her arrival, and he was twice sent for, he did not see her till the next morning, when he found her insensible, with stertorous breathing, rigidity of the arms, and inequality of the pupils. She died the same day, and Mr. Longrigg gave a certificate that death arose from cerebral disease and apoplexy. Circumstances were communicated to him afterwards, that led to the withdrawal of his certificate, and, six days after death, to a post-mortem examination. Six medical men were present at the autopsy, and on their report, together with other evidence, the Crown prosecuted the other three Stauntons and Alice Rhodes for wilful murder of the deceased by starvation. The defence made was that the deceased died from disease; and that, at any rate, the post-mortem appearances did not prove death from starvation. It was urged that points of the most essential importance, as to the condition of some organs of the body, were not noted, as the condition of the œsophagus, nor the absence of some diseases, as diabetes, proved; that the incomplete and imperfect manner in which the facts observed were recorded made it almost impossible to form any decided opinion as to their true nature; and that the length of time after death before the examination was made was not taken duly into account; while the admitted existence of tubercle in the membranes of the brain or on the brain, "small patches of rough millet-seed-like deposit in the meshes of the pia mater, probably tubercular," with some adhesions of the membranes, and the presence of tubercle in one of the lungs, taken together with the symptoms observed by Mr. Longrigg when he first saw the deceased, and her history, all pointed to the possibility, if not the great probability, that death was due to disease; and certainly neither entirely nor mainly to starvation. The judge's charge, however, was very strongly against the accused; the jury found them all guilty of murder, though they recommended the two women to mercy, and all four were sentenced to death. The case for the defence had the support of such eminent and skilled pathologists as Dr. Bristowe, Dr. Payne, and Dr. Greenfield, though the evidence of the latter gentleman was not received at the trial, as he had not been present in court when the medical evidence for the prosecution was given. After the trial their view received the powerful support of one of the Physicians of Guy's Hospital, a high authority, who, in a letter to the *Times*, stated that he was ready to aver his belief "that the facts sworn to by the doctors at the trial absolutely proved that Harriet Staunton died of tubercular meningitis"; and there was such a strong and widely spread feeling in the profession that there had been a miscarriage of justice, that memorials, largely and influentially signed, were addressed to the Home Secretary, representing that the verdict was not justified by the medical evidence. In the end the Home Secretary, after consultation with the judge who had presided at the time, and with Sir William Jenner, recommended her Majesty to grant a free pardon to Alice Rhodes, and to alter the sentence on the three Stauntons to penal servitude for life. The medical aspect of the case was not improved by the strange fact that after the trial a paper called "Report of Post-mortem Examination, and the Cause of Death of Harriet Staunton," and signed by five of the medical men who made the examination, was published by one of them, and was stated that "there were one or two small and recent patches, which together would be covered by a fourpenny-piece, upon the surface of the arachnoid membrane, on the upper surface of the left hemisphere"; but added, "there was no deposit on the pia mater, and the arachnoid and pia mater were not adherent." The whole case illustrates in the most forcible manner the urgent necessity of a thorough reform in the present system of obtaining the evidence of medical experts in trials at law, and of conducting post-mortem examinations for coroners' inquests.

Some progress has been made in the provision and in the application of sanitary measures. We have elsewhere spoken of what was done in this way by the Legislature; but two or three other things must be mentioned here. Proceedings have been taken in some cases under the Rivers' Pollution Act. Mr. C. Woollam, of St. Albans, has instituted proceedings against the Corporation of that city for the pollution of the river Var; the Commissioners of Sewers for East Kent have obtained an inquiry into the pollution of the Stour; and an inquiry has also been commenced under the Act into the state of the Avon, in Wilts. Of the thirty-nine vestries or district boards which constitute the sanitary authorities within "Registration" London, all but three—the Vestries of Clerkenwell and the District Boards of Holborn and of St. George's, Hanover-square—now supply their medical officers of health with weekly returns of all the registered particulars of the deaths in their respective districts; and the Vestry of St. George's, though not yet giving their medical officer of health the returns as to all registered deaths, do supply him with immediate information of all registered deaths from infectious diseases.

The first buildings of the Metropolitan Artisans' and Labourers' Dwellings Association were opened at the end of June. Each of the tenements has a constant water-supply, a coal-bunker, and a dust-shoot. The blocks of buildings are so arranged, and isolated by intervening open-air spaces, as to reduce to a minimum the danger of the spread of any infectious disease that may occur in them; the drains are arranged so as to prevent the escape of foul air from the sewers into the dwellings; and care has been taken to supply them with all the best proved sanitary appliances. Lord Beaconsfield opened the buildings, and took the opportunity of enlarging on the importance of "the home as the unit of civilisation"; and had the courage to again publicly express his conviction that "the health of the people is the first duty of the statesman."

The Corporation of Manchester have decided on a plan for providing the town with a new and ample water-supply by purchasing the Thirlmere Lake, erecting a large dam across the lower end of it, so as to make the area of it 700 acres, instead of 335, as it is at present, and bringing the water to Manchester; and they have ordered a Bill to be prepared for getting from Parliament the powers necessary for carrying out the scheme. The Bill will, however, be most vigorously opposed, as it is said the plan would entirely destroy the beauty of one of the most lovely of our lakes, is unnecessary, and would not be unattended with danger. The scheme adopted by the Metropolitan Board of Works for taking under their control the water-supply of London will also meet with very determined opposition, as, besides proposing to buy out the existing water companies and to take their works, the Board have appended to this a plan, prepared by Sir Joseph Bazalgette and Messrs. Bramwell and Easton, for obtaining an additional and purer supply of water from the water-bearing strata round London; and the success of this part of the scheme is thought to be very doubtful, while the attendant expense would be enormous.

At the annual meeting of the Royal Albert Hospital, held at Devonport, it was shown that the working of the Contagious Diseases Acts during the past year has been very satisfactory, with respect to both their medical and their reformatory bearings. Mr. E. St. Aubyn pointed out that in Plymouth and Devonport the number of soldiers incapacitated by the diseases dealt with by the Acts had fallen from 76 per 1000 in 1867 (the year in which the Acts were introduced), to 29 per 1000 in 1875; whilst in districts to which the Acts had not been applied, such as London, the ratio had only

fallen from 163 to 146. As to the reformatory working of the Acts, the results were also very gratifying, the chaplain's report stating that eighteen women had been admitted to, and still remained in, homes and penitentiaries; thirty-seven had returned to their friends, gone into service, or married, from all of whom good accounts had been received; and seventeen only had fallen back into their former mode of life. Admiral Willes, C.B., and several other influential speakers, all bore testimony, from their own personal observations, to the excellent results of the working of the Acts. And Mr. Tremayne, member of Parliament for East Cornwall, who presided at the meeting, had the courage to say that "no person could dispassionately and accurately examine and weigh the evidence which public returns supplied without coming to the conclusion that those Acts, although looked upon as a horrible necessity, yet indeed were a necessity, and were in their way beneficial," and ought to be applied to all populous places. He observed also that the great difficulty people laboured under in working the Acts was, that though they could stamp out disease in their own districts, the Acts could not prevent the importation of disease from outside the area of their operations.

An important Parliamentary return, called for by Sir J. Harcourt Johnstone, has also been recently published, showing the effect of the Acts upon the prevalence of venereal diseases in the Royal Navy. The return shows "the number of cases of venereal disease in her Majesty's ships and vessels stationed at five home ports at which the Contagious Diseases Acts have been and are in operation, and the number of cases in her Majesty's ships and vessels at five home ports at which the Acts have never been applied, from the year 1860 to the year 1875 inclusive, together with the ratios per thousand of force for each year at each port, and the total ratios for the ports under the Acts, and the ports not under the Acts." The five ports under the Acts dealt with are Plymouth, Portsmouth, Southampton, Queenstown (Cork), and Dartmouth. The ports not under the Acts are Liverpool, Hull, Kingstown (Dublin), Greenock, and Leith. The period of sixteen years dealt with by the return includes the four years 1860-63, which preceded the passing of the first Act in 1864, two years when that Act was partially in force, and the two succeeding periods of five years during which the Acts of 1866 and 1869 were in force. In the five ports brought under the Acts, the average ratio of cases of venereal disease per 1000 of the force declined from 75·0 in 1860-63 to 43·6 in 1871-75, equal to a decrease of 42 per cent.; while in the five ports not brought under the Acts, the average ratio of cases increased from 70·1 in 1860-63 to 96·4 in 1871-75, showing an increase of 37·6 per cent. In 1860-63, before the Acts were passed, the ratio of disease was somewhat lower in the five ports never brought under the Acts than it was in the five subsequently brought under their operation; but in 1870-75 the ratio of disease was only 43·6 in the five ports under the Acts, while it was 96·4 in the five which had not been brought under the Acts. There had been a considerable increase in the cases of gonorrhœa in all the ports, whether under the Acts or not; and with regard to this the Director-General of the Navy remarks that "it may be attributed to the greater number of cases of gonorrhœa recorded, rather than to any real increase of disease," as, since the passing of the Acts, a large number of cases have been brought under the notice of the medical officers which previously would not have been reported.

We have had the pleasure of putting on record many very gratifying recognitions of various kinds of faithful and valuable service rendered by individual members of the profession, but we can mention here only distinctions conferred by her Majesty. After the death of Sir William Fergusson, Sir James Paget, who was Serjeant-Surgeon Extraordinary to the Queen, was made one of her Majesty's Serjeant-Surgeons in Ordinary; Mr. Prescott Hewett, then President of the Royal College of Surgeons, was appointed Serjeant-Surgeon Extraordinary, and Mr. Erichsen was made one of the Surgeons Extraordinary to the Queen. Professor Lister's removal to London made it, of course, necessary that he should resign the appointment of Surgeon to the Queen in Scotland; and the vacated honour was conferred on Professor George Macleod, of Glasgow.

The death-roll of the year would demand a sadly large amount of the space at our command were we to attempt to give it at all fully, and we shall mention comparatively but a few of those whom the profession and the public have had to mourn. First and foremost among these is the great operative surgeon, and apostle of conservative surgery, Sir William Fergusson. Having recovered to an unhoped-for degree from the long and severe illness of last year, he had returned to London, and to some extent resumed work, when he again, very early in this year, was attacked by a return of his former malady, and in February died, at the age of 68, crowned with fame and honours. Many well and widely known men, or men of more local eminence, who have died during the year attained or exceeded the age of three score and ten. Dr. E. L. Meryon lived to be 96; Dr. Herbert Taylor, of Uttoxeter, and Mr. J. Foster Reeve, died at 87; Dr. John Mollan, of Dublin, and Dr. S. F. Bridge, of Wellington, at 86; Dr. J. Butter, of Plymouth, and Mr. W. S. Ward, of Ollerton, at 85; Dr. Robert Lee, Dr. William Morris, of Stourbridge, and Mr. George Cooper, of Brentford, at 84; Dr. Francis Hawkins, Mr. J. Wickham Barnes, of Bath, and Mr. Edward Coupland, of Boston, at 83; Dr. Zachariah Sillar, of Sydenham, and Mr. John Elliot, at 81; Dr. John Manley, of Barkham, at 80; Dr. Silvester, of Clapham, Dr. J. D. Macready, of Dublin, and Mr. Robert Dunn, at 78; Mr. John Whipple, of Plymouth, at 77; Mr. William Coulson, and Dr. Thomas Heberden, at 75; Mr. R. G. Whitfield, of St. Thomas's Hospital, at 76; Dr. W. Murphy and Inspector-General Dr. Scott, C.B., at 74; and Dr. W. R. Basham and Dr. F. A. B. Bonney, at 73; and Mr. John Adams was 71 when he died; and Mr. Thomas Stone, 70. Of those who died early in the fight we will name only a very few:—Mr. John Douglas Laurie, of Bradford, died at the age of 34; Dr. Handsel Griffiths, of Dublin, at 31; Mr. Henry Wilson, also of Dublin, at 39; Dr. Henry Lawson, at 37; Dr. Charles Mayo, at 40; and Dr. Bathurst Woodman also died at a comparatively very early age. And death came to very many who were in the thick of the battle of life, and apparently still in full strength and vigour:—Mr. A. Williams, Secretary to the Veterinary Department of the Privy Council, died at 48; Dr. A. Mackay fell a victim to the insanitary condition of one of our public offices, at the age of 55; Mr. Alfred Smee, and Mr. G. Morley Harrison, of Manchester, died at 58; Dr. Henry Davies, of Brighton, at 62; Dr. T. Snow Beck, and Dr. William Carr, of Blackheath, at 63; Dr. S. Scott Allison, at 64; Dr. W. Swayne Little, Ireland, and Dr. Daldy, at 65; Dr. Duke, of Rugby, and Mr. F. Ticehurst, of Hastings, at 67; and Dr. Lawson Cape, at 69. We had very lately to record also the death of Dr. Stewart Trench; he had been for fifteen years the Medical Officer of Health for Liverpool, in which capacity he showed remarkable ability and knowledge, with untiring energy and perseverance; and we must mention the death of Mr. Marson, who was for forty-one years Resident Surgeon to the Small-pox and Vaccination Hospital, for so many years situated near King's-cross, and afterwards, and now, at Upper Holloway.

Turning now to speak with more detail of the contents of our own volumes for the year, we mention in the foremost place the Lectures that we have been enabled to give our readers. First among these we have concluded a series of very valuable and practical "Select Lectures on Medical Juriprudence," by Dr. Ogston, Professor of Medical Logic and Medical Jurispru-

dence in the University of Aberdeen. We have recorded recently our opinion of the special excellence of these lectures, and of the weight and authority that attaches to Dr. Ogston's reputation and experience as a teacher, so that we need not now do more than mention his lectures. We have also had the satisfaction of publishing Mr. R. Brudenell Carter's very able and instructive Hunterian Lectures, delivered at the Royal College of Surgeons, on "Defects of Vision which are Remediable by Optical Appliances"; and, among other papers on affections of the eye, we have given Dr. Hughlings-Jackson's Oration, before the Medical Society of London, on "Ophthalmology in its Relations to General Medicine," Clinical Lectures by Dr. C. Bell Taylor "On a Case of Squint," by Mr. Jonathan Hutchinson "On Progressive Choroiditis in connexion with Acquired Syphilis," and some "Lectures on Ophthalmology" by Mr. C. Higgens. Mr. Timothy Holmes enabled us to publish his Clinical Lectures on "Amputation," on "Dislocation of the Hip into the Obturator Foramen," and on "The Results of the Operation of Excision of the Hip." We have given "Clinical Lectures" or "Lectures" by Dr. J. Headlam Greenhow, on "Croup and Diphtheria"; by Mr. J. W. Hulke, "On a Case of Intracranial Sarcoma," and "On Cases of Exostosis upon the First Rib"; by Mr. J. Hutchinson, "On the Extension of Syphilis from a Mother to her Fœtus," "On Syphilitic Phagedæna," and "On Hebra's Prurigo"; three Lectures on "The Clinical Aspects of Chorea, as affording a Key to its Pathology," by Dr. Octavius Sturges; Dr. Henry Thompson's Clinical Lecture on "A Case of Multiple Aneurisms in the Heart, the Lungs, and the Cavity of the Cranium"; Dr. Byrom Bramwell's Lecture "On a Case of Progressive Pernicious Anæmia cured by Arsenic"; Dr. Cayley's Clinical Lecture on "A Case of Ulcerative or Infecting Endocarditis, simulating Typhoid Fever"; a very opportune Lecture by Dr. W. B. Cheadle, "On the Pathology of Hydrophobia"; and an abstract of some remarkable Lectures by Professor Volkmann, "On the Antiseptic Treatment of Compound Fractures"; and Professor Jaccoud's Clinical Lectures on "The Lymphogenic Diathesis."

We have also published abstracts of Dr. Braxton Hicks' Croonian Lectures, "On the Difference between the Sexes in regard to the Aspect and Treatment of Disease"; and of Dr. George Johnson's Lumleian Lectures on "The Muscular Arterioles, their Structure and Function in Health, and in certain Morbid States." We gave our readers Sir James Paget's Hunterian Oration, delivered at the Royal College of Surgeons; Dr. Moxon's Annual Oration before the Hunterian Society, on "The Biologist and the Physician"; the Harveian Oration, by Dr. Sieveking; and we gladly found room in our pages for the Address delivered before the Clinical Society by Mr. Callender, that delivered by Dr. C. West before the Obstetrical Society, and Mr. R. Brudenell Carter's Address (elsewhere spoken of in these columns) at the Congress of the Sanitary Institute of Great Britain.

Under the heading "Original Communications," we have, as usual, placed before the profession many able and valuable papers, most of them of specially practical character, and several on subjects that have during the year attracted particular interest and attention. Among these we may mention a paper by Dr. E. A. Sansom, on "Croup and Diphtheria—a Contrast"; one with the same title, by Mr. R. B. Searle; one by Dr. W. R. Macdonald, of Ayr, on "The Treatment of Diphtheria"; and one by Dr. A. Sceligmüller, of Halle, on "Chlorate of Potash in Saturated Solution—a Specific in Diphtheria"; Dr. Gavin Milroy's papers on "Yaws, and some Allied Skin Diseases," and on the question, "Is Leprosy Contagious?"—in which he comes to the conclusion that the weight of evidence is decidedly against its being so; Dr. Balmanno Squire's paper on "Goa Powder as a Remedy in Skin Diseases; and one on "Acne Rosacea treated by Chrysophanic Acid"; Mr. C. T. Fox's "Fatal Case of Pemphigus (Foliaceus)"; and Dr. James Russell's "History of a Case of Pemphigus (extending over seven years), intermixed with attacks of Erysipelas, and with the appearance of Epilepsy"; and from the last-named well-known physician we gave other papers, as remarks on "Unusual Slowness of the Pulse," and "Abscess in the Left Frontal Lobe of the Brain, Distension of the Lateral Ventricle, Persistent State of Imperception." We have given papers, by the late Dr. Henry Lawson, on "The Subcutaneous Injection of Morphia, etc., in Sciatica"; by Surgeon-General C. B. Francis, M.B., on "Large Doses of Antiperiodics in Neuralgia"; and by Dr. S. Marlett Boddy on "The Treatment of Neuralgia"; by Surgeon J. D. Gunning, Fyzabad, on "A Large Abscess treated chiefly by Aspiration—Recovery," and on "A Case of Hydrophobia"; by Dr. James McCraith, Smyrna, on "The Practice of Physic in Smyrna," including "A Case of Hydrophobia from the Scratch of a Cat"; and from Dr. Dudgeon, Pekin, on "Hydrophobia in China," besides papers on "The Chinese Knowledge of Cod-Liver Oil and Iodine," "Chinese Treatment of Ague," and on "Early Anæsthetics"; from Dr. T. Stretch Dowse, "On a Case of Aneurism of the Cœliac Axis—Rupture and Hæmorrhage into the Peritoneum"; from Mr. T. M. Dolan on "Some Cases of Thoracic Aneurism"; from Mr. E. L. Hussey on "A Case of Popliteal Aneurism in the Left Leg, cured by Pressure, four years after a like affection in the right leg"; and from Dr. T. Barlow, a "Note on Cerebral Aneurisms, subsequent to Emboli," besides a paper on "A Case of Hysteria, with Hemianæsthesia, and Ovarian Hyperæsthesia of the Opposite Side"; from Dr. A. E. Longhurst, "Observations on Scarlet Fever"; from our friend "Mucor," "On Measles"; and from Mr. Charles A. Fox, on "The Present and the Last Epidemic of Small-pox"; Mr. J. Knowsley Thornton contributed a paper on "Removal of a large Fibroid Uterus with Outgrowths, and both Ovaries—Recovery," and "Cases illustrating the various Results of Rotation of the Ovaries"; Mr. F. Ensor, South Africa, "A Case of Double Ovarian Disease, Removal of both Ovaries—Death"; and Dr. J. Marion Sims, one on "Normal Ovariotomy," for which he suggests the name "Oophorotomy," but thinks it ought to be known as "Battey's operation." And we have published papers, by Dr. James Barr, on "Reduplication of the Cardiac Sounds"; by Mr. E. Nettleship, on "Cases illustrating some of the less frequent forms of Keratitis and Cyclitis"; by Mr. C. F. Maunder, "On Lumbar Colotomy"; by Mr. S. Messenger Bradley, "Clinical Notes on Precision in the Use of Topical Remedies"; by Dr. J. Sullivan, on the question, "Does the Poison of Malaria really Exist?" by Dr. C. Handfield Jones, on "Two Cases of Fever with Hyperpyrexia," and on "Two Cases of Idiopathic Tetanus," both treated by physostigma, one ending in recovery, and one in death; by Dr. John Day, of Geelong, Australia, "On the Use of Peroxide of Hydrogen for the Prevention of the Spread of Scarlet Fever and Small-pox"; by Dr. A. Yule, "On the Relation of Germs to Infectious and Contagious Diseases"; and by Dr. A. Wallace, of Colchester, "A Therapeutic Proposition"—viz., the exhibition of volatile antiseptic agents by inhalation in diseases having the characters of blood-poisoning; by Dr. Hughlings-Jackson, "On Nervous Symptoms with Ear Disease"; by Dr. A. E. Aust-Lawrence, "On the Treatment of Pain in Carcinoma Uteri," and "On the Diagnosis and Treatment of Miscarriages"; by Dr. A. H. Newth, "On a Case of Poisoning by Cyanide of Potassium"; by Dr. James Andrew, "On Pernicious Anæmia"; by Dr. Thomas Peacock, "On a Case of Stenosis of the Orifice of the Pulmonary Artery from Valvular Disease, probably Congenital"; by Dr. Stephen Mackenzie, "On Retinal Hæmorrhages and Melanæmia as Symptoms of Ague"; by Dr. B. Walker,

of Derby, "On a Case of Gangrene of the Lung—Recovery with Turpentine Vapour Bath and Full Doses of Quinine"; by Mr. S. Fullom Conolly, "On a Case of Diabetes Mellitus in an Infant"; by Dr. F. Irving de Lisle, New Zealand, "On Scurvy: its Cause, Prevention, and Antidotes"; by Dr. G. M. Beard, New York, "On the Nerve Theory of Hay Fever"; and by Mr. Lowndes, "On the Coroner's Court in England." Also communications from Dr. Julius Althaus, "On Syphilitic Affections of the Nervous System"; from Dr. James Ross, "On the Structure and Functions of the Nervous System"; and from Sir Joseph Fayrer, "On Elephantiasis Arabum," and on "Ægle Marmelos or Bael"; Dr. W. R. Gower's "Remarks on Two Cases of Writers' Cramp"; Mr. A. De Watteville's paper "On the Nature and Therapeutical Value of Electrical Tension"; Dr. T. Whipham's "Clinical Remarks on Catarrhal Laryngitis"; Dr. Eugene Dupuy's "Critical Review of the Prevailing Theories concerning the Physiology and Pathology of the Brain," especially with regard to "Localisation of Functions, and the Mode of producing Symptoms"; and Dr. James Dunlop's "Second Contribution to Antiseptic Surgery—Cases treated in the Glasgow Infirmary." Many instructive papers have also been contributed by other old friends and supporters, as Mr. Henry Morris, Dr. R. Shingleton Smith, Dr. R. Smith (of Sheffield), Dr. Brinsley Nicholson, Dr. R. Liveing, and Mr. Hancocke Wathen.

A glance at a list of our Editorial Articles during the year will give a very fair idea of the subjects which have particularly concerned and interested the profession, and of those that, while more directly affecting the public, have had also a professional interest. Among these, sanitary matters have held a very prominent place. We have had occasion to write on "Model Dwelling-Houses," on "The Metropolitan Artisans' and Labourers' Dwellings Association," whose first buildings were opened in June; and on some of the schemes of improvement adopted under the Artisans' and Labourers' Dwellings Improvement Act; on the "Sanitary Difficulties in Country Towns," on "Watering-Places and Summer Resorts," on "Seaside Sanitation," on "The Air of Cities," on "The Sanitary Condition of the War Office," and on "Uninhabitable Houses"; on "Infant Mortality in an Orphanage"; on "False Certificates of Death"; on "Germs and the Germ Theory," and on "Professor Tyndall's Lectures on Germs"; on "Safeguards against Small-Pox," on "Vaccination and Erysipelas," and, besides others on "Vaccination," one especially on "Vaccine Virus," giving some account of the very large experience of Dr. Henry Martin, of Boston, U.S., in the employment of animal lymph; on "Poisoning by Chloral"; and on "Water-Supply." We have commented on some other subjects also of general interest, as on "The Madras Famine"; on "The Outbreak of Scurvy in the Arctic Expedition"; on "The Rescued Miners"—the sufferings and deliverance of the miners imprisoned by explosion in the Pontypridd Coal-Mine; on "Philanthropy in War"; on "The Bradlaugh Trial"; on "The Penge Case"; on "Hydrophobia and Rabies"; and on "The Sewage and the River Thames."

As regards questions and occurrences directly affecting the profession, the subjects we have had to deal with may be conveniently classed under the headings of The Services—Medical Policy and Education—Medical Science and Art. As regards The Services, we have commented on the state of "The Army Medical Department"; and have described and discussed "The New Organisation" of the Department; and "The New Army Hospital Corps Warrant and the Army Medical Department"; and we have also, in the interest of the soldier, criticised the present system of "Hospital Stoppages," and the wretched position of the family of the soldier who has "Married without Leave." As touching Medical Politics and Medical Education, we have had editorial articles on "The French Government and Foreign Medical Men," and on "English Doctors in France"; on "Professional Remuneration," and on "Hospital Elections," and on "Hospital Reports and Hospitals"; on the proceedings of the General Medical Council, on "The Conjoint Examining Board for England"; on "Clinical Teaching"; and on the Dispute between the Senate and the University of London.

We will besides, in this summary, direct attention to the valuable series of papers on Hyères, Bordighera, San Remo, Alassio, Cornigliano, Nervi, and Rapallo, as health-resorts—papers the more instructive and useful in that they are written by a very able and accomplished young physician, who had occasion to study them from an invalid's as well as from a physician's point of view.

In conclusion, we wish all our professional brethren a Happy New Year, assuring them that we have, for the best possible reasons, full confidence in being able to make the journal worthy of the profession through the coming year, while at the same time we invite their continued help towards that object.

EXCRETION OF INDICAN IN THE URINE.

We recently called attention to Professor Senator's researches on the above subject (*Medical Times and Gazette*, September 22, 1877), but we omitted to make any mention of the equally interesting and important experiments of Professor Max Jaffe, of Königsberg, by some of which, indeed, Professor Senator was led to undertake his own independent investigation. The method also which the latter adopts is but slightly modified from that first suggested by Jaffe, and described in full in *Pflüger's Archiv* for 1870. The chief difference between the two methods is this: that, after converting the indican in the urine under examination into indigo, by concentrated hydrochloric acid, and the careful addition of a strong solution of chloride of calcium drop by drop from a pipette until the depth of the blue tint ceases to increase, Senator merely shakes up the indigo with chloroform, and (always using the same volume of the latter) estimates the indigo quantitatively by comparing the amount of sediment with that of the supernatant fluid; whereas Jaffe (*Virchow's Archiv*, Band 70, Heft 1, s. 74) collects the precipitated indigo on a weighed filter, washes it with cold and hot water, and finally with hot ammonia, and then dries and weighs it. Jaffe's process is hence by far the more accurate, but involves a large expenditure of time and labour to carry out, and is therefore not well suited for the coarser exigencies of clinical observation.

So much as to the method. We may now briefly state what Jaffe has made out about indican. He has not ranged over so wide a field as Senator, but has mainly restricted himself to endeavouring to elucidate the curious phenomenon of increased indican excretion in *intestinal obstruction*, to which his attention was accidentally directed by a case of ileus, in which the urine was tested and revealed enormous quantities of indigo. Senator, in his paper in the *Centralblatt Med. Wiss.*, referred to in our former article, makes the observation that intestinal obstruction due to mechanical causes, or to intussusception, appears (in the absence of cancer or diffuse peritouitis) *not* to cause much excretion of indican; but since Jaffe's paper was published he has modified this statement (*Berliner Klin. Wochenschrift*, No. 40, 1877, s. 584), and has observed a case of strangulated hernia, with fæcal vomiting, where the amount of indican was increased *fifteen* to *twenty* fold above the normal amount for the same individual.

By careful experiments on animals (dogs), Jaffe found that ligature of the *small* intestine invariably caused a great increase in the indigo precipitated from their urine by hydrochloric acid and chloride of calcium, provided they had been largely fed on nitrogenous food for a few days previously; whereas

ligature of the *large* intestine, whether in the ascending, transverse, or descending colon, caused either no increase in the indican excretion, a relatively slight increase, or more often an actual diminution. To explain this difference in the behaviour of the two intestines was at first difficult, especially as the two sets of experiments were carried out precisely in the same manner, and the animals fed, the urine collected and analysed, etc., precisely in the same way in both. Professor Jaffe, after proving by numerous experiments that the quantity of indigo in the urine is, under ordinary circumstances, nearly directly proportional to the amount of nitrogen supplied in the food, goes on to show that this indigo, or the indican from which it is formed by oxidation, is the product of a body named indol (C_8H_7N), which probably takes origin, in part, from the decomposing albuminates present in the intestinal canal during the later stages of pancreatic digestion. Now, in a normal permeable bowel the greater part of these albuminates—*e.g.*, peptone, leucin, and tyrosin—are probably, Jaffe believes, quickly absorbed, so that very little indol can be produced from them; whereas, if the bowel is obstructed, stagnation of its contents occurs above the seat of stricture, and the decomposition on which indol depends is able to take place, provided the obstruction is not too quickly removed. On the other hand, the reason why obstruction of the *large* intestine is not followed by any material increase in the excretion of indican, is theoretically, according to Jaffe, because in men and carnivores the digestive process is almost entirely completed in the small intestine, and the albuminous bodies from which indol is formed are absorbed in the latter, leaving almost nothing but indigestible waste matter to enter the colon as fæces.

Although admitting that Jaffe is correct in his facts with regard to the increase of indican in intestinal obstruction, and also in diffuse peritonitis, Senator does not accept his theory of the way in which the different results of obstruction of the small and large intestine are brought about. He justly points out that patients with acute peritonitis not only take in very little nourishment, but vomit the greater part of what they ingest, until at last only bile-tinged green mucus returns; and the same is true of those with obstruction of the small intestine, especially if the stricture is high up in the bowel. A true explanation of the above phenomena seems, therefore, at present to fail, unless Salkowski's discovery (*Bericht der deutsch. Chem. Gesellschaft*, 1876), that in *states of inanition* the amount of indican excreted is even greater than when an abundance of *non*-nitrogenous food is supplied, gives us a clue, and points to the formation of the indol, not in the bowel, but in the muscles, and, as Jaffe remarks, "perhaps in most of the organs of the body." Possibly it may eventually be found that the source of the indol, which appears as indican in the urine after ligature of the small intestine in animals which have been largely fed on nitrogenous food (for otherwise the experiment is not certain to succeed), is different from that of the indol which is excreted as indican in natural pathological conditions; or the latter indican may even not be derived from indol at all, although it is certain from Jaffe's careful experiments that the subcutaneous injection of this substance immediately increases the excretion of indican by the kidneys. It is evident from all this that there is still open a wide field for investigation with regard to indican.

Clinical observations on the effect of stricture of the *large* intestine in the human subject are much wanted, with a view to determine whether what Jaffe has made out in animals as to the excretion of indican in this condition applies to man, and can be made use of for diagnostic purposes. In conclusion, we should state that the normal amount of indican, as indigo, in healthy human urine varies between five to twenty milligrammes *pro die*, and that hence anything beyond thirty milligrammes indigo in twenty-four hours deserves notice, while *fifty* milligrammes should be regarded as a considerable increase. According to Jaffe, in severe cases of ileus fifty to 100 or even 150 milligrammes indigo are ordinarily passed; and the same is true of diffuse peritonitis.

THE WEEK.

TOPICS OF THE DAY.

The annual general meeting of the Committee of the Hospital Sunday Fund was held last week at the Mansion House. The Lord Mayor being unable to be present, the chair was taken by Alderman Sir Sydney Waterlow, M.P. The report of the Council on the operations of the Fund during the year, already published, was taken as read. The chairman, who said he was instructed by the Lord Mayor to express his regret at not being able to be present, remarked that he regarded the growth of the Fund with great satisfaction, and although the amount collected this year was hardly so large as that realised in 1876, they were bound to recollect the period of depression in which it was raised, and the fact that many people who had previously contributed largely were not now in a position to spare large sums. He added that the expenses of management, including advertising and salaries, were only about 3 per cent. of the whole sum collected, and this he thought a very gratifying circumstance. At the instance of the chairman, seconded by Sir R. Alcock, the laws of the constitution of the Fund were approved and passed; and on the motion of the Rev. T. J. Rowsell, seconded by the Chief Rabbi, the Council was re-elected. Bishop Claughton moved that Sunday, June 30, be fixed for Hospital Sunday of 1878, and that all metropolitan ministers of religion be invited to co-operate. Canon Fleming expressed a wish that an earlier day had been selected, as by the end of June the West-end of London was beginning to get empty, and the Fund might suffer in consequence. The Rev. J. P. Chown urged the advantage of having a settled annual Sunday fixed for the collection. Eventually the motion was adopted.

A "burial question" in America has been very summarily disposed of by a citizen of the United States. A paint manufacturer in New York, whose child died in November a few days after its birth, desired to have it buried in the Lutheran cemetery, he being a member of the Lutheran Church; but his wife being a Jewess, her family wished the body to be interred in the Jewish cemetery. The father, to settle the dispute, returned the coffin to the undertaker, and, taking the body to the paint factory, put it into an iron box, and thrust it into a furnace to be cremated. It is stated that the undertaker, dissatisfied at a proceeding which struck so directly at the root of his trade, immediately reported the circumstance to the Board of Health, and through this circumstance the facts became public.

We regret to have to record the death of Dr. W. G. Guppy, one of the surgeons sent out to the East by Lord Blantyre to aid the Turkish sick and wounded. Dr. Guppy was attacked by typhoid fever, which has been committing serious ravages at Erzeroum, and he and the other surgeons had been unremitting in their attentions to the sufferers; although ailing for some time, he would not give in until completely prostrated. Dr. Fetherstonhaugh, the chief surgeon of the ambulance, attended him with the greatest assiduity, but he died on the morning of the 17th ult. Dr. Guppy was only twenty-one, and has thus been cut off at the outset of what promised to be a distinguished career; he was buried in the small Anglo-Saxon graveyard of Erzeroum, and Turks and English alike combined to pay due honour to his memory, Ghazi Mukhtar sending a company of regular troops to escort the body to the grave.

At a meeting of the Whitehaven Board of Guardians, held last week, a resolution was read from the Governors of the Whitehaven Infirmary, stating that the fever wards had twenty

typhus fever patients, and that the Infirmary could hold no more. Dr. Henley, the Infirmary House-Surgeon, is laid up with fever, and it was resolved to communicate with the Medical Department of the Privy Council, and a committee was appointed to try and arrange with Lord Lonsdale's agents to take the Militia Barracks, which are now empty, for the further accommodation of fever patients.

A rather extraordinary case of an unauthorised post-mortem examination is reported from Wolverhampton. An adjourned inquest was held last week at Priestfields, near that town, on the body of William Hyde, a workman employed at Springvale Furnaces, who died on the 13th inst. It was elicited at a previous inquiry that a post-mortem examination had been performed by a local surgeon, the agent of an "accidental insurance company," without the permission of the coroner, or of the deceased's relations. A verdict of "Accidental death" was eventually returned by the jury, who requested the coroner to forward to the Home Secretary the following rider:—"The jury consider a most improper proceeding has taken place in the mutilation of the body of the deceased before they had had the view of it; and they consider such improper mutilation most detrimental to the interests of justice, more particularly when it is done by an agent of an insurance company, or any interested person." It transpired during the inquiry that the life of the deceased had been insured for £1000.

The Saddlers' Company have announced the following seasonable donations to medical charities:—£20 each to the Great Northern Hospital, City of London Hospital for Diseases of the Chest, Cancer Hospital, St. Mark's Hospital, Asylum for Deaf and Dumb Females, National Hospital for Paralysis and Epilepsy, Convalescent Hospital, Seaford, and the Deaf and Dumb Asylum, Margate.

An application has been made to the Hackney Guardians by a man named Lee, asking the clemency of the Board in not further prosecuting him for non-compliance with the Vaccination Acts, on the ground that he has already suffered fine and imprisonment for a similar offence; and urging that it was within the discretion of the Guardians to stay further proceedings. The Guardians having appealed to the Local Government Board on the subject, received a reply to the end that it was for the Guardians to consider in each individual case the effect likely to be produced by a continuance of proceedings. It was finally resolved, by ten votes to five, not to alter the previous decision of the Board: the prosecution will therefore be again proceeded with.

Much uneasiness has been caused at Harwich by the recent epidemic of small-pox which has occurred there. There have been between forty and fifty cases since the disease broke out, and it has now spread to the neighbouring suburb of Dovercourt. Some of the cases have proved fatal. Complaints have been made of the dilatoriness of the Town Council in neglecting to provide hospital accommodation for the district; but that body now appears to have taken up the subject in earnest.

Dr. Thomas Stevenson, Medical Officer of Health for St. Pancras, has made a report to the Vestry, in which he states that the mortality of the parish during the past month has been made up to a great extent by zymotic diseases, the deaths from these diseases being no less than 12½ per cent. of the gross mortality. In order to meet this large extension of infectious diseases, especially among children, he has put himself in communication with heads of schools, the superintendent of School Board visitors, clergymen, and others, and impressed upon them the necessity of care in receiving children into schools after absence from sickness, without inquiry if such children may be safely admitted without danger of infection. The sanitary inspectors have also visited a large number of schools, and, after obtaining the addresses of absentees, have visited their homes, and made the necessary inquiries as to their freedom from disease.

PROTECTION OF INFANT LIFE.

At the last meeting of the Metropolitan Board of Works a report was presented from the Special Purposes and Sanitary Committee, stating that they had had under their consideration the Board's letter, urging an amendment of the Act for the Better Protection of Infant Life, but the Home Secretary was of opinion that ample powers already existed for inspection under the Act. The Board had twice unsuccessfully made representations to the Government as to the inadequacy of the Act, more especially with regard to limiting its application to infants under twelve months of age, and it only remained for the Committee to consider if any further steps could be taken for giving effect to the Act as it stands. After fairly considering the point, they had come to the conclusion that by frequent and personal communication with relief and sanitary officers and with the police, by constantly watching the advertising columns of certain weekly and local journals, and by judicious inquiry in other quarters, a competent inspector would discover if violations of the Act were occurring, and if so, would bring to justice the persons offending. The Committee accordingly recommended that an inspector be appointed to carry out these duties, and the report was unanimously ordered to be adopted.

THE CONJOINT EXAMINING BOARD.

The Chairman of the Conference of the Representatives of the medical authorities engaged in the formation of a Scheme for an Examining Board for England has called a meeting of the Committee of Reference, appointed by the several authorities in accordance with the provisions of Section II. of the Scheme of May 1 last, to attend at the College of Surgeons on Friday, the 11th prox. The following gentlemen are the members of the Committee of Reference, viz.:—J. Risdon Bennett, M.D., F.R.S., President of the Royal College of Physicians, and Henry A. Pitman, M.D., representing the College of Physicians; Sir James Paget, Bart., F.R.S., and John Simon, C.B., F.R.S., Senior Vice-President of the Royal College of Surgeons, as representatives of that institution; Professor Acland, F.R.S., and Professor Rolleston, F.R.S., representing the University of Oxford; the sister University of Cambridge being represented by Professor Paget, F.R.S., and Professor Humphry, F.R.S.; the University of Durham will be represented by G. H. Philipson, M.D., and G. Y. Heath, M.B.; the University of London sends as representatives William B. Carpenter, M.D., C.B., F.R.S., and Richard Quain, M.D., F.R.S.; and the Society of Apothecaries will be represented by Edward Bradford, F.R.C.S., and George Corfe, M.D.

PATHOLOGICAL SOCIETY OF DUBLIN.

At the meeting of this Society on Saturday, December 22, the chair was taken by Dr. James Little, the senior member of Council present. Dr. E. H. Bennett exhibited microscopic specimens made from a polypus of the rectum. The tumour had been removed from a boy of ten years of age, who had presented symptoms for a period of at least eighteen months. A year ago hæmorrhage attracted attention to the case, but no disease could be proved to exist: this year a tumour projected at the anus at stool; the tumour could not be felt or seen except when brought down by action of the bowel. During removal its pedicle was found to be as thin as a crow-quill, and it gave way just when transfixed with a needle; the tumour removed was the size of a large hazel-nut On retraction into the bowel the pedicle withdrew the ligature until the knot could be with difficulty felt by a finger in the bowel. The tumour, examined by means of fresh sections cut while frozen, was found to consist of "an agglomeration

of very elongated follicles," to use Lebert's term, lined with cylindrical epithelium. The surface of the tumour between the openings of the numerous follicles was covered with a modified cylindrical epithelium. The tissue forming the nidus of the follicles was a fine myxomatous structure similar to that of the nasal polypus.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

The third monthly meeting was held in the library of the Newcastle-on-Tyne Infirmary on Thursday, December 13, the President, Mr. Morgan, in the chair. Mr. H. E. Armstrong, Medical Officer of Health for Newcastle-on-Tyne, presented a report of the cases admitted to the Fever Hospital during the month of November, and stated that the health of the town was good. Mr. Spear, Medical Officer of Health for South Shields, Jarrow, and Hebburn, stated that scarlet fever was epidemic at South Shields. In several cases the disease had been propagated by children, just convalescent, being sent to school. A committee, consisting of the President, Mr. Spear, Mr. H. E. Armstrong, and Dr. B. Bramwell, was appointed to consider the matter and to report to the Society. Dr. Anderson showed three vesical calculi removed by lithotomy from two patients—the first from a boy aged four years and a half; the second from a man aged thirty-three; the third from the boy first mentioned (symptoms of stone returned in eight months, and the second operation was performed nine months after the first). All three cases had done well. Dr. Page showed two salivary calculi removed from Wharton's duct by a free incision. Dr. Page also showed a small urethral calculus which had become lodged behind a stricture; the stricture was split up by Holt's dilator, and the stone was then expelled with the urine. Dr. Arnison showed two calculi removed by lithotomy from the same patient, a boy aged three, at an interval of a year; at the first operation the bladder was carefully examined, and was found to be empty. Mr. Hopgood showed a recent specimen of placenta prævia; the gestation had advanced to the fourth month, when flooding came on; the case had done well. Mr. Morgan showed a beautiful specimen of encephaloid disease of the femur. Dr. Embleton showed several photographs of monstrosities. Dr. Byrom Bramwell showed a case of congenital microphthalmos of the left eye. Dr. Heath showed a case of hypertrophy of the tongue. Dr. Embleton read the notes of a case of empyema treated by a free incision under antiseptic precautions; the patient, a boy aged sixteen, recovered well. Dr. Murphy read the notes of two cases of chlorodyne poisoning. Dr. D. Drummond read the notes of a very interesting case of paralysis of the pharynx occurring in an infant aged fourteen months, and suggested that the paralysis was due either to plumbism or to diphtheria; the child was in the habit of sucking a leaden rattle, and there was a history of ulcerated sore throat. Dr. Byrom Bramwell continued his paper on intracranial tumours, relating three additional cases.

UNVEILING OF THE STATUE OF THE LATE DR. GRAVES, OF DUBLIN.

On Wednesday, December 19, the fine statue of the late Robert James Graves, M.D., by Mr. Albert Bruce Joy, which has been placed in one of the two halls of the King and Queen's College of Physicians, was unveiled by his Grace the Duke of Marlborough, K.G., Lord Lieutenant of Ireland, in the presence of many of the Fellows and of a large and distinguished assemblage.

The cost of the statue was defrayed by the subscriptions of a large number of members of the medical profession and others, who appreciated and admired Dr. Graves, and it has been by them presented to the College of Physicians. Mr. Joy, although resident in London, is an Irishman by birth, being the son of a distinguished Fellow of the College of Physicians. He was a pupil of Foley, and has already given proofs of genius and taste sufficient to justify the expectation that he will one day occupy a foremost position in his profession. He was amongst the audience present at the proceedings, and, after they had terminated, was presented to the Lord Lieutenant by Mr. Thomas Jones, President of the Royal Hibernian Academy.

His Grace the Lord Lieutenant having been conducted to his seat by the President and Fellows of the College, the chair was then taken by Dr. Gordon, President of the College of Physicians, who said—"My first and most pleasing duty is to thank your Grace for the honour you have conferred on the College by your visit this day, and for assisting in inaugurating a statue which is to be a lasting memorial to one of our most distinguished presidents. It is with profound regret that I have to record the absence from amongst us of two of our honorary secretaries, who worked with zeal, fidelity, and love to bring to a happy conclusion the work in which we are now engaged. Dr. Hudson, from a severe domestic affliction, is unable to be present, and my reverend friend Dr. Stokes, whose own statue was so lately inaugurated, is, I regret to say, on a bed of sickness."

Dr. Duncan, honorary treasurer of the Statue Committee, having explained the origin and progress of the movement to erect this lasting memorial to departed worth, gave a comprehensive outline of the life and labours of the late Dr. Graves, who, he said, "was a most distinguished student of Trinity College, Dublin, before he entered upon his medical career. He was eminently many-sided. The brilliancy of his undergraduate course, marked by an unprecedented number of collegiate honours, proved that he would have attained to very high distinction in any path of life. His claims to the highest posthumous honours were too numerous and too generally acknowledged to need enforcement. Various distinctions were conferred on him during life by different learned societies at home and abroad, and by some of the oldest and most celebrated universities on the Continent of Europe. Since his death, a quarter of a century ago, his reputation had lost none of its freshness or brilliancy. High testimony as to the value of his works had been borne by Professor Trousseau, Clinical Professor in the Faculty of Medicine in Paris. Sketches of his life—one written by Sir W. Wilde, and the other by Dr. Stokes—attested his enthusiastic nature, his love of truth, his thirst for knowledge, his simple but lofty eloquence, his logical accuracy, his courage in avowing and defending his opinions, whatever they were, in opposition to popular prejudices on old-established conclusions. As a lecturer he was endowed with peculiar capabilities. One of the most important benefits conferred upon modern medicine with which Dr. Graves was to be credited was the complete change he introduced into the manner in which clinical instruction was given to the students attending the hospitals. This consisted partly in distributing the care of the patients to a larger number of the advanced students than had previously been the custom, and partly in changing the scene of instruction from the lecture-room of the hospital to the bedside of the patient. By the erection of the present statue they were not rescuing a name from oblivion that would otherwise soon have passed away. The true memorials of departed greatness were those which each man made for himself; and viewed in that aspect Dr. Graves had left behind him a reputation which bade defiance to the advance of time."

The statue having been unveiled by his Grace the Lord Lieutenant,

The Provost of Trinity College said he had been asked to undertake the honourable task of presenting to the College, in the name of the subscribers, the noble work of art which had just been unveiled. In the course of his speech he alluded in felicitous terms to the fact that the School of Physic in which Graves lectured was under the joint management of the College of Physicians and of the University of Dublin.

The President said he had the utmost gratification in accepting, on the part of the College of Physicians, this most life-like representation of the illustrious individual whom it professed to idealise.

Sir Robert Kane, President of the Royal Irish Academy, and Fellow of the College of Physicians, moved—"That the thanks of the King and Queen's College of Physicians in Ireland are eminently due, and are hereby tendered, to the

subscribers who have presented to the College this beautiful and valuable gift."

Dr. A. W. Foot, Senior Physician to the Meath Hospital, and, as such, the lineal descendant of Graves in that position, in seconding the resolution mentioned the discernment with which Dr. Graves noted signs of ability in the pupils whom he taught or to whom he lectured.

The Lord Bishop of Limerick (the Right Rev. Charles Graves, D.D.), in moving that "The thanks of the subscribers be given to the Committee for their exertions," observed that he might be allowed to express, on behalf of the family to which he belonged, the satisfaction, the hearty approval, with which they regarded that statue. Those who were admitted within the circle, hallowed by friendship and affection, were reminded by it of lineaments and gestures which were in perfect harmony with the heart and mind of the man. Those who had loved him during his life could see those marble features luminated by a genial gleam of light from within; and if his premature death had caused them deep and long-continued mourning—

> "Quis desiderio sit pudor aut modus
> Tam cari capitis?"

He rejoiced that Dr. Graves' powers had been devoted to a profession in which the lessons of benevolence were put into practice in every hour of every day. On the part of the family to which he belonged, he (the Bishop of Limerick) was bound to tender to the President and Fellows of the College of Physicians the expression of their deep sense of the honour which had been done to the memory of Dr. Graves by placing his statue in that room. Its erection there after the lapse of nearly a quarter of a century attested the lasting character and still continuing growth of the reputation of which it was the memorial. The thanks of all were due to the distinguished men who formed the Committee, and by whose labours the object had been attained.

The resolution was seconded by Mr. G. H. Porter, Surgeon-in-Ordinary to the Queen, and Senior Surgeon to the Meath Hospital.

Mr. Jolliffe Tufnell, honorary secretary, briefly responded on behalf of the Committee, after which the proceedings terminated.

FROM ABROAD.

The Clinical Aspect of Cerebral Localisation.

M. Tillaux, while bringing some specimens under the notice of the Société de Chirurgie (*Union Méd.*, December 13), observed that clinical observation had not entirely confirmed the results of physiological experiments on cerebral localisation, and, as far as indications for the employment of the trephine were concerned, he owned himself entirely of the opinion of Prof. Gosselin (*Medical Times and Gazette*, April 28, page 453), that we are not authorised to resort to this instrument for primary injuries except in cases in which there is fracture with depression. He can admit but one exception to this rule—viz., when there is a fissure of the cranium opposite the centres, and motor paralysis of the opposite side. Beyond this case, the trephine is not applicable for the treatment of primary effusions of blood. Is it the same with respect to slow, delayed accidents, which appear only consecutively? M. Tillaux believes not; and it is in this direction, in his opinion, that surgeons should seek for indications for the employment of the trephine. In this view he laid specimens before the Society. The first of these was the brain of a man upon whose head a shutter had fallen, striking him upon the left side of the posterior part of the skull. The man immediately became unconscious, and on the fourth day was attacked with aphasia and with right brachial monoplegia. These accidents disappeared, and he was able to resume his employment, although there still remained very intense pain in the head. This brought him under M. Tillaux's care at the hospital, where he found great relief from the iodide of potassium. After a while a new attack of aphasia and right brachial monoplegia occurred, which terminated fatally. At the autopsy there was found a patch of meningo-encephalitis, which measured more than 0·04 centimetres, and occupied the whole of the third left frontal convolution. In face of such a lesion, the seat of which could be perfectly well determined by the occurrence of the aphasia and monoplegia, but the extent of which could not be suspected, M. Tillaux demanded what would be the effect of the trephine applied at the point indicated by Prof. Broca. The other specimen, which had been lent by M. Raynaud, was derived from a woman fifty-nine years of age, who had been the subject of complete left hemiplegia, with hemianæsthesia, immobility of the head on the side of the paralysis, and conjugate deviation of the eyes of the same side. At the autopsy there was found an encephaloid tumour the size of an egg, which occupied the most remote part of the fissure of Sylvius, having depressed the first temporal convolution, and projected upwards the parietal lobe of the left side and the third ascending frontal convolution. It is evident that this tumour would produce the phenomena of compression, which, affecting the motor centres at a distance, might give rise to serious errors as regards cerebral localisation. From these cases M. Tillaux draws the following conclusions:—1. Even when the lesion is in intimate relation with the convolution which is the centre of the abolished motion there is danger, in applying the trephine, of coming upon a large patch of meningo-encephalitis, and thus to perform an operation which is at least useless. 2. A lesion of the brain may give rise to disturbances at a distance; so that by following rules drawn from the doctrine of cerebral localisation for the application of the trephine, we are liable to attack a point very remote from the evil.

M. Lucas-Championnière observed, in reference to the second of these cases, that all writers put aside cases of cerebral tumours in relation to these localisations; but the first case proves the utility of the doctrine of localisation in a surgical point of view; for if the patient had been trephined he might have been cured. He is an advocate for the use of the trephine for the dissipation of the primary accidents in these cases. In his opinion, patients have been let die who might have been saved by the operation. There is no example on record of primary paralysis in these cases having been cured without operation; so that there is good reason to seek for indications for its performance. M. Tillaux explained that he is no adversary of indications for the use of the trephine being drawn from cerebral localisation; but he believes that more light as yet is wanted upon the subject. As to the case which he had related, trephining certainly would not have saved the patient, seeing on the one hand the extent of the lesion, and on the other that the lesion of the soft parts was situated 0·07 centimetres behind the cerebral lesion.

At a subsequent meeting of the Society (*Gaz. des Hôp.*, December 15), M. Perrin stated that he quite agreed with M. Tillaux as to the danger of hasty trephining. Cerebral localisations can be no guide for the surgeon in this operation. The cerebral disturbances that ensue may be transitory or inaccessible to treatment; and trephining in many cases would only add to the complications, some of those who recover after it recovering in spite of it. M. Lucas-Championnière has expressed himself too absolutely as to the non-recovery after fracture with primary cerebral complications, as is shown by two cases which have come under M. Perrin's own care. In one of these a soldier, whose skull was fractured by a shell, passed from a state of coma into one of aphasia, from which he recovered completely in two months. In the other case, a man had the right side of the skull fractured, with slight depression, during the siege, and immediately became unconscious. Hemiplegia of the left side soon occurred, and paralysis of the right side of the face, with dilatation of the pupil and loss of hearing on the same side, his speech being also embarrassed. These accidents became afterwards complicated with incontinence of urine, obstinate constipation, and eschars of the sacrum and paralysed limbs. Still the patient was cured, although so long a time as two years was required. M. Desprès stated that he had never as yet met with a case in which he found any indication for trephining. This abstinence from the operation was suggested to him by a case which he had seen in the service of Manec in 1859. A workman, while digging in a pit, had a heavy body fall on his head, which fractured the skull, driving into the wound fragments of bone, the scalp, and the cap he wore. For five days the patient did well, and then for a fortnight he had brachial monoplegia, and a slight degree of facial paralysis. In a short time all that had penetrated the cranium was eliminated, and the patient was cured without any other treatment than expectation.

GENERAL CORRESPONDENCE.

LENGTHENED DURATION OF PREGNANCY.

Letter from Mr. W. Duncan.

[To the Editor of the Medical Times and Gazette.]

Sir,—I shall be glad if you consider the following case worthy of a place in your journal:—At 3.30 a.m. on December 7, I delivered Mrs. S. of a strong, healthy male child, of much more than usual size and weight. A midwife had been present from the time labour commenced (at 9 p.m. the previous night), and as the head was delayed long in the pelvis (about two hours), she got frightened, contrary to the usual custom of Shetland midwives, and I was sent for. I immediately put on the forceps, and delivered in a few minutes. As I had noticed the patient for about four months previously, when engaged in carrying her supply of peats for the winter, and judged from her size at that time that a few days would bring on labour, I made inquiries, which elicited the following facts, which may be thoroughly relied upon:—

Mrs. S. last ceased to menstruate on January 15, and felt distinct fœtal movements in the beginning or middle of May, certainly within four months after the cessation of the menses, and was in daily expectation of her confinement from October 15 to 21. Her bulk was enormous; she looked more as if she were carrying triplets than a single child. She had had three previous pregnancies: her first child she carried 300 days, and the second and third about 285 days. She has thus carried her fourth child 325 clear days from the day of menstruation ceasing; and this is the longest period of gestation that I have heard of. The case that comes nearest to it in duration (so far as I have been able to discover) is recorded in Leishman's "Midwifery," page 193, where a woman carried her child 322 days; and I shall be glad to know if any of your numerous readers have noted any similar cases. The accuracy of dates in such cases is of the utmost importance.

I am, &c., William Duncan, L.R.C.S.E.

Dunrossness, Shetland, N.B., December 10.

MR. HANCOCKE WATHEN'S CASE OF EXTRA-UTERINE FŒTATION.

Letter from Mr. J. H. Wathen.

[To the Editor of the Medical Times and Gazette.]

Sir,—In reporting the case of extra-uterine fœtation, I venture to hope I was not unmindful of "doing to others as I would be done by," and as considerate for the feelings of others as was compatible with a *true* history of the case. Mr. W. Barrow Wall has, however, identified himself with the previous conduct of the case by a letter published in your columns of last week, in which letter Mr. Wall impugns, it seems to me, both my veracity and my diagnosis of the case; it behoves me, therefore, to reply, at the same time disclaiming any wish to enter on a controversy of words with Mr. Wall. Mr. Wall's charge amounts to this:—First, that I have misrepresented the opinion he expressed on his first visit to the case; and secondly, that I have put on record a case as "extra-uterine," which was a simple ordinary case of intra-uterine gestation.

My answer to the first portion of the charge is, that Mr. Wall did not consider it simply a case of colic, but that he prohibited the patient from moving out of bed, as "*the child would be born in ten minutes.*" In proof of this I have the patient's own statement.(a) She also declares that the examination hurt her very much, and in conversation with me yesterday she described Mr. Wall's preparations for the birth of the child, even to laying the scissors and ligatures on the table ready for the event—for which event he remained with the patient four hours!

To deal with the second portion of the charge—viz., that both my father and myself have incorrectly reported the case as "extra-uterine"—I would refer Mr. Wall to the *British Medical Journal* of November 10, page 665, and ask him to read the description of a case diagnosed by Dr. Matthews Duncan as "extra-uterine fœtation," and then tell me in what essential point does my case differ from Dr. Matthews Duncan's, whose powers of diagnosis Mr. Wall will hardly question.

(a) Mr. Wathen has sent to us a "verified statement" made by the patient to this effect.—Ed. *Med Times and Gaz.*

Mr. Wall says that, when he examined the woman, "the fœtal head was low down, with the anterior part of the cervix uteri over it. The os could be felt posteriorly." I have yet to learn that the cervix uteri is "rugose," which was the appearance of the investing membrane as shown through the speculum when I first saw the case.

I have no doubt that the *tactus eruditus* which left on Mr. Wall's mind "not the slightest doubt about the fœtus being in the uterus," also enabled him to detect the os uteri, but I confess *I* was not able to detect it, from the fact of the uterus being displaced by the head of the fœtus, which, as it became more enfolded by the vaginal wall, drew down the fundus, and at the same time tilted up the os uteri out of reach. The sac *was* found to be distinct from the uterus; in my description of the operation I say, "the head was found still enveloped by a membrane, and posteriorly and somewhat to the right side the uterus could be felt." It was globular, and very much like the presenting part of the child's head, and was undoubtedly the fundus anteverted.

In my report of the case I omitted to mention that during the syringing out of the sac the thrill from the rush of water could be felt, and even heard, up in the left hypochondrium; and in this same direction a thickened, hard ridge could be felt for months—evidently the sac contracting and absorbing. As a final proof that the enveloping membrane was not "the anterior part of the cervix uteri," but the vaginal wall, the cicatrix was in the vaginal wall on the last occasion when I examined the woman.

Mr. Wall sums up his view of the case being "intra-uterine" by "I attended the woman in her previous labour, which was quite natural." I utterly fail to see what connexion there can be between that labour and the one under judgment. Is not Mr. Wall aware that in most of the recorded cases of extra-uterine fœtation the women have had several previous natural confinements, the latest being Dr. Gervis's, in which the patient "had had eight children"?

I am, &c., J. Hancocke Wathen.

Fishguard, Christmas-day.

REPORTS OF SOCIETIES.

CLINICAL SOCIETY OF LONDON.

Friday, December 1.

Thomas Bryant, F.R.C.S., Vice-President, in the Chair.

A Case of Convulsion treated by Venesection.

Dr. Broadbent read notes of this case which was that of a gentleman, aged forty-one, who had had syphilis when young, and who, a year ago, had received a severe injury to the head, supposed to be fracture of the base of the skull. Since then, he at first lived abstemiously; but recently resumed his accustomed generous diet. He then had convulsions, which grew in intensity for three days, and were accompanied by capillary extravasations on the forehead and chest. On the third day, when the patient had been unconscious for four or five hours, he was seen by Dr. Broadbent. During the intervals there was then no paralysis; the eyelids were kept closed, and the pupils were equal and of moderate size. The pulse was small and weak, but long. During the convulsions the eyes were widely opened, and all the muscles of the body and limbs were affected by synchmous violent jerkings, the face became livid, the pulse imperceptible, and respiratory movements ceased; death seemed imminent when Dr. Gaven, the medical attendant, depressed the tongue and performed artificial respiration. Calomel had been already placed on the tongue, mustard applied to the calves, and chloroform administered; thirty ounces of blood were now abstracted. The convulsions at once ceased, consciousness shortly returned, and the patient in a few days left London. In commenting on the case, Dr. Broadbent thought the injury to the skull might have interfered with the circulation of the blood at the base of the brain; the patient was plethoric from his recent generous diet, and the state of the pulse was similar to that found in uræmic convulsions, in which bleeding was most useful. The pulse became large and soft as the blood flowed. Dr. Broadbent had often had to regret that an insufficient quantity of blood, or none at all, had been withdrawn never that bleeding had been practised unnecessarily or too largely.

Case of Post-partum Convulsions (Uræmic?) treated by Venesection—Death on the Seventh Day.

Mr. George Brown read notes of this case. The patient, who was in humble circumstances, was taken in labour (her sixth confinement) on December 21, 1876. Mr. Brown, being called to the case, found that the child had been born a few minutes before his arrival. A small dose of ergot was given, the placenta was removed without unusual hæmorrhage, and the patient appeared to be very comfortable, and the uterus well contracted. The patient soon afterwards fell asleep, and dozed at intervals for four hours, when she complained of feeling sick and giddy. Immediately afterwards she was seized with convulsions, the fit lasting, according to the nurse's report, about five minutes. She then lay in a semi-conscious state for half an hour, when she had another fit. Mr. Brown being summoned, found his patient in a fit. It began with twitching of the muscles of one side of the face and neck, which were so violent as to draw the head towards the chest on that side with each spasm. In about half a minute clonic spasms of the arm and leg of that side commenced, following each other with great rapidity for about a minute, and then gradually ceasing in violence and becoming less rapid. As the spasms ceased on the one side, twitching of the muscles on the opposite side of the face began, followed by similar clonic spasms of the limbs on that side also. The duration of a fit was from three to five minutes. During the fit the patient's face became quite purple. In the earlier fits she bit her tongue, but afterwards this was guarded against by placing a handkerchief between her teeth. The patient was quite unconscious in the intervals as well as during the fits. The breathing was laboured, and at times stertorous. It was found impossible to get her to swallow anything. A catheter was passed, and ten ounces of urine were drawn off; this, on being boiled, was found to contain one-third albumen. The fits succeeded each other for four hours at intervals of about ten minutes, when, as death appeared to be imminent, twenty-eight ounces of blood were taken from the left median cephalic vein. During the operation of bleeding, which occupied at least thirty minutes, the patient had two fits, but they were less violent than those which took place before venesection. After the operation the respiration became more natural and all stertor ceased; the temperature was 100°, and the pulse 150 per minute. There was no uterine hæmorrhage. Fits of a milder character occurred at intervals of about fifteen minutes for three hours, and then during four hours only four fits took place. Eight grains of calomel were then given, and two hours later an enema was administered, but it returned without producing action of the bowels. No fits subsequently occurred, but there were occasional twitchings of the limbs. After the cessation of the fits the patient was able to swallow liquids; and beef-tea, milk, and weak brandy-and-water were given; also ten grains of bromide of potassium every two hours. She remained unconscious the whole of the following day, but free from convulsions. Urine was passed involuntarily. The enema was repeated that day without result. The same night another dose of calomel (eight grains) was given. On the third day a violent fit occurred, shortly after which the bowels acted very freely. Immediately after the motion the patient became conscious, sat up in bed, and recognised her husband and other friends who were by her bedside. In two or three minutes she again became unconscious, and had another fit. The following night she again became conscious for a few minutes, and voluntarily drank a little milk. The improvement was, however, only temporary; insensiblity soon returned, the coma gradually deepened, and she died six days after the onset of the convulsions. No post-mortem examination was permitted. Mr. Brown said that, although the case terminated fatally, he had no doubt that the bleeding was the means of prolonging life, and in similar circumstances he should again adopt the same mode of treatment.

Dr. Clutton had recently seen a man, aged about fifty, reported to have had a fit, whom he found unconscious and with a full bounding pulse, and who, whilst in the fit, had been bled to the extent of sixteen ounces by another medical man. A violent convulsion immediately followed the operation. Ice was applied to the head, and an aperient given. The man had two other subsequent fits, and remained comatose for more than a day. It then came out that he had been knocked down in the street. His urine was albuminous. He was still improving, but had partial aphasia, and defective memory and vision.

Dr. Althaus was not sure the bleeding had benefited the patients whose cases had been reported; recovery often rapidly ensued without such treatment. Again, convulsions were rather due to anæmia than to increased blood-pressure. The latter was the result, and not the cause, of the fits. Spasm of the glottis was usually the cause of death when it occurred during convulsions.

Dr. Clutton, in reply to Dr. Althaus, said there was no albuminuria in his case.

Mr. Howse inquired whether there was evidence that convulsions damaged the brain-tissue. If so, treatment for fits was imperatively demanded.

Dr. Wiltshire had seen idiocy follow fits in a child; and Sir W. Jenner and Dr. Langdon Down both considered that continuous fits were injurious to the brain. If the surface-veins were full, and the pulse small and feeble, indicating an empty state of the arteries, bleeding would probably do good. He advocated more frequent recourse to venesection, to avoid congestion of the viscera. If, as he supposed, Mr. Brown's case was one of embolism, bleeding would not benefit the patient.

Dr. Myers had seen bleeding do good in cases of disturbed cerebral circulation. In Africa, he had himself suffered greatly from head symptoms after great mental strain and shock, and considered that his life was saved by his bleeding himself to the extent of ten ounces. At any rate, his relief was immediate.

Dr. Broadbent thought that convulsions produced deterioration both in the general health and the mental powers. He thought there were many cases of convulsions which were not caused by cerebral anæmia. Not only in this case, but in others (especially cases of uræmic convulsions), he had seen the fits speedily cease after venesection. But a hard pulse was not always an indication for bleeding, because such hardness disappeared when the heart had become exhausted in protracted cases. In those instances the pulse was as full between the beats as it was during the pulse-wave. The pulse in his patient was like that in uræmia, and during the venesection it became larger and softer. The superficial veins, as in that case, were often small, and their smallness sometimes interfered with the performance of venesection until convulsions again supervened, when the veins and arteries refilled.

Excision of the Ankle-Joint.

Mr. Barwell exhibited a boy, aged four years and a half, upon whom the operation had been performed on February 15. The boy left the hospital on March 27, with the wounds healed, but with the plaster of Paris bandage still applied. He had an excellent foot, the limb operated upon being as long as the other; and when he wore a boot whose sole was a little thicker on the inner than on the outer side, he walked perfectly. The case was shown chiefly to exhibit the fact that, although perfect synostosis between the tibia and astragalus should be aimed at, yet excellent results might be obtained when a false anchylosis between these bones resulted, provided that the fibrous bond were short. Mr. Barwell took occasion to point out that he was the first to describe in England Moreau's procedure, and that although Mr. Holmes ("System of Surgery"), in describing this operation, quoted Mr. Barwell's description in inverted commas, yet Mr. H. Lee called it (*Med.-Chir. Trans.*, vol. lviii., page 144) the Hancock-Holmes operation; also Mr. Barwell controverted Mr. Lee's opinion that the Moreau method was difficult, and stated that it required far less displacement of and violence to soft parts to make the tibia project at the inner wound, as Moreau recommended, than to present it at the outer wound after the method proposed by Mr. H. Lee. The case exhibited, and photographs of other cases handed round, showed the value of the results obtainable by the method he advocated.

Cases of Severe Rickety Deformity treated by Division of the Bones by Billroth's Chisel.

The first case, in which the shins were sharply curved, as shown by photograph, was operated upon in consecutive weeks, viz., on October 25 and November 1 respectively. In a fortnight union was firm, though, lest subsequent bending might take place, the limbs were left five and six weeks on plaster. The result was a very straight condition of the two legs. The other case was one of excessively bowed legs in a girl aged seventeen, who on this account could not walk at all. Mr. Barwell divided the two bones beneath the knee on April 12, and put the limbs straight in plaster of Paris on May 3; he divided the femora at the lower part of the upper fourth, and treated them in the same way. The girl had now two very sufficiently straight limbs, and walked well. Especial

attention was drawn to the fact that neither of these patients suffered pain or had febrile symptoms.

Subcutaneous Treatment of Exostosis by Fracture.

Mr. Maunder read notes of and exhibited two patients whom he had submitted to this novel method of operation for exostosis. The first case was an exostosis of the femur in a girl aged fifteen, who was admitted into the London Hospital in June, 1874. She had for many months suffered pain and discomfort at the back of the left knee, and was unable to extend the leg fully upon the thigh. When walking, she could only place the toes upon the ground. A bulging of the thigh just above the external condyle was found, and proved to be caused by a pedunculated exostosis attached to the back of the femur at its outer side, just at the junction of the epiphysis with the shaft. The tumour was pressing against the tendon of the biceps muscle and the external popliteal nerve. To relieve pain and enable her to walk, it was necessary either to remove or to dislodge the growth, which might be done either by abscission through an open wound—a formidable proceeding, with many possible concurrent and subsequent dangers,—or by subcutaneous division of the pedicle with the saw or chisel, or fracture of the pedicle by violence without any wound whatever. Supposing that by this latter method the tumour might be detached, it might become necrosed and ultimately extruded by suppuration, or might be absorbed or reunited. If suppuration occurred, it would not do so until the bone-cells of the femur, opened by the fracture, had become closed in, and thus protected from danger; if absorption occurred, there would be no further trouble; and, if reunion took place, the body of the tumour might have so changed its position as to no longer interfere with the patient's comfort. Subcutaneous fracture of the pedicle was resolved upon, and the operation was done on July 8, 1874. The skin being protected by a piece of chamois-leather, the tumour was seized with a pair of gasfitters' pliers, and, being firmly held, was suddenly jerked and its pedicle broken. Ice was applied for two or three days; and a little tenderness, swelling, and ecchymosis were the only consequences of the operation. Passive movements were afterwards kept up; but, notwithstanding these, reunion occurred. The body of the tumour, however, occupied a new position in the popliteal space, and troubled its owner no longer. The second case was one of exostosis of the tibia, also in a girl, aged fourteen, who was admitted into the London Hospital in February, 1877. She stated that, about two years before, she had slipped, and sprained her right knee. This accident was followed by pain and swelling, and she could only get about on her toes. Since then the case had been treated during one period of three months with iodine paint, but without avail. On examination, a rather large pedunculated exostosis was found attached to the inner edge of the tibia just below the internal tuberosity. This was also treated by subcutaneous fracture with the gasfitters' pliers, but with a result different from the above. The pain and inability to walk were removed; but the tumour had not reunited with the shaft of the bone, and its mobility was readily recognised. The object of the operation—relief to the patient—had been attained without any external wound: a fact upon the desirability of which it was unnecessary to dwell.

Mr. Myers wished to know what portions of the ankle-joint Mr. Barwell had excised, and how his patient had walked before the operation.

Mr. Howard Marsh thought Mr. Barwell had not sufficiently explained the conditions of the case to enable the meeting to judge exactly of the value of his operation. He himself treated many cases of disease of the joints in children upon prolonged rest, rather than upon excision. As regarded the division of bones in rickets, there were the two operations of simple division of the bone with a small saw, and that of cutting out the angle of the bend—a much more severe operation, and one which produced in effect a compound fracture. In two cases in which the lesser operation was performed, the temperature only once rose above 100°. He thought Mr. Barwell's case, now exhibited, was not bad enough to justify the operation. He thought cases of badly curved, rickety limbs became straightened under the use of splints and the administration of cod-liver oil, etc.; in children two or three years old there was almost a spontaneous tendency towards straightening.

Mr. Maunder said that, with regard to saving joints the seat of gelatinous disease, such was continually being done in the case of the well-to-do; the patients being able to afford constant surgical supervision and all such aids to recovery as country air, the seaside, good food, etc. But surgical advice, good food and physic, provided by a London hospital, did not secure all that was to be desired; and a great number of these cases progressed insidiously from bad to worse, and operation was then called for. Similar observations applied to bent legs. The poor could not attend efficiently to their children; but while simple measures, such as the application of splints which prevented walking, often sufficed to correct the deformity, severe cases with hardened bones required operation. Excision of the ankle-joint for disease was an operation not held in much favour, probably on account of the experience of Syme, who, no doubt, resorted to his operation at the ankle-joint on the ground that caries was liable to recur in tarsal bones which were left after partial amputations of the foot. This observation Mr. Maunder believed to be true in almost all instances excepting the ankle joint. In partial amputations of the foot, the small bones which were preserved were called upon to sustain the whole weight of the body, for which they were never intended; but, in excision of the ankle-joint, it would be evident that the bones of the foot were left in their natural relative position, and the arches, with their elastic property, remained, while the anatomical structure of the interior of the bones occupied its original position, that best suited to support the body. It was essential to the comfort of a patient that either a short fibrous or bony anchylosis should be secured to him. In Mr. Barwell's patient he feared the operation would be, to a certain extent, a failure; the fibrous bond being long and yielding, as though either too much bone had been cut away, or the surfaces had not been sufficiently approximated during repair. The child walked with an unsteady gait, and the foot was in a position of valgus—conditions which could only be relieved by the constant use of mechanical support.

Mr. Croft, in three cases of excision of the ankle done by himself, had not made lateral incisions, but had reflected the soft parts from before backwards. In one of his cases the much-to-be-desired result of bony anchylosis had occurred. It was probable the fibrous union in Mr. Barwell's case would, in the course of time, become firmer. The subperiosteal mode of excision had not been sufficiently practsed; in one of his cases, by separating the periosteum from the end of the fibula which he removed, he obtained a larger quantity of new bone in its place. A case of pedunculated exostosis of the tibia, in a boy eleven years of age, he had treated after the manner advocated by Mr. Maunder. The boy had, subsequently to the operation, been able to move his leg about freely.

Mr. Howse said that Mr. Marsh, in his paper in the *Medico-Chirurgical Transactions*, had rightly restricted the operation for rickety deformity to extreme cases. In the oblique variety of deformity—that in which the anterior and lateral curves were combined—splints could not be well applied, and such cases were consequently suitable for the operation. Mechanical modes of treatment often lasted for years; and this element of time was frequently a matter of the highest importance to patients, especially the poor. In four out of the five cases of doubly curved tibia operated upon by himself, a quick recovery ensued; in the fifth it was delayed, but the child now had an almost straight limb and could walk well.

Mr. W. H. Bennett said that Mr. Holmes had divided the pedicle of an exostosis with the chisel, with the result that the detached exostosis increased in size, and that a new growth of bone had occurred at the place from which it had been separated. In another case, an exostosis of the femur, being spontaneously separated in a fall, ceased to grow.

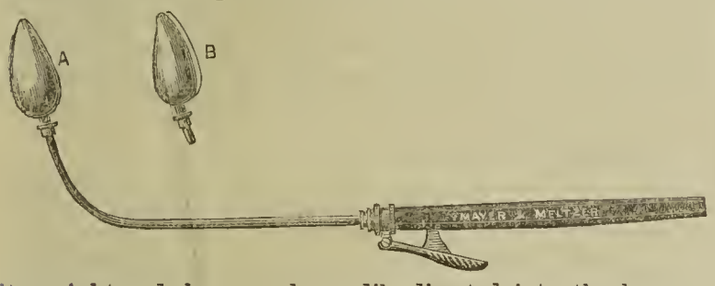
Mr. Barwell said he had always obtained bony union in excision of the ankle, except in this case. Since the operation (six weeks ago) the limb had been suspended in a plaster splint, without extension; and it was possible the union might even yet become bony. Time and rest would certainly greatly benefit diseased joints. As regarded the operation of osteotomy for rickety deformity, it should only be done in severe cases, as recommended by Mr. Marsh, who had introduced the operation. Where the bone could be straightened by being simply bent, osteotomy should, of course, not be performed.

It is said that the graduates of the London University, desirous of a reform of that institution, have unanimously agreed to organise an association, to be called the London University Reform Association.

NEW INVENTIONS AND IMPROVEMENTS.

DR. WHISTLER'S LARYNGEAL DILATOR AND KNIFE.

We have before us an instrument invented by Dr. Whistler, the value of which laryngoscopists will readily recognise. The handle and shaft, made with the usual curve for laryngeal introduction, terminates in an almond-shaped dilator. This tapers down to a point, thus resembling in shape the open glottis, and admitting easily of introduction. The dilator (any size of which may, however, be attached to the shaft) measures at its widest part antero-posteriorly eighteen millimetres; at its widest parts transversely ten millimetres (its other proportions being graduated accordingly), and from above downwards thirty-four millimetres. In the dilator anteriorly is a concealed knife with anterior egress, and this is governed from the shaft by canula mechanism. We have thus an instrument combining a dilator and a knife. The former from



its weight and shape can be readily directed into the larynx; whilst the latter is so guarded and directed that it can cut only where intended—a great advantage when we consider how little the eye can do in laryngeal operations. The class of cases in which this instrument may be employed is that wherein, with partial recovery from stenosis, there yet remains some general constriction with adhesion of the edges of the anterior parts of the cords. This is a condition which obviously impedes their function throughout, and on which medicinal agents are powerless. An instrument is thus our only aid; and the invention of Dr. Whistler fulfils perfectly the indications. It puts tissues on the stretch before cutting; produces a partly lacerated wound, so that the parts may reunite less readily, and thus admit of dilatation more easily; and it insures that the cutting shall be done in the right place. The instrument combines simplicity of construction, facility of manipulation, and surety of execution, and supplies a much-felt want. It is made by Messrs. Meyer and Meltzer.

MEDICAL NEWS.

University of Durham.—At the first examination for the degree of M.B., held on December 17, 18, 19, and 20, the following gentlemen passed:—

Lowes, Septimus, student of the University of Durham College of Medicine.
Mahony, L. F., M.R.C.S., L.S.A., of the London Hospital.
Price, H. E., B.Sc. Lond., M.R.C.S., L.R.C.P., of the London Hospital.
Robinson, A. H., M.R.C.S., L.S.A., of University College.
Rygate, B., M.R.C.S., L.S.A., of the London Hospital.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, December 20:—

Ashworth, John Wallwork, Heaton Manor, Stockport.
Cawley, Thomas, Glenely, South Australia.
Clowes, Joseph Smith, Metropolitan Free Hospital.
Gaze, William Henry, Thames Ditton.
Hetherington, George Haynes, Female Lock Hospital.
Meacham, John James, Harpurhey, Manchester.
Reid, William Gladstone, Grove-road, Acton.
Wartenberg, Victor Adolph, Lytham, Lancashire.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Burnie, William Gilchrist, St. Bartholomew's Hospital.
Costerton, Donald Sinclair, Westminster Hospital.
Culling, William Robert, Charing-cross Hospital.
Haycroft, Charles Henry, Guy's Hospital.
Hitch, Frederick, Guy's Hospital.
Hoskyns, Edward John H., Queen's Birmingham Hospital.
Lambert, John Speare, St. Bartholomew's Hospital.
Phillips, Stephen Thomas, Charing-cross Hospital.
Priest, James Damor, St. Bartholomew's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Walker, William, M.R.C.S., L.S.A.—Surgeon to the Convalescent Home, Couthan, and Medical Officer of Health to the Kirkleathan Local Board.

Walter, William., B.A., M.B., Senior Resident Surgeon to the Salford Royal Hospital—Obstetric and House-Surgeon to St. Mary's Hospital, Manchester, *vice* Mr. Runcorn, deceased.

Whistler, W. MacNeill, M.D., M.R.C.P.—Honorary Physician to the National Training School for Music.

BIRTHS.

Bartlett.—On December 19, at 8, Sydney-place, Onslow-square, the wife of J. Prime Bartlett, M.R.C.S. Eng., of a daughter.

Bradshaw.—On December 24, the wife of Watson Bradshaw, L.R.C.P. Edin., M.R.C.S. Eng., of 43, Welbeck-street, Cavendish-square, of a daughter.

Drew.—On December 17, at Cotswold House, Egham, Surrey, the wife of W. Thomas Drew, L.R.C.P. Edin., of a son.

Hall.—On December 18, at Laurel Villa, Victoria-road, Surbiton, the wife of Edgar A. Hall, M.B., C.M. Edin., of a daughter.

Powell.—On December 18, at 15, Henrietta-street, Cavendish-square, the wife of R. Douglas Powell, M.D., of a daughter.

Pullar.—On December 17, at Pembridge-place, Bayswater, the wife of Alfred Pullar, M.D., of a daughter.

MARRIAGES.

Baird—Dow.—On December 21, at Balmanno Castle, Perthshire, Alexander Baird, M.B. and C.M., to Isabella Mary, only daughter of David Dow.

Orr—Mollady.—On December 14, at All Saints, Emscote, Warwick, Charles Arthur Wellesley, son of J. A. Orr, F.R.C.S.I., L.K. & Q.C.P.I., of Fleetwood, Lancashire, to Anne Selina, only daughter of the late John Mollady, Esq., of Cheadle, Hulme, Manchester.

Rowe—Grant.—On December 20, at the parish church, Alford, N.B., Thomas Henry Rowe, M.R.C.S. Eng., of Haverfordwest, to Katherine Anne, daughter of D. R. Lyall Grant, Esq., of Kingsford, Alford, Aberdeenshire.

DEATHS.

Butter, Donald, M.D., F.R.M.S., F.R.G.S., Inspector-General of Hospitals, Bengal Retired List, at Hazelwood, Upper Norwood, Surrey, on December 24, aged 78.

Hamilton, Reginald John, youngest son of Thomas Hamilton, M.B., F.R.C.S.E., at 30, Northampton-park, Canonbury, N., on December 20, aged five months.

Marsden, Rosa Sydney, second surviving daughter of James Loftus Marsden, M.D., at St. Leonards-on-Sea, aged 34.

Scott, Mary, wife of Thomas R. Scott, M.B., and third daughter of the Rev. W. Lindsay-Alexander, D.D., of Pinkieburn, at Musselburgh, on December 18.

Wharton, George, M.D., at Bedford, on December 21.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

Essex Lunatic Asylum.—Second Assistant Medical Officer and Dispenser. Candidates must be single, and duly registered according to the Medical Act. Applications, with testimonials, to Dr. Campbell, on or before January 10, 1878.

Hants County Lunatic Asylum.—Second Assistant Medical Officer. Candidates must be qualified and registered, their age should not exceed thirty years, and they should also be unmarried. Applications, with testimonials, to Dr. Manley, at the Asylum, on or before January 9, 1878.

Newcastle-upon-Tyne Infirmary.—Senior House-Surgeon. Candidates must be registered in medicine and surgery, unmarried, and free from the care of a family. Applications and testimonials to the Chairman of the House Committee, before January 9, 1878.

Sunderland and Bishopwearmouth Infirmary.—Senior House-Surgeon. Candidates must be doubly qualified and registered. Applications and testimonials to the Secretary of the Medical Board, not later than January 24, 1878.

The Guest Hospital, Dudley.—Resident Medical Officer. Candidates must be unmarried, and Fellows or Members of the Royal College of Surgeons of England, Edinburgh, or Dublin, and possess a registered qualification in medicine. Applications, with testimonials and certificate of registration, to the Secretary, on or before January 1, 1878.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Hailsham Union.—Mr. A. H. Hackney has resigned the Third A District; area 7970; population 2044; salary £60 per annum.

Lincoln Union.—Mr. J. Goodall has resigned the Sixth District; area 7329; population 1638; salary £15 per annum.

Melton Mowbray Union.—The Workhouse is vacant; salary £40 per annum. Also the Second Melton District; area 14,940; population 2403; salary £30 per annum. Also the Asfordby District; area 15,466; population 2423; salary £28 per annum.

Thingoe Union.—Mr. F. E. Aldrich has resigned the Second District; area 14,780; population 3520; salary £84 per annum. Also the Seventh District; area 13,710; population 1809; salary £70 per annum.

Wellingborough Union.—The Higham Ferrers District is vacant; area 18,215; population 8141; salary £70 per annum.

APPOINTMENTS.

Bagnor and Beaumaris Union.—Hugh Prytherch, M.R.C.S. Eng., L.R.C.P. Edin., to the Second Anglesey District.

Hoo Union.—Albert E. Swayne, L.R.C.P. Edin., L.R.C.S. Edin., L.A.H. Dub., for the Union and Workhouse.

Tenterden Union.—Wm. H. Harding, M.R.C.S. Eng., L.K.& Q.C.P.I., to ths Biddenden and High Halden Districts.

Weardale Union.—Wm. Montgomery, L.R.C.S. Edin., to the Derwent District.

Worksop Union.—Arthur J. F. Russell, L.R.C.S. Ire., L.K.& Q.C.P.I., to the Worksop District and the Workhouse.

SOUTH LONDON SCHOOL OF PHARMACY.—The annual dinner of this institution was held at the Horns Assembly Rooms, Kennington-road, on Friday, December 21, Dr. Muter, the director, in the chair. Dr. Julius Pollock presented the medals and certificates to the following successful competitors:—Senior Chemistry, Mr. Mortlock; Junior Chemistry, Mr. Heywood; Botany, Mr. Murdoch; Materia Medica, Mr. Hutton; Pharmacy, Mr. Mather.

NOTES, QUERIES, AND REPLIES.

Ye that questioneth much shall learn much.—*Bacon.*

A Fellow, Manchester.—There were eight candidates for the four vacancies in the Council of the College of Surgeons in July, 1873, viz.:—*Sir James Paget*, who polled 200 votes; Messrs. *Walton*, 136 votes; *Southam*, 113; *Marshall*, 106; Forster, 105; Savory, 97; Hird, 62; and Hussey, 29. The gentlemen whose names are printed in italics were elected. The elections always take place in July.

Abstemious, but not a Niggard.—The sumptuary laws of Edward III. limited meals on ordinary days to two courses, and on festivals to three courses. These laws were passed by the nobility and great men of the period, and show, at least, how fashion dared, in those ages, to support simplicity of diet.

Zenas.—Yes; we are glad to observe that, at length, a great many rural sanitary authorities are taking action on the important subject of your inquiry. The East Dereham Local Board have recently resolved to consider by what means an abundant supply of pure water can be obtained for the town, and also as to the establishment and construction of waterworks for the town and Local Government District of East Dereham. After nearly ten years' discussion on the subject, the Exeter Town Council have decided to purchase the waterworks of that city. This arrangement will involve an immediate outlay of £94,000 in buying up the old company, and a further sum of between £50,000 and £100,000 it is proposed to expend in procuring a fresh and better supply of water for drinking purposes from Dartmoor, or by boring into the red sandstone.

HEALTH OF THE CITY OF LONDON.

Dr. W. Sedgwick Saunders, Medical Officer of Health for the City of London, in his last fortnightly report states that there had been no case of small-pox in the City during the previous fortnight, whilst the number of deaths from the disease in the metropolis had risen to thirty-one, against twenty-five in the previous week. During the fortnight there had been thirty-five deaths and forty-four births registered in the City.

ALLEGED INSANITARY CONDITION OF A PARISH CHURCH.

The insanitary condition of the Halifax parish church having been made the subject of complaint to the Home Secretary by Mr J. H. South, who alleged that "beneath the floor of the pews is a thorough charnel-house, through which steam-pipes run, and the noxious stink which arises from beneath the floors is enough to give all attenders fever or some other undesirable disease," Dr. Holland, of the sanitary department of the Home Office, has just visited the church, and inquired into the matter. He and others could not perceive any smell, and, as the churchwardens will speedily remove all cause of complaint, Dr. Holland expressed his intention to report that there was no case.

OPIUM-SMOKING IN CHINA.

A Canton correspondent writes that a notice has been issued by the Governor, "warning the people against opium-smoking, and dwelling at some length upon the mischievous character of the drug. His Excellency also strongly advises those who are addicted to the evil habit to free themselves from it without loss of time, and cautions those who have not yet indulged in the pipes on no account to taste the drug. I presume," adds the writer, "this notice has been published in pursuance of instructions from Pekin, and as following up the Imperial edict on the subject."

SANITARY WORK, BENGAL.

The Sanitary Commissioner of Bengal, having found difficulties stand in the way of carrying out the instructions lately issued by the Home Department as to the inspection of the sanitary condition of villages within a certain radius of cantonments, the Government of India have decided that the work would be better done, in the first instance, by local committees of inspection. The experiment is to be tried at once in certain of the larger cantonments, such as Dinapur and Dum-Dum. A civil medical officer of experience, an assistant or joint magistrate, and a selected military officer—if practicable, the local officer of the quarter-master-general's department—would be, the Indian Government think, the most suitable officers for the work.

COFFEE PUBLIC-HOUSES.

It is gratifying to notice the excellent work which is being done by the "Coffee Public-House Association." The Association has opened several coffee public-houses in various parts of the metropolis, all of which have progressed satisfactorily. The good and desirable objects of the Association —to offer opportunities and inducements by coffee-houses to those who would, most probably, otherwise seek the public-house for recreation and entertainment—commend the institution to the generous support of all favourable to the temperance movement, and we hope the necessary means will be forthcoming for providing other poor districts with similar advantages, for which, we understand, the Committee are constantly receiving pressing applications.

COMMUNICATIONS have been received from—

Mr. JOHN CHATTO, London; Mr. B. R. WHEATLEY, London; Dr. J. K. SPENDER, Bath; Dr. BYROM BRAMWELL, Newcastle-on-Tyne; Mr. H. SEWILL, London; Dr. ARMSTRONG, Newcastle-on-Tyne; THE SECRETARY OF THE OBSTETRICAL SOCIETY, London; Mr. G. GASKOIN, London; THE REGISTRAR OF THE APOTHECARIES' HALL, London; Mr. W. W. REEVES, London; THE SECRETARY OF THE ROYAL INSTITUTION, London; Dr. THUDICHUM, London; Mr. H. WATHEN, Fishguard; Dr. J. W. MOORE, Dublin; Mr. T. M. STONE, London.

BOOKS AND PAMPHLETS RECEIVED—

Letts, Son, and Co., Diaries for 1878—Charles A. Cameron, M.D., On the Use of the Flesh of Animals affected with Contagious Pleuro-Pneumonia as Food for Man—Dr. J. Stilling, The Examination of the Sense of Colour of Railway Employés and Pilots—George E. Fenwick, M.D., Excision of the Knee-Joint—William Thomson, F.R.C.S. Edin., On Phthisis and the Supposed Influence of Climate—Guido Baccelli, Sulla Trasmissione dei Suoni Attraverso I Liquidi Endopleurici di Differente Natura; Un Nuovo Metodo di Cura per Taluni Aneurismi dell' Aorta—Year-Book of Pharmacy, 1877.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—Pharmaceutical Journal —Wiener Medizinische Wochenschrift—The Louisville Medical News—Boston Medical and Surgical Journal—Nature—Philadelphia Medical Times—Cincinnati Clinic—La Province Médicale—Quarterly Journal of Inebriety—Revista de Medicina y Cirugia Practicas—Transactions of the Odontological Society—Révue des Sciences Médicales—Canada Medical Record.

APPOINTMENTS FOR THE WEEK.

December 29. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 1½ p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.

31. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

January 1. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

ROYAL INSTITUTION, 3 p.m. Prof. Tyndall, "On Heat: Visible and Invisible."

2. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex; 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 1½ p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 1½ p.m.; St. Peter's Hospital for Stone, 2 p.m.

OBSTETRICAL SOCIETY, 8 p.m. Specimens. Annual Meeting. President's Address.

ROYAL MICROSCOPICAL SOCIETY, 8 p.m. Meeting.

3. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.; Charing-cross, 2 p.m.; St. Thomas's (ophthalmic operations), 4 p.m.

HARVEIAN SOCIETY (Annual General Meeting, 8 p.m.), 9 p.m. *Conversazione.*

ROYAL INSTITUTION, 3 p.m. Prof. Tyndall, "On Heat: Visible and Invisible."

4. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.; Guy's, 1½ p.m.

PATHOLOGICAL SOCIETY, 8½ p.m. Annual Meeting for Election of Officers. The following Specimens will be shown:—Dr. Ralfe—1. Urine from a Case of Phosphatic Diabetes; 2. Gangrene of the Lung in a Case of Lead Poisoning. Mr. Wagstaffe—Dermoid Cysts growing along the line of Branchial Fissures. Dr. Dowse—Case of Paralysis Agitans. Dr. Goodhart—Symmetrical Sarcoma of Ossa Ilia, with Hyperostosis of Cranium. Dr. Garlick—Diaphragmatic Hernia. Mr. Butlin—Mollities Ossium, with Myeloid Sarcoma. Dr. Greenfield—1. Cases of Aneurism of Cerebral Arteries; 2. Aneurism of Brachial Artery, probably due to Embolism. Dr. Burney Yeo—Heart and Aorta, sequel to Case of Rupture of Aortic Valves. Mr. Bryant—1. Prostatic Tumours removed during Lithotomy; 2. Impacted Fracture of the Shaft of the Femur.

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LIST OF ILLUSTRATIONS.

END OF VOLUME II. 1877.

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